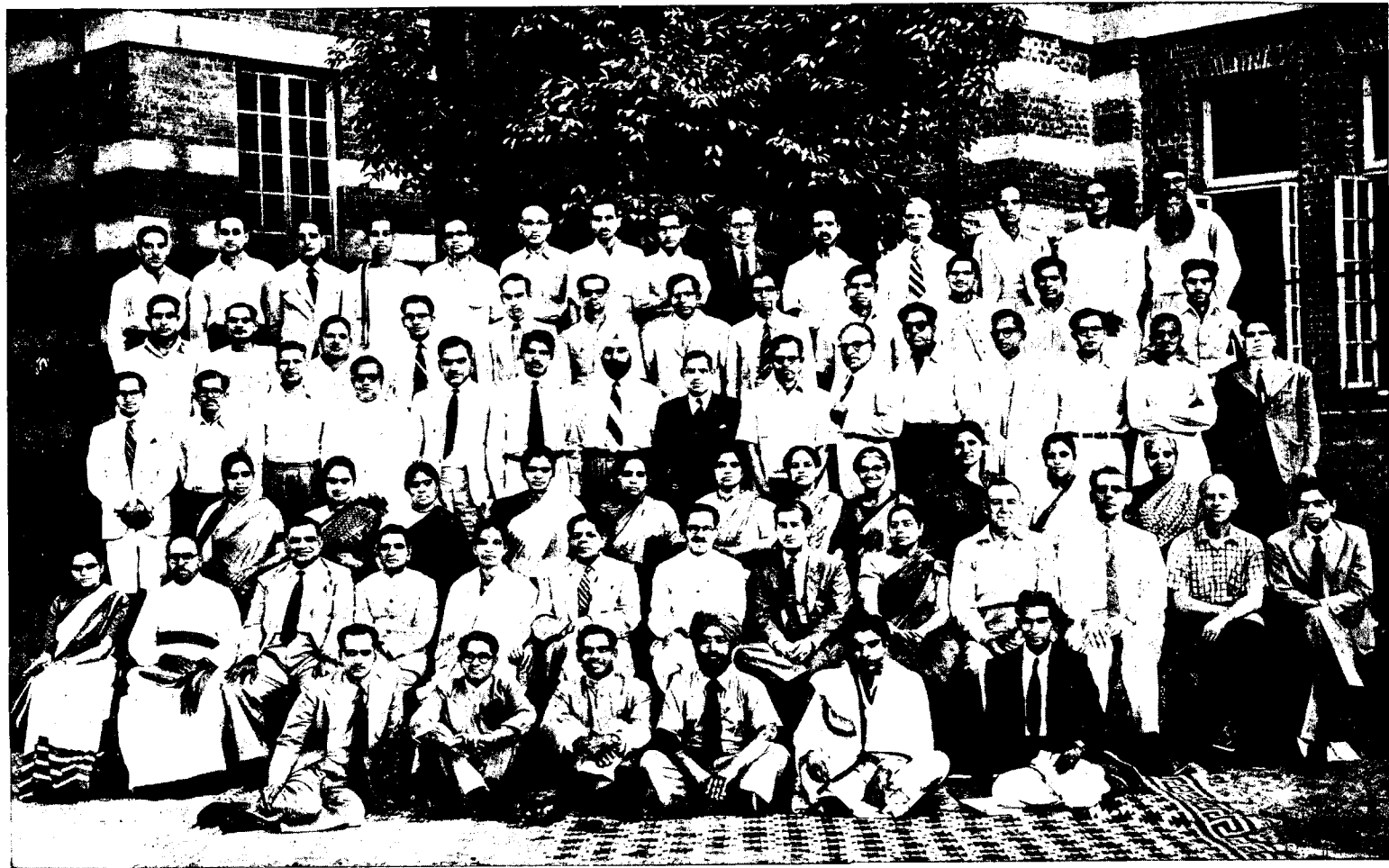


WORKSHOP ON EVALUATION AND TESTING PROCEDURES
held at Baroda in March, 1957.



EVALUATION IN SECONDARY SCHOOLS

(REVISED EDITION)

**A Summary of the Theories and Practices of Evaluation Developed
in a Series of Workshops under the Direction of**

Dr. Benjamin S. Bloom

with

SELECTED ILLUSTRATIVE MATERIALS

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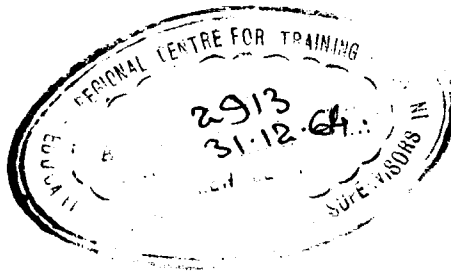
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A NOTE ON THE REVISED EDITION

'Evaluation in Secondary Schools'

Copies of the first edition of this book were exhausted in November, 1958. But demands for more copies have been coming in from every part of the country. It was therefore, decided to bring out a second edition as early as possible.

Certain obvious errors both in arrangement and presentation of topics, that had escaped notice in the first edition, have been corrected. Some of the questions in Part II have been recast or changed altogether for the sake of clarity. Dr. Bloom and Officers of the Examination Unit, who had compiled and edited the first edition, have themselves made the revisions for the second edition.

One or two additions have been made in the bibliography. The resolutions of the Conference of Secretaries of the State Boards of Education held in Sept. 1958 have been added in Appendix B.

Except for these small changes the revised edition is, for the most part, a reprint of the original.

In view of the special attention focussed on the question of examination reform today, it is hoped that this revised edition will prove useful as a guide to teachers and others interested in the problem of evaluation in secondary schools.

—*Editor.*

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Foreword

“The (present education) system—consisting of examinations, syllabi, teaching methods and instructional materials—has formed a *grand conspiracy* to persuade everyone involved in it that learning is to be equated with rote memorization.” This is how Dr. Bloom epitomizes pungently the current educational situation, as it strikes an intelligent and perceptive critic.

Making due allowance for reforms which are being introduced in many directions and which give room for hope, we have to admit that this is not an unfair appraisal. The special merit of the work done by our distinguished visitor in the field of examination reform is that he has *not* confined himself to ‘examination reform’ only in the narrow and technical sense, but has envisaged it in the total context of the educational process. If we merely sharpened the instruments of evaluation and made them more precise and reliable, they would certainly measure whatever we are teaching more efficiently, but will not necessarily *improve* teaching. It would be like weighing commodities on a sensitive balance, which will give its weight correctly down to the last decimal point and record very small differences, instead of doing so on a crude weighing machine such as is frequently used in the market. The change of balance makes no difference to the *quality* of the commodity.

It is well to formulate methods of improving objectivity and reliability of examinations, but he goes further and raises for our consideration the basic question: “What do the examinations cause the sixteen-year-old boys and girls to do?” If they result in “confusing education with the answering of a series of questions” on the basis of rote memory and with the help of predigested notes, there is hardly any genuine educative process involved. In these seminars, discussions and conferences examinations were envisaged as only a “symptom” of the larger educational problem and their starting point was the conviction that there is an essential link-up between our social philosophy, our educational purposes, our techniques of teaching, our learning experiences and our evaluation procedures. Our primary goal is the *proper* development of the student ‘proper’ as defined in the light of our objectives—and the entire paraphernalia of education—curriculum, text books, teaching aids, testing devices and techniques of presentation—must be geared to that end.

In the ordinary “passive” school untouched by the light of new and life-giving ideas, the teacher talks most of the time, because he has somehow to ‘cover’ certain topics through his classroom lessons; he makes, or tries to make, the curricular content as easy for the children as possible, and when the dreaded examination approaches, he enters into a more or less conscious battle of wits with the examiners and makes a guess at questions which are important from the examination point of view. The students on

their part are naturally, almost inevitably, encouraged to memorize laboriously isolated facts and bits of information which can be disgorged in an examination which is mainly designed to test these things. Thus, we find that the evaluation instruments motivate both the students' methods of study and the teachers' techniques of teaching. In other words, if you are out to test memory, only memory will be used and trained—it is not only the easy way but also the paying way. If, however, education is concerned with the thrill, the adventure and the joy of learning, of grappling with ideas, of realizing the essential purposes which are implicit in the different subjects of study, it puts an entirely new slant on methods of work and learning. The examiner would then formulate questions which call, for instance, for problem solving, for organization of ideas, for application of knowledge to practical problems and situations. In such a context actual 'static' knowledge may be much less important—and may, indeed, even form part of the data given to the examinee—and the real point of emphasis would be its functional use. A scrutiny of most question papers will show that there is not enough evidence of careful thinking or originality or purposefulness in the formulation of questions. In other words, the examiner has not bothered—because the teachers and the educationists have not bothered earlier—to define the educational purposes which are to guide his work. Unless the intrinsic interdependence of this trinity—educational purposes, learning experiences and evaluation techniques—is not only clearly realized but also intelligently understood, there can be no abiding reform in education. This, I take it, is the most important central contribution of the work which is so lucidly described by Dr. Bloom in this valuable brochure.

In this brochure, the whole procedure of work adopted in these seven workshops has been described lucidly and convincingly, and the objectives underlying each step have been brought to light. By studying it carefully, our teachers in schools and training colleges will be able to see how, through co-operative endeavour, the specific purpose relating to each subject in the curriculum can be formulated in clear terms, unencumbered by vague verbiage, and how test materials can be prepared to assess how far they are being actually achieved.

I should like to take this opportunity to offer our sincere thanks to Dr. Bloom for his valuable work and to the many teachers and other educationists and educational administrators who co-operated in the completion of the various stages of this Project. I hope it will be possible for the Ministry of Education and the State Education Departments to make it the starting point of a country-wide programme to reorient its whole examination system and make it an important ally in the creative reconstruction of our educational system.

New Delhi,
October, 1957.

K. G. SAIYIDAIN
Educational Adviser
to the Government of India.

Introduction

This book represents the collective thinking of about three hundred teachers of India, gathered in a series of seven workshops. These teachers, who have come from almost every State of this vast nation, have attempted to *begin* the attack on an educational problem, the examinations, which has irritated and frustrated all who have been concerned with the educational system of India for the past half-century. For the limited period of the workshops, the teachers gave themselves completely to the group attack on this problem. They returned to their schools and colleges suffering from fatigue but with high resolution for the long-term attack on the large educational problem of which the examinations are only a symptom. The materials collected in Part II of this book, some of the by-products of their work and thought, are not presented here as models to be followed by teachers and examiners. Instead they are evidence of the kind of thinking that is necessary for the devising of examinations which will become powerful instruments in the hands of teachers rather than the capricious and all-powerful masters that they now are.

The reader will find the material in Part II more meaningful if he has first read Part I. The test illustrations in Part II should not be 'read' as one reads the pages of a book. Rather, the reader should attempt to answer each question in turn and should then reflect on the kinds of thinking he has had to do and the relation between this thinking and the statement of the objectives and the behaviours which precede the question. This enterprise will help the reader become more clearly aware of the thought processes which the tests attempt to evoke and to evaluate. The more serious reader will probably find himself impelled to attempt to make some test exercises similar to the ones presented here. This labour, if the reader later secures the reactions of students and colleagues to the exercises he has made, will make for a deeper level of understanding of the ideas presented in the book. The reader who secures the co-operation of his colleagues in a group attack on these problems will begin to comprehend the learning experiences which the three hundred authors of this book had as participants in the evaluation workshops sponsored by the All-India Council for Secondary Education.

This is not a book to be read from cover to cover. It should be used as a reference book or as a handbook relevant to the purposes and needs of teachers in the secondary schools of India.

BENJAMIN S. BLOOM

PART I

EXAMINATIONS AND THE EVALUATION OF STUDENT DEVELOPMENT

CHAPTER I

EXAMINATIONS AND THEIR EFFECTS

The writer of these lines was invited to serve for some months in 1957 as an Adviser on Examinations to the Ministry of Education of the Government of India. Having read many articles and reports on the external examinations, I was much impressed by the proposals which had been made at the Bhopal Seminar on Examinations in 1956. Before making any additional proposals or recommendations, I was especially anxious to work closely with teachers and headmasters at the secondary level and lecturers in the training colleges. I also wanted to discuss with administrators and other educationists at the State and national level the proposals at Bhopal and the problems which might arise in implementing these proposals. It seemed best to begin with the teachers. Then to check on the ideas derived from the teachers by conversations with Indian experts who had worked on problems of examination reform, and through this process gradually modify the ideas until a proposal was developed appropriate to the Indian situation which could actually be implemented by the educators of India, working as individuals and in groups.

Before beginning this venture, I visited several dozen classrooms at the secondary level to observe the nature of the teaching and learning. In almost all of these classes, the teacher spoke at least 90 per cent of the time. When students spoke it was to recite something to the teacher to verify that they had remembered a fact, which the teacher had given them at some previous point in time. The teacher's

task in these classes appeared to be *to tell* the children everything regarded as important. The pupil's task in these classes appeared to be *to remember* the points given by the teacher. Both teachers and students approached their tasks with determination but without enthusiasm. Learning appeared to be a matter of covering a certain amount of subject matter in a prescribed amount of time. In some instances the apathy of students and teachers was replaced by irritability. Both teachers and students were evidently resisting the teaching and the learning of something they found distasteful. Occasionally, the teachers made an excuse or apology for some statement on a topic by indicating that this was necessary for the examination.

Although there were a few exceptions, the classroom learning I observed was a grim sort of business evidently being conducted for some goal not present in the subject matter itself. Inside the classroom there was a minimum of warmth between teachers and students: all was business, and not a particularly attractive kind of business. In contrast, occasional glimpses of teachers and students outside the classroom revealed many instances of warmth, sympathy and respect for each other. But all was routine and somewhat mechanical in the classroom. Words were exchanged between teachers and students; rarely did I find ideas and enthusiasms being exchanged. Poetry and literature were reduced to things to be remembered. Science was reduced to

things to be remembered. So also were Civics, History, and even Language. When I described these experiences to individuals who have been working with teachers throughout India, they indicated that this very limited sampling of classrooms was quite representative and that visits to many thousand classrooms would do little more than confirm the generalizations based on my several dozen visits.

While some teachers did complain about the size of their classes, many of the classes I visited had fewer than thirty students. However, as far as the method of instruction was concerned, I failed to see how the *number* of students entered the picture (except for the problem of listening to students recite or, perhaps, of correcting something the students had written). It seemed to me that fifty or five hundred or more students could listen to the teacher and do as well as the thirty or forty students now listening to the teacher in these classrooms. If learning in the secondary schools of India is to be limited to one-way forms of communication (teacher telling students), the number of students to be reached by the teacher is only limited by the size of rooms or the distance over which the teacher's voice can be heard. If, however, the desired types of development in students require more complex learning situations, then the one-way form of communication which I have observed is likely to prove inadequate. But teachers and students will need to find new ways of participating in learning situations.

Another step in my own learning was to inspect a number of the secondary school leaving or matriculation examinations. The questions I found in these examinations required little more than rote memorization of some details presumably covered in the classroom. Inspection and comparison of examinations offered in different years revealed something of the pattern of these questions: favourite questions are repeated; slight changes are made in the wording

of questions in successive years; there are great similarities in the questions used in different States. Most of the questions appeared to be of a sort that might be thought about on the last day or a short time before the examination material was due. Rarely did I encounter questions which suggested that the paper-setter had given careful thought to the matter over an extended period of time. In short, the questions were routine and stereotyped—as though everyone was quite weary with the system and was merely going through the formalities required by it. There was little evidence of originality, thought or care in the formulation of the questions.

Furthermore, the small number of questions the student answered made it quite likely that chance elements played a large part in determining the student's performances. If the student had prepared over the right material, he was likely to do well. If he was unlucky enough to encounter a few questions for which he had not specifically prepared, his examination performance was likely to be very low. The examinations did not systematically cover a subject or course. Rather, they consisted of relatively inadequate samples of the kinds of learning a student is expected to achieve.

While I did not have an opportunity to observe the reading of examination papers or scripts, the descriptions I have received of the process indicate that subjective elements also play a large role in determining the mark received by a student. Although a sample of papers is usually checked by the head examiner, rarely is every paper read independently by two different examiners. Seldom is any continuing check kept on the papers read at different times by the readers.

This encounter with the examinations confirms, in my own mind, the research results reported by Dr. Salamut Ullah in India, by Hartog in England, and by Starch and Elliott and others in the United States*. The type of test used in the external examin-

*See Salamut Ullah, *Examinations in India: Their Defects and Remedies* (Calcutta: Orient Longmans Ltd., 1951), pp. 19 ff.; Philip J. Hartog and E. C. Rhodes, *An Examination of Examinations* (London: MacMillan, 1935); and three articles by D. Starch and E.C. Elliott in *School Review*, Vol. 20 (1912): 442-57, and Vol. 21 (1913): 254-59 and 676-81, which report studies of the reliability of grading high school work in English, Mathematics and History respectively. An important summary of studies of the reliability of the essay examination is to be found in Walter S. Monroe, Editor, *Encyclopaedia of Educational Research* (Revised edition; New York: MacMillan, 1950), pp. 407-409 and bibliography following.

ations is highly subjective and unreliable. Chance plays a very large role in determining whether a student passes or fails. On the basis of the little evidence available, it appears likely that at least one out of three students is improperly judged by these examinations. Furthermore, the method of combining the results over the different papers makes the likelihood of failure quite high. It is quite likely that a sizeable proportion of the approximately 55 per cent of failures in the examinations each year can be accounted for by the combination of probabilities ; that is, chance elements in the grading procedures and the method of combining the results, reduce the chances a capable student has of passing the examinations : all the chance probabilities are stacked against the capable student.

At present, the external examinations used at the end of the secondary school are very inadequate measures of the students' achievement. Much must be done to gather research evidence on the sources of weakness of these examinations and to provide remedies to overcome these deficiencies. While these deficiencies are great and steps must be taken to correct them, there are other examining problems, which in some ways are even more urgent, for they relate more directly to the true purposes of the education of the youth of India. The inquiry into these problems led to the workshops with secondary school teachers, headmasters and training college lecturers.

A third activity in which I engaged was to read through as many of the syllabi as I could obtain. These syllabi did little more than list the topics or content to be covered in a particular course and suggest the books or materials to be used in the course. While these topics could be treated in many different ways, it was evident that both teachers and examiners regarded their primary task as one of covering the content, the teachers attempting to allot the proper amount of time to the different topics while the examiners attempted to ask questions which sample these topics. Both teachers and examiners have drawn the inference that what is needed is to have the student possess specific information about each topic. Sometimes, the teaching and examining is such that the student memorizes specific information which he did not fully understand.

Having observed students in class I was anxious to observe them preparing for examinations. The opportunity came rather unexpectedly as I attempted one Sunday, to relax from the rather arduous work I was pursuing. Having heard a great deal about Jantar Mantar in New Delhi, I took my family to the very attractive park in which these ancient astronomical instruments are located. A large number of students also chose the same day to visit this park. In one structure designed to register the different phases of the moon, I found students sitting in almost every one of the openings intended to permit the rays of the moon to strike a pole placed in the centre of the structure. Each student appeared to be engrossed in studying for his examination. In addition to the students sitting in the openings of this structure, throughout the park I observed students pacing back and forth with books held in hand. These books regularly shifted from a position in which they could be read to a position in which they could not be read. It was evident that the students in this park were engaged in a stupendous effort at memorizing subject matter.

I became bold enough to stop one student and ask him what he was studying and why. He showed me his Chemistry book and said he was preparing for the forthcoming examination. When I asked him how he was preparing, he offered to demonstrate. His book was open at page 434, but he claimed that he had not quite mastered that portion of the subject. Turning back to page 386, he asked me to hold the book and then proceeded to give me a word-for-word account of everything on pages, 386, 387 and 388. He had mastered this material and was ready for the examination. His book had more than 600 pages in it, and I am quite confident that he eventually committed a good portion of the work to memory.

This, it seems to me, is the key problem to which not only the examination but everything in the educational system must be directed : *What happens in the mind of a sixteen-year-old boy in the secondary schools of India ?* It is well to find methods of improving the objectivity and reliability of examinations, but what do the examinations cause sixteen-year-old boys and girls to do ? What kind of learning do these youths engage in to "pass" the examinations ?

Do they confuse the mastery of the science of Chemistry with the memorization of a 600-page book? Do they have similar confusions about other subjects? Do they confuse education with the answering of a series of questions demanding the rote memorization of books and sets of notes?

Furthermore, what happens to teachers as a result of the examinations? Do they confuse the learning of a subject with its rote memorization by students and with the coverage of topics specified in a syllabus? As remarked, the syllabi list the topics to be covered, and the examiners apparently assume that the adequacy of coverage of these topics is to be determined solely by questions planned to discover the specific information a student may possess at the time of the examination. Teachers evidently make similar assumptions and teach students so that they may be prepared to answer the information questions which may be asked over the different topics. The textbooks used in the classrooms further strengthen

the impression that a subject consists of specific bits of information to be committed to memory.

Finally, a sixteen-year-old boy, surrounded by all these paraphernalia of institutionalized education, organizes and proceeds to commit to memory the book or the notes given him by his teacher. The system—consisting of examinations, syllabi, teaching methods and instructional materials—has formed a grand conspiracy to persuade everyone involved in it that learning is to be equated with rote memorization. As a result, learning is a heavy task to be undertaken for a system of rewards not directly related to the beauty and power of subjects like Mathematics, Chemistry, Literature or History. The fact that a few students may come through this process with an interest in or even a love for Chemistry or Mathematics or History, must be explained by something outside the system. They develop this zest for learning and for a particular subject, if they do so at all, *in spite of* the system and *not because of* it.

CHAPTER II

TEACHERS' WORKSHOPS ON EVALUATION

In an effort to determine whether secondary teachers in India were really limited in their view of learning and teaching, six workshops were organized. These workshops, to which representative groups of teachers from each State were invited, were attended by teachers and headmasters from all but two of the States. Since the workshops were organized under great pressure of time, most of the teachers were deputed by State educational authorities. The title of the workshop "Educational Evaluation and Testing" conveyed very little to the teachers, and many came not quite knowing why they were there or what they would do. The word "workshop" probably had little meaning for most of the teachers; it evidently suggested manual work which to some people might not seem entirely fitting for teachers engaged in intellectual pursuits.

We began each workshop by considering in some detail the primary function of education as one of helping children to develop and grow. This view holds that children should, as the result of instruction and learning, be different after a course from what they were before the course. It also suggests that students who study a subject for some time should become different from students who have not studied that subject. From this view of the function of the schools in helping the child to grow and develop comes the notion that learning is purposeful and that the efforts of teachers should be directed toward providing learning experiences which will most effectively induce desirable kinds of growth and change in students. It follows, moreover, that it is necessary for schools and teachers to make clear what are the desirable kinds of growth and development in students which the study of school subjects should promote. In short, the objectives, goals, or purposes of instruction need to be defined.

Turning then to the subject matter of one of the secondary school subjects, we asked the teachers in the workshop what changes in students might be expected as a result of the study of this subject. For example, we listed the content of a subject like Physics. If we take this content from the Draft Syllabus it looks this way :—

Mensuration
Mechanics of liquids
Mechanics of gases
Mechanics of solids
Heat
Sound
Light
Magnetism
Static electricity
Current electricity
Radiation

From the content or topics of Physics as found in the syllabus, it is evident that teachers and examiners expect students *to develop increased information about the subject matter of Physics*. There is little doubt that teachers everywhere would accept this as one of the basic objectives of the teaching of Physics. When this fundamental point was accepted we then asked the participants whether instruction in Physics was designed to bring about other changes in students, and they gave us a large number of possible objectives of the study of Physics. Something of the variety of suggestions may be seen in the following list viz. to develop in the student :—

1. information about scientific facts, theories and generalisations.
2. ability to apply scientific principles to everyday phenomena.
3. powers of observation.

4. ability to draw inferences from data.
5. the capacity to collect data and draw inferences.
6. understanding of technical terminology.
7. appreciation of the differences between the Laws of Nature and the Laws of Man.
8. appreciation of the beauty and order in Nature.
9. knowledge of how the powers of Nature have been harnessed.
10. a desire to become like some of the great scientists.
11. the spirit of enquiry and investigation.
12. habits of accuracy in making and recording observations.
13. skill in the use of simple scientific appliances.
14. ability to express scientific facts precisely and correctly.
15. qualities of perseverance and hard work.
16. a freshness of outlook.
17. a thirst for scientific knowledge.
18. interest in reading scientific literature with appreciation.
19. an interest in the environment.
20. taste for suitable scientific hobbies.
21. intellectual honesty, scientific integrity and unwillingness to compromise with known truth.
22. open-mindedness and willingness to consider new facts.
23. desirable habits of work and study.

In order to deal with such a long list of objectives we proceeded to classify and re-arrange them under several major classes or types :

Information objectives : 1, 6, 9 (as listed).

Problem-solving objectives : 2, 3, 4, 5, 13, 14.

Interest objectives : 17, 18, 19, 20.

Attitude and Appreciation objectives : 7, 8, 11, 12, 16, 21, 22.

Personality and character objectives : 10, 15, 23.

At this point, we decided to limit our further work on these objectives to those which fall under the general heading of problem-solving, the ones in which students are expected to be able to use their knowledge and understanding of the subject matter and methods of Physics to attack new problems. We limited ourselves to these objectives because they might well be the key objectives for purposes of examinations, both internal and external ; they are regarded by many teachers as the most significant objectives for secondary education ; and they are the ones for which probably the most is known about relevant learning experiences and evaluation techniques. This is not to say that the other classes of objectives are unimportant. Our workshops were of limited duration and we were likely, in the few days at our disposal, to be able to make most progress on the problem-solving objectives. Furthermore, the evaluation procedures we hoped to design must, in the first instance, be related to the grading functions of internal and external examinations. It is not likely that teachers will or should mark students for their interests, attitudes or personality characteristics, however important these may be.

We may now briefly consider some of the criteria which might be used in selecting among the list of objectives. There are many possible changes that can take place in students as a result of learning experiences, but since the time and resources of the school are limited, only a few of the possibilities can be realized. It is important that the major objectives of instruction be clearly identified if time and effort are not to be wasted on less important things and if the work of the schools is to be guided by some plan. One basis for our thinking about objectives is information about students in Indian secondary schools. What is their level of development when they enter secondary school ? What are their interests ? What are their needs ? What kinds of development will best help them face the future ?

Another basis for thinking about objectives is the nature of the society. What are the changes taking

place in India—politically, socially and economically, and what demands will these make on the youth of this nation? What kinds of changes in students will best help them meet the problems and opportunities they are likely to encounter? What are the activities that individuals are expected to perform? What are the opportunities for youths to serve the nation, to find a suitable vocation and advance themselves?

Still another basis for thinking about objectives comes from the nature of the subject matter: the objectives of Physics are quite likely to be different from the objectives of Music, Art or Literature. And these in turn are likely to be different from the objectives of Civics or History. What is the conception of the nature of a subject? What are the types of learning which can arise from a study of the subject matter and methods of the particular field? What are the contributions that the study of one subject can make in relation to the study of other subjects?

The problem of selecting among possible objectives and of determining the relative emphasis to be given to various objectives, requires the use of some guiding conceptions. What important values are widely accepted in India today? What are the underlying cultural and philosophic values to which the work of the schools should be oriented? What is the proper relation between man and society? What are the proper relations between man and man?

Finally, the educational objectives must be related to some view of how learning takes place. What are the goals that are possible to attain in the light of what we know about the learning process? At what stage in the student's development can he do the learning required for a particular objective? What materials, facilities and instructional methods are necessary if students are to attain a particular goal?

These questions were considered rather briefly in the workshops because of the limitation of time and because the central concern of the workshops was the development of evaluation instruments, rather than curriculum development in general.

Next we considered the relationship between the purposes or goals of learning and the evaluation procedures and between the purposes and the learning

experiences of students. The desired changes in students represent the purposes or ends of instruction, while the evaluation procedures and learning experiences provided to students are the instruments or means related to these ends. An achievement examination is not good or valid unless it appraises the kinds of changes in students which instruction seeks to bring about. A teaching method is not good or appropriate unless it helps to bring about the kinds of changes which are regarded as the goals of instruction. Schematically, the relationship between educational purposes, learning experiences and evaluation techniques was presented as follows:

Educational purposes



Learning experiences \leftrightarrow Evaluation techniques

Having observed this triangular relationship, we proceeded to consider in greater detail the relationship between educational purposes and evaluation.

Since educational purposes or objectives tend to be stated in relatively general terms, it is necessary to define them in greater detail before constructive work can begin on either learning experiences or evaluation. One method of defining an objective which is likely to prove useful is to state the kinds of behaviours, reactions or processes which characterize a student who has achieved the objective. This was a most difficult step for the workshop participants. Some attempted to define an objective by stating what the teacher would do to help the students. Others attempted to define it by stating all the desirable consequences which might occur if the student achieved the objective. There were also problems in generality and abstraction since some of the participants wanted to define the objective by relating it to each of the topics in the course content, while others wished to define it by rephrasing the original statement of it in several different ways. Something of the variety of ways in which the objectives were ultimately given greater meaning and clearer definition will be shown in the many illustrations in Part II of this book.

We did not strive for standard definition of a particular objective. It will be found that, while a number of the participants thought of and worked on similar objectives, they differed in the ways in which they gave behavioural definitions for these objectives. Further, we did not strive for completeness of definition. Each of the workshop participants was encouraged to define the objective as completely as he could, but here again, similar objectives were defined by some participants in more detail than by others. The interested reader of the illustrations in Part II will find himself attempting to define some of these objectives in still different terms and possibly even in more detail.

It will be observed that the attempt to define the objectives in behavioural or process terms enables the teacher to go from an objective as a vague hope and ideal to one that is defined clearly enough to indicate the lines along which it can be evaluated, and to imply ways in which it can be developed in students. Thus, the educational purposes considered here are not pious hopes and wishes but are expected to provide realistic targets for the educational process.

Perhaps a word on the method of formulating objectives is appropriate. The participants in each workshop were divided into four or five subject groups, such as Mathematics, Civics, History, Science, Chemistry, Physics or English. Each group of teachers was asked to list all the objectives which they regarded as significant for the subject they were dealing with. They were asked to think about objectives from their own experience with the subject and their own views as to the desirable outcomes of instruction. In no instance were they provided with books or reading material from which they could "borrow" objectives, although in a few cases the participants said that the workshop would move more "efficiently" if they were able to select the objectives already stated in books on the subject.

However, with only rare exceptions, the participants accepted the challenge of thinking through, on their own, the problem of the desirable objectives of the learning process. It is safe to say that the objectives listed in Part II of this work were stated and deve-

loped by teachers in India. Although they may have many parallels in the schools of the U.S. or elsewhere they were independently conceived by Indian teachers. Nonetheless, the inclusion of the objectives in Part II does not mean that they should be the objectives of secondary instruction in India. These materials are merely illustrations of some of the possible purposes of different subjects and of some of the methods that might be used to evaluate their attainment. The selection of key objectives is a complex process which requires careful thought.

After the behaviours had been defined for each objective, the participants were asked to think of ways in which they might determine the extent to which students had attained the objective. Usually the participants were able to think of several ways in which the evidence could be gathered with respect to student growth toward the objectives: observation of students in various situations, interviews with the student, oral examination, appraisal of the writing and other products of the student, questionnaires and check lists, rating scales, as well as essay and objective questions. They were then asked to select a method by which they might secure evidence of the attainment of a given objective by thirty or more students in a relatively economical and practical way. The illustrations in Part II are some of the methods they finally developed. The participants were asked to frame brief essay as well as recognition-type questions by which one might observe the behaviours specified under the objective. They found in some cases that the essay question seemed to be the only valid method of evaluating the attainment of the objective, but in other cases the recognition type of question had distinct advantages over the essay form, while in many cases both methods were equally valid and relevant. We have included both essay and recognition forms wherever possible in order to help the reader decide the respective merits of the two forms.

The reader will undoubtedly note the extent to which the actual test question serves to give an operational definition of the objective. One of the very important uses of evaluation procedures is to help teachers make their educational objectives more complete and clear. As these objectives become more

clearly defined, it is possible to make more realistic decisions about their desirability and feasibility. Furthermore, as the objectives become increasingly specific and clear through the use of behavioural definitions and of operational definitions (the actual test questions), it is possible for the teacher to begin to think of the kinds of learning experiences which are likely to help students grow in the ways defined by the objective. The teachers may also become more aware of the relevance or lack of relevance to these objectives of the learning experiences now available to students. Thus the very process of thinking about evaluation can help teachers to clarify their educational objectives and to improve the quality of their instruction. It is of importance to note that this effect of evaluation comes simply from the act of constructing the evaluation devices, and the effect is felt even before the tests have been administered to students and graded.

Another effect of the evaluation instruments is to motivate students and to direct the ways in which they study and prepare. The participants considered the effect of the present examination on students. They pointed out that new ideas on instruction and learning were quite frequently rejected by students because they could not see direct relationships between these new learning experiences and the external examinations they must take. They also confirmed the writer's observations on the ways in which students now prepare for examinations by great feats of memory and by cramming for those questions they anticipate will be included in the examination. Many problem-solving tests require the student to prepare in a quite different way than by memorising subject content. Some of the participants pointed out that it might be possible for some portion of the external examinations, eventually, to be of the open book type, in which students might be permitted to bring their notes and books to the examinations and refer to them whenever they felt so impelled; such questions would, of course, require much more than the specific bits of information which the student might find in the books or notes.

Many of the questions devised by the participants required the students to think about significant prob-

lems in contemporary life. Again the participants indicated the effect of such questions in helping students to find meaning and purpose in the study of the subject and in helping them bridge the gaps between the learning that goes on in the schools and the vital problems in the environment in which the students live.

The principal and frequently the sole use of examinations in India is to grade students and to certify their level of achievement. Much of the value of the examination evidence is lost in this grading function. As the participants discussed the kinds of learning experiences they might develop to help students gain in ways defined by the objectives, they began to see the importance of evaluation evidence in determining the effectiveness of these learning experiences. Clearly evaluation evidence needs to be summarized in such a way as to help the teachers determine which aspects of the courses are working well and which are not. A breakdown of the evaluation results by subject matter and by objectives would prove useful to the teacher in finding ways of continually improving the effectiveness of the learning experiences.

Other uses of evaluation techniques which were briefly discussed by the workshop participants were :

- (a) for diagnosis of the strengths and weaknesses of the student for purposes of helping him develop further along the lines indicated by the educational objectives ;
- (b) as checks on the progress of the student during the term ;
- (c) for placement of new students at the proper place in the school programme ;
- (d) as instruments for research on new methods of teaching, new organization of curriculum, and new problems of instruction ;
- (e) as a continual check on the standards of an educational programme.

Perhaps the central points in the discussions during the workshops were three in number :

1. Examinations are intricately interwoven with

educational purposes and learning experiences ; it is impossible to consider one without the other.

2. The purposes of the learning must be kept in view at all times, otherwise, learning is likely

to be routine and mechanical.

3. The development of the students is the goal of the learning process : the testing procedures and teaching methods and the instructional materials are all means to those ends.

CHAPTER III

A PROGRAMME FOR ACTION

After the six workshops at the secondary school level (Delhi, Calcutta, Hyderabad, Allahabad, Jullundur and the one workshop for the training college lecturers (Baroda) had been completed, a series of discussions was held with educationists and administrators. One meeting was held with the Examination Committee of the All-India Council for Secondary Education and another with the Secretary of the Ministry of Education and members of his staff. Finally a meeting was held with the secretaries and administrators of the Boards of Secondary Education and the University officials who conduct matriculation examinations in certain States. The programme below met with the general approval of all these groups. Steps are now being taken to implement these proposals.

External examinations have been of value to India in the past. With all their defects, they have provided minimum standards for education and have served as one of the chief means of accrediting educational institutions. While they may have placed emphasis on the wrong things, it would be unfair to regard them as the sole cause of the educational malaise in India.

During the last three decades a great deal of attention has been given to the external examinations. For the most part, increasing dissatisfaction with the examinations has been registered by every group involved in the educational system, and it is likely that this dissatisfaction will become more and more pronounced in the near future. There is no longer any question as to whether the examinations should be altered or not—the only question is the direction in which they should be changed and the speed with which the changes should be introduced.

Even if there were no criticism of the examinations, the large number of students taking the

Matriculation Examination makes it necessary that some changes should be introduced. In 1937, only about 100,000 students took the external examination at the end of the secondary stage, while in 1955-56 it was about 800,000 and undoubtedly this number will increase in the future. Unless technical modifications are carried out to make the examinations easier to administer, grade and report, the administrative machinery necessary to provide for the external examinations will become more and more costly and difficult to maintain.

Although much progress has been made in the field of testing in other countries, the errors of testing prevalent in examinations here thirty years ago are still to be found today. These errors stem from the very inadequate sample of the students' competence in the essay examination now used, the low level of objectivity or agreement among independent readers on the quality of the paper, and the danger of the large number of chance elements which enter into the present examination. The errors present in these examinations are such that they raise serious questions not only about the utility of the examinations for the selection purposes to which they are now put for the welfare of society but also about the ethical and moral propriety of using such defective devices for making judgements about an individual.

The need for improvement of the examinations has been stressed in the Report of the Secondary Education Commission, and the Bhopal Seminar has made clear some of the directions in which the changes should be made. The assignment of some weight to evidences provided within the school through the use of cumulative records and more highly developed internal assessment procedures would help to reduce to some degree the errors of the present examining

system. The gradual inclusion of the objective type of questions in the external examinations would also serve to increase the objectivity and reliability of the examinations and at the same time would make them less costly and more practicable as the number of candidates continues to increase.

However, these changes, which will require great effort to bring about, are unlikely to get to the heart of the problem and, if carried out solely to improve the accuracy of testing, the examining system is likely to prove a major obstacle to the continued improvement of secondary education in India.

Examinations are a powerful force—for good or evil—in the educational system of this country. They cannot be eliminated at this time no matter how much this may be desired by some individuals. They are intricately interwoven with the syllabus, with student motivation and learning, with teachers' motivation and teaching methods, and are closely tied to status and to selection procedures in the country. These relationships are so strong that they may be regarded as even more central and significant than any of these separable parts of the educational system. Attempts to change the examinations must take full cognizance of these relationships or the entire educational system may be thrown out of balance. If changes are introduced in such a way as to make full use of these relationships, it is possible for secondary education to advance at a relatively rapid pace, with maximum involvement of students, teachers, administrators, and the public.

The changes in the first three or four years will appear to be very modest but are intended to bring about major re-orientations and new attitudes. Once these shifts have taken place, the changes in the external examinations, teaching methods, student learning, and subject content should take place more rapidly and smoothly.

Education always operates in the service of some purposes. All too frequently the purposes are not understood by many of the persons involved and are not made explicit. In so far as learning is concerned the one purpose that seems to dominate secondary education is the acquisition of information. The teaching procedures, the methods of learning used by students, and the use of the present exami-

nations all place stress on the detailed and temporary memorization of facts. Other objectives may be given lip-service, but only the acquisition of information for the span of time required to get through an examination represents the major purpose of present-day education in India. Concern for changes in teaching methods, in teacher and student attitude and in the methods of evaluation is unlikely to bear fruit unless these are all related to purposes of learning which are more significant and meaningful than the present single purpose.

For the next ten years, the major tasks facing secondary education are the setting of significant and realistic purposes and goals of learning, the in-service training of present teaching personnel and the preparation of new teaching personnel to implement these purposes, and the development of internal and external evaluation procedures to serve these purposes. Viewed from the perspective and successive two or three years' periods in this decade, a plan for educational reform must gradually bring about the development and acceptance of additional purposes for learning and their incorporation into the class-room procedures and examinations.

In the first two or three years, there is need for a slow advance on many fronts. The order in which action might be taken in the different fields can be argued, but it is necessary to have some movement in several parts of the educational system at the same time. In each of the present secondary school subjects there are a few purposes so fundamental that, no matter what development in a ten-year period or the variations from region to region and school to school, most competent persons would accept them. These could very well be the starting point.

There are only a small number of competent persons in India who could give effective leadership in the development of examination procedures related to educational purposes other than the acquisition of information. Every effort must be made to utilize this very precious resource personnel most fully for the purpose of education. The services of these resource persons should be placed at the disposal of an Examination Unit attached to the All India Council for Secondary Education. These experts would work

in different regions but their activities would be directed and co-ordinated by the Central Unit. They would work with teachers in their respective subject fields in workshops, seminars, and similar study camps to help them clarify one or two major purposes of learning a particular subject and produce a large pool of test material which will validly measure the student's attainments with reference to these purposes.

This large pool of test material will be made available to Secondary School Boards for purposes of testing, and should gradually be incorporated into the external examinations. The material not utilized by the Boards will be turned into standard tests and usable test questions and given to teachers for internal assessment purposes as well as for instructional purposes. Accompanying such material, will be printed information to help the teachers to utilize it more effectively in the different ways in which evaluation can be a powerful instrument for improving the quality of their teaching.

This co-ordinated staff of evaluation leaders, supplemented by statisticians and psychometricians, will make studies on examinations, carry out research on procedures for the constructions of tests for some of the objectives to be evaluated in the second and third stages in the plan, begin the selection and training of new evaluation leaders, and co-operate more and more closely with appropriate persons in Secondary School Boards. It is likely that they will be helpful in orienting paper setters and moderators to the task of selecting questions from the pool of test material. As this takes place, the training of still more personnel must go on in order to help the States or regions develop their own evaluation staff. At a later stage in the development of the programme the evaluation staff, supplemented by additional technical personnel, will serve educational groups by aiding them in curriculum research and experimentation on various aspects of the education programme.

Closely linked with the work of evaluation staff will be the efforts of training colleges and extension services centres in helping teachers to find methods of organizing learning experiences (materials, methods and techniques) for bringing about the kinds

of growth in students specified by the objectives. The work of these workshops, seminars and training programmes, supplemented by illustrative materials and suggestions in written form should be co-ordinated with the central objective in each subject field, and must be gradually developed as teachers become more and more interested in these objectives. It should be noted that the clarification of a few key objectives and the development of appropriate evaluation instruments is a relatively rapid process requiring only a few days' meeting with teachers, and in many cases these can be communicated through written materials. The development of learning experiences, which require new skills of the teacher, new material in the classroom, and a different type of learning from the students, is a somewhat slower process. It is likely that the evaluation procedures will always be somewhat in advance of the development of appropriate learning experiences. This gap will provide one of the major sources of energy in the dynamic process of educational reorientation. The creation and strengthening of subject-matter teaching groups to work with the evaluators should bring about increased professional responsibility from teachers and should do much to speed up the acceptance of key objectives, the development and acceptance of new teaching techniques for these objectives, and the suggestion and acceptance of further objectives in the subject field. This should also pave the way for a more experimental outlook in education.

Central to all this work is the amplification of the syllabi so as to provide clearer directions for the teachers and to furnish the criterion towards which the learning experiences and evaluation instruments must be related. At present the syllabi tend to be spelled out quite inadequately with only slight revision from time to time. The present realities greatly inhibit the syllabus-maker, since he sees no possibility for change, unless examinations, teachers, books, etc. are also changed. While the work on the key objectives can begin before the syllabus is revised, in a two or three-year period the evaluation leaders would be too far ahead of the syllabus and would begin to determine educational purposes on their own. The educational purposes of the secondary schools of a

nation are too important to be left to chance or to the will of a small group of technicians. It is proposed that a small but carefully selected group of the most competent persons in the nation should conduct a series of seminars to produce draft reports on : (1) the implications of changes in the society for the schools ; (2) the implications of the basic values and philosophy of the nation for the schools ; (3) the nature of the learning process and its implications for the schools ; and (4) the characteristics of secondary school adolescents and the consequences of these characteristics for school programmes. In connection with these developments, a small group of subject matter specialists in each field should meet to examine in detail the fundamental nature of the subject, the objectives which may best be implemented in the light of the nature of the subject and the implications of the four points above. Using these ideas, each group would prepare a model syllabus for a target date about ten years from now in which it would specify objectives, content, suggested evaluation techniques, and suggested learning experiences. A small strategy group would then translate the long-term goals into practical steps for each two or three-year period.

As this proceeds, the Secondary School Boards would be expected to utilize the various resources to gradually modify their syllabi before they use new types of questions in the external exami-

nations, they would notify teachers at least one year in advance and would provide teachers with appropriate material (from the pool of material made available by the evaluation staff) for use in internal assessment and classroom work. The new types of questions would be introduced at first in the examination on a small scale only, and would be gradually increased in proportion at successive examinations. As each region or State develops its own Examination Bureau, it would develop new test material and standard examinations, and provide for a fuller use of the test material for internal assessment diagnosis, educational research on curriculum and for improved grading and selection functions.

It is also to be expected that this work to be done primarily at the secondary school level will be related to later work at the higher education level. The one will suggest techniques and procedures for the other. Both should come together most fully to develop University selection procedures in the form of aptitude tests and other evidence to supplement the Matriculation Examination. This work should result in the secondary school examination serving primarily as a school leaving examination, in which failure should be the exception rather than the rule. Entrance to higher education should take into consideration these examination results but should not be solely dependent on them.

PART II

EXAMPLES OF EVALUATION MATERIALS FROM THE WORKSHOPS

CHAPTER IV

The following pages attempt to report and explain the work done by secondary school teachers, headmasters and training college lecturers in the workshops on evaluation and testing held in various parts of India between January 17 and April 17, 1957. They include (1) some of the objectives which participants said they were trying to achieve through the teaching of their particular subject (2) some of the behaviours which they were willing to accept as evidence of movement towards a particular objective ; and (3) some of the test items designed to give students a chance to display one or another of these behaviours.

Although many types of objectives were proposed and developed in the workshops, we have restricted the illustrations used here to objectives of the problem-solving type. Perhaps at a later date some of the techniques for the appraisal of interest, attitude, and personality and character objectives may be developed and illustrated. It seems probable that at some time in the future such objectives may be regarded as especially important for internal assessment purposes, while the knowledge and problem-solving objectives seem to lend themselves best to the paper-and-pencil techniques needed in the external examinations. In any case, whatever the future may bring, we have given our major attention to educational objectives of the critical-thinking or problem-solving type, which may be regarded as important for both internal and external assessment at present.

The objectives used for illustrative purposes in this section have been chosen from among those

regarded as important by the workshop participants. There is no intention of claiming for them any additional sanction of any kind. Perhaps not all of these objectives would even be regarded universally as good ; almost certainly, most readers will think others which they consider more important. Nor are the illustrative test items offered as models. The sole intent of these pages is to show clearly what is meant by an approach to evaluation which undertakes to ascertain, on the basis of objective evidence, whether and to what extent the stated objectives of a given class are being achieved. For these and other reasons, the careful reader will undoubtedly find many of the recognition forms of questions either too difficult or too simple. The participants for the most part had little experience in constructing such test items. With further experience and with actual try-out of the questions upon students, they should be able to produce questions more appropriate to the level of difficulty students are able to handle. The error choices in the recognition forms of questions will then be more nearly representative of the kinds of errors students at a particular class level actually make.

In each workshop, there was some discussion of the idea that adult guesses as to the kinds of errors children may make are often wide of the mark, and that multiple-choice items should ideally be constructed by giving the questions first to a group of students in the ordinary essay form, and then choosing the erroneous responses for the multiple-choice form from among those most frequently made by students themselves. Nothing of this sort, of

course, could be done in the case of the examples that follow, all of which had to be put together within the duration of a five-day workshop. Most of the items were actually constructed within one or two days, and had no purpose except to convey to participants some idea of what could be done with the techniques being considered.

It is hoped that these illustrations may start many teachers on the construction of better tests for use in their own classrooms. It is hoped, too, not only that teachers generally will be willing to cooperate with the examination units in producing test questions which can be shared with other teachers, but also that the teachers will face the problems of teaching and providing learning experiences for students in new ways. Such work will produce meaningful learning for students and will help to develop a new generation of Indian youth.

From the materials presented in the foregoing pages, it will be seen that every question which involves thinking or problem-solving in a particular field involves also some acquaintance with the subject-matter of that field. Thus it is difficult to test for the achievement of any objective without

at the same time having the student's score influenced by the extent of his subject-matter knowledge. Or, putting the matter more positively, the teacher of Physics who tries to teach children how to apply physical principles to new situations will incidentally, whether he tries to or not, extend the pupils' knowledge of Physics. The teacher who wants his pupils to learn how to interpret newspaper stories of current events will necessarily extend somewhat their acquaintance with History, Civics, Geography, Economics and probably many other fields of subject-matter knowledge.

By its very nature, the formal examination can test only *abilities*—it is notoriously invalid as a way of testing dispositions or interests. Teachers who are honestly concerned about modifying the sentiments or dispositions of students will need patience, originality, and freedom to experiment if they are to devise ways of assessing their own success in moving toward their goals. The work illustrated in the foregoing pages is thus only one short step toward the achievement of an adequate programme for evaluation and testing; yet that one step, fully elaborated and implemented in practice, could remake the schools of this country.

SOCIAL STUDIES

OBJECTIVES with reference to which the Test Materials on Social Studies have been prepared.

To develop in the student the ability

- (1) to apply the major principles, concepts and ideas of Civics to specific new situations. (Question 1)**
- (2) to think critically about social issues. (Questions 2 to 4).**
- (3) to understand the most important social, economic and political problems of the day (Questions 5 to 8).**
- (4) to analyse the major social problems. (Questions 9 to 15).**
- (5) to attack current problems in the light of the past. (Questions 16 to 18).**
- (6) to apply the principles of Social Studies to the solution of social problems and to analysing social issues. (Questions 19 and 20).**
- (7) to analyse and understand the forces and factors involved in social conflicts and their resolution. (Questions 21 to 37).**

OBJECTIVE I: To develop in the student the ability to apply the major principles, concepts and ideas of Civics to specific new situations.

BEHAVIOURS: The student

- (a) recognizes new illustrations of principles and ideas learnt by him.**
- (b) detects violation of particular principles and ideas.**
- (c) recognizes when principles and ideas are applicable.**

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(a) The student recognizes new illustrations of the exercise or violation of citizen's rights.

Q. 1. Essay form is not possible for this behaviour.

TOOLS

Recognition Form

Q. 1. Below is given a list of important rights of the citizen guaranteed by our Constitution. Along with it are given a number of statements which are illustrations or examples of a right, violation of a right, or which have no concern with it.

- | | |
|-----------------------------------|-----------------------------------|
| (i) Right to life | (iv) Right to vote |
| (ii) Right to freedom of movement | (v) Right to free speech |
| (iii) Right to property | (vi) Right to freedom of religion |
| (vii) None of these rights | |

Read carefully each of the statements given below, and do two things. (1) In the blank on the left hand side of each statement, place the number of the right it illustrates. (2) In the blank on the right hand side, place

- A if it involves the violation of a right.
 B if it does not involve the violation of a right, and
 C if it is irrelevant.

- | | |
|---|---|
| —(a) A town has arisen at the site of a village named Chandigarh. The villagers have been evicted from their houses and have been provided with alternative accommodation or compensation.— | ments to a newspaper which criticised its policy.— |
| —(b) <i>Zamindari</i> has been abolished from the State of U.P., Rajasthan and Bihar with compensation.— | —(h) The Tenants' Protection Bill against eviction has been passed by the Government.— |
| —(c) There was an air crash near Palam, where fifteen persons lost their lives.— | —(i) A radio set has been stolen from my house.— |
| —(d) An army officer robbed a bank cashier on the 25th of December, 1956, and made away with Rs. 380,000 after killing him.— | —(j) Children whose parents were following a particular religion did not get admission in a school.— |
| —(e) The Indian Government has imposed a new tax viz. the Capital Gains Tax on the capital gains of the people of the state.— | —(k) The people from Pakistan demand compensation from the Government for their property left in Pakistan.— |
| —(f) In November last year, 111 persons were killed and 67 injured in a railway accident in the South.— | —(l) The Government officials prevented the volunteers from entering the forbidden area.— |
| —(g) The State Government did not give advertise- | —(m) When a motor driver drives on the wrong side he will be checked by the police. |
| | —(n) A threat of strike by the All India Railway Men's Federation was declared illegal by the state. |

OBJECTIVE II : To develop in the student the ability to think critically about social issues.

BEHAVIOURS : The student

(a) gathers data relevant to the particular problem from a variety of sources

(b) discriminates between relevant and irrelevant data and discards the latter

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|---|
| <p>(a) The student gathers data relevant to the particular problem from a variety of sources.</p> | <p>Q. 2. You are asked to suggest ways of reducing high mortality due to malaria in India. What kinds of information will you gather and through which sources ?</p> |
|---|---|

- (c) analyses the data objectively and classifies them under appropriate headings.
- (d) formulates a tentative hypothesis on the basis of relevant data.
- (e) tests his hypothesis against further experience.

TOOLS

Recognition Form

- Q. 2.** You are asked to suggest ways of reducing the problem. Place a check mark against each high mortality due to malaria in India. Find out from the following table which kinds of information are immediately related, which are remotely related and which are unrelated to the problem. Place a check mark against each kind under the appropriate column.
- Then find out from which of the sources mentioned in the table, you will gather each of them. Place check marks against the appropriate source.

Kinds of Information	RELEVANCE			SOURCES		
	Immediately related	Remotely related	Unrelated	Year Books Report	Text Books	Other Sources
(a) Rate of increase in population in India						
(b) Medical facilities available in India						
(c) Nature of infectious diseases						
(d) Infant mortality in India						
(e) Causes of malarial infection						
(f) <i>Per capita</i> incomes of different countries						
(g) Measures to check malarial infection						
(h) History of the spread and control of disease in other countries						

BEHAVIOUR CHANGES EXPECTED**EVALUATION**

Passage

Study the data in the following three paragraphs carefully and answer the questions given

- (i) Malaria is caused by germs. These germs are carried from person to person by a special type of mosquito. When these mosquitoes first bite a person affected by malaria and then another person not affected by it, the malaria germs get into the latter's body and, if he is not resistant enough, cause malaria.

Essay Form

- (b) The student discriminates between relevant and irrelevant data and discards the latter. **Q. 3.** Essay form not suitable for this behaviour.

- Q. 4.** Essay form not suitable for this behaviour.

T O O L S**for Question 3**

against Q. No. 3 below :—

- (ii) These mosquitoes breed on stagnant and dirty waters. It is under hot and humid conditions that they develop rapidly. What is usually done to kill them is to spray a medicine called D.D.T. in stagnant waters.
- (iii) The medicine commonly used in the treatment of malaria is quinine. Several new medicines are now being discovered and used.

Recognition Form

Q. 3—A Put a \checkmark mark beside each of the following statements, if it is true and an X mark, if it is false :—

- | | |
|--|--|
| (a) All mosquitoes cause malaria, | (d) Malaria is an infectious disease. |
| (b) Swamps are favourable places for the breeding of mosquitoes. | (e) The purpose of screening the houses is to keep off mosquitoes. |
| (c) D.D.T. is used to cure malaria. | (f) We will get malaria, if we go near a malarial patient. |

Q. 3—B. Match the following :—

What they say about

- | | |
|-----------------|---|
| Paragraph (i) | —(a) experiences of other countries regarding malaria |
| | —(b) the way malaria is caused |
| Paragraph (ii) | —(c) the symptoms of malaria |
| | —(d) the treatment of malaria |
| Paragraph (iii) | —(e) the way to check the spread of malaria |

Q. 4. The following measures to solve the problem of malaria can be classified into three broad headings ;

- (i) Preventive (ii) Curative (iii) Probably not helpful.

Place a check mark against each measure under the appropriate heading :—

Measures	Preventive	Curative	Probably not helpful
----------	------------	----------	----------------------

- (a) Selling quinine at cheaper rates
- (b) Raising the standard of living of the people
- (c) Making D.D.T. freely available
- (d) Increasing facilities for medical advice
- (e) Educating people on the causes of malaria
- (f) Isolating all malarial patients

OBJECTIVE III: To develop in the student the ability to understand the most important social, economic and political problems of the day.

BEHAVIOURS : The student

- (a) recognizes new illustrations of principles and ideas.
- (b) recognizes violation of particular principles and ideas

BEHAVIOUR CHANGES EXPECTED

E V A L U A T I O N

Essay Form

- | | |
|--|--|
| <p>(a) The student recognizes new illustrations of principles and ideas.</p> | <p>Q. 5. Give three illustrations each of a constitutional law and a social law.</p> |
| <p>(g) The student establishes relationship between given sets of facts.</p> | <p>Q. 6. List the measures taken recently by the Government to tackle the following problems :</p> <ul style="list-style-type: none"> (i) The problem of unemployment in rural and urban areas. (ii) Training of citizens in self-government. (iii) Combating illiteracy. (iv) The economic dependence of women. |
| <p>-do-</p> | <p>Q. 7. What could be the specific effects of the following ?</p> <ul style="list-style-type: none"> 1. Absence of proper marketing and storing facilities. 2. Inadequacies of irrigation facilities. 3. Lack of supplementary occupations. 4. The uncertainty of land tenure. 5. The illiteracy of peasants. |

- (c) recognizes when principles and ideas are applicable.
- (d) discriminates between relevant and irrelevant data.
- (e) formulates a tentative hypothesis on the basis of relevant data.
- (f) gathers from various sources data relevant to a particular problem.
- (g) establishes relationship between given sets of facts.

TOOLS

Recognition Form

Q. 5. Which of the following is a constitutional law and which a social law ? If the former, mark A and if the latter, mark B in each blank :—

- | | |
|------------------------------------|--|
| —(a) Removal of untouchability | —(d) People's Representation Act |
| —(b) Hindu Succession Act—1956 | —(e) The indirect election of the President of India |
| —(c) Abolition of <i>Zamindari</i> | —(f) Elections to the House of the People held after every five years. |

Q. 6. Group A gives some problems and B their solutions. Pair off each problem with its correct solution by placing the letter of the solution with the appropriate problem.

Group A

- () The problem of rural unemployment
- () The problem of urban unemployment
- () Need for training the citizens in the art of self-government
- () The problem of illiteracy
- () The economic dependence of women

Group B

- A. The Basic scheme of education
- B. Development of large-scale industries in the country
- C. The development of *panchayats* and district boards
- D. The encouragement of cottage industries in the country
- E. The Hindu Succession Act—1956
- F. Organisation of Social Education Centres
- G. Opening up of Employment Exchange Bureaus

Q. 7. Here are some causes (Group A) and their possible effects (Group B). Connect them appropriately. Indicate your answer by placing the letter of the 'effect' before its appropriate cause.

Group A

- () Absence of proper marketing facilities and good store-houses
- () Lack of proper irrigation facilities like canals wells and tanks

Group B

- A. The problem of sub-division and uneconomic holdings
- B. Aversion to new and scientific methods of cultivation

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(e) The student establishes relationships between given sets of facts.

Q. 8. What are the specific objectives of the following ?

1. The Central Tractor Organization
2. The Community Development Projects.
3. The Sindri Fertilizer Factory.
4. The Industrial Finance Corporation.
5. The Bhakra Nangal Project.
6. The Bhilai Steel Plant.

TOOLS**Recognition Form**

- | | |
|---|---|
| () Lack of supplementary occupations | C. Discouragement to permanent improvements in the land. |
| () The uncertainty of land tenure | D. Forced unemployment of the farmers over a part of the year. |
| () The illiteracy and conservative outlook of the peasants | E. Reduction of the fertility of the soil and the increase in the frequency and seriousness of famines. |
| F. The cultivator is deprived of a fair share of the price of the products he sells | |

Q. 8. In Group I is a list of some important organisations and projects set up by the Government of India for the economic development of the country. In Group II is a list of some purposes that they serve. Connect each project or organisation with its exact purpose. Place the letter of the purpose in the appropriate parenthesis on the left.

Group I**Group II**

- | | |
|---|--|
| () The Central Tractor Organisation | A. To serve as a pilot project in increasing food production and improving rural life in all respects. |
| () The Programme of Community Projects | B. To promote the speedy development of industries by giving financial assistance. |
| () The Sindri Fertilizer Factory | C. To meet the people's requirements in chemical manures. |
| () The Industrial Finance Corporation. | D. To meet the people's need for irrigation and electricity. |
| () The Bhakra Nangal Project | E. To meet the need for expansion of railways. |
| | F. To carry out reclamation operations. |
| () The Bhilai Steel Plant | G. To improve village economy. |

- (f) recognizes some of the desirable and undesirable consequences of such practices.
- (g) determines the probable effects of legislation on such practices.
- (h) recognizes whether a conduct conforms to a given law.

TOOLS

Recognition Form

Q. 9. Tick off the correct statement :—

The Aryans divided their society into castes because of

- (a) the invasion of India by the Sakas, the Kushans and the Huns
- (b) the intermixture of Aryan and non-Aryan blood
- (c) the need for better economic organisation.
- (d) the desire to show that one section was better qualified than another
- (e) the zeal to preserve Aryan culture

Q. 10. Tick off the correct answer :—

Society prospered when it was divided into castes because

- (a) each caste looked to its own prosperity
- (b) each caste tried to preserve its own traditions
- (c) each caste tried to preserve its own purity of blood
- (d) the Brahmins did not allow others to study the Vedas.
- (e) the kings consulted only the Brahmins.
- (f) there was an abundant crop to feed the people.

Q. 11. Tick off the correct statement :—

- (a) Castes tend to preserve the culture of a country
- (b) Caste distinctions are harmful for the nation
- (c) They foster unhealthy competitions in society.
- (d) They help to enrich literature.
- (e) They are a God-sent gift.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|--|
| (a) The student analyses a problem so as to locate its causes. | Q. 12. What has made the marriage problem difficult in India ? |
| (g) The student determines the probable effects of legislation on such practices. | Q. 13. How far, in your opinion, can legislation remove untouchability ? |
| (a) The student analyses a problem so as to locate its causes. | Q. 14. What comes in the way of removing untouchability completely ? |
| (b) The student recognizes whether a conduct conforms to a given law. | Q. 15. Illustrate the difference between a legal offence and a social offence with reference to untouchability. |

TOOLS**Recognition Form****Q. 12.** Tick off the correct statement :—

The marriage problem has become difficult due to

- | | |
|---|---|
| (a) monetary difficulties of the parties | (f) the fear of inability to shoulder responsibilities arising out of wedlock |
| (b) their inequality in educational status | (g) the importance of a celibate life |
| (c) their inequality in social status | (h) rigidity of castes about marriages |
| (d) the wrong type of education being given to girls | (i) the dowry custom |
| (e) the tendency among the young of free mixing at an early age | (j) social disfavour of the free mixing of sexes |

Q. 13. Tick off the correct answer :—

Legislation cannot completely up-root the evil of untouchability because

- | | |
|---|--|
| (a) Government does not favour it | (c) Harijan leaders are not honest |
| (b) the majority of the people are against it | (d) it is difficult to remove deep-set convictions of the caste Hindus |

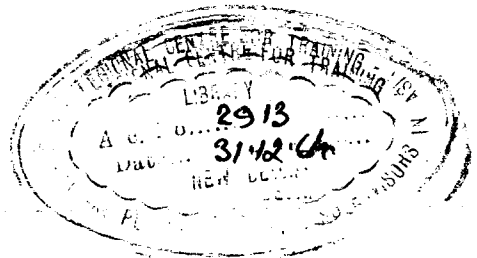
Q. 14. Tick off the correct statement :—

Eradication of the evil of untouchability is difficult because of

- | | |
|---|--|
| (a) the unclean work which the Harijans do | (d) the superiority complex of the caste Hindus |
| (b) the unclean habits of the Harijans | (e) fear on the part of the Harijans that to try to remove untouchability is a sin |
| (c) the inferiority complex of the Harijans | |

Q. 15. Classify the following into legal and social offences against the Harijans by putting L for a legal offence and S for a social offence.

- | | |
|--|--|
| (a) Not talking to them | (d) Barring them from public places |
| (b) Imposing social boycott on them | (e) Abusing them |
| (c) Not giving them any work because they are Harijans | (f) Not allowing them entrance into your house |
| | (g) Not entering into marriages with them |



OBJECTIVE V : To develop in the student the ability to attack current problems in the light of the past.

BEHAVIOURS : The student

- (a) recognizes similarities and differences between selected periods, events and problems of the past and those of the present
- (b) contrasts a particular approach with a similar approach taken in the past.
- (c) establishes relationships between present events and problems and those of the past.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(e) The student recalls the facts relevant to a particular problem.

Q. 16. In what way was the British Government of India responsible for the illiteracy of the Indian masses ?

(f) The student recognizes the definition of a term or a concept.

Q. 17. Describe when an individual becomes an Indian citizen.

(e) The student recalls the facts relevant to a particular situation.

Q. 18. Who in past history conceived the philosophy of non-violence ?

- (d) recognizes the mistakes committed in the past and solves present problems in that light.
- (e) recalls the facts relevant to a particular problem.
- (f) spells out the meanings of certain terms used in Civics.
- (g) recognizes the psychological, social and moral background of the present, past and future behaviour of nations.

TOOLS

Recognition Form

Q. 16. Below are given some statements that describe acts or events, some of which were responsible for the illiteracy of the masses in India. Place before it A if it was responsible, B if it was not responsible and C if it is irrelevant.

- | | |
|--|--------------------------------------|
| 1. Macaulay's Minute of 1835 | 6. Establishment of Local Bodies |
| 2. Levy of fees in primary schools | 7. Practice of early marriages |
| 3. Development of urban areas by the British | 8. Destruction of village industries |
| 4. Destruction of indigenous schools | 9. Caste System |
| 5. Establishment of universities | 10. Co-education |

Q. 17. Underline the correct statement :—

An Indian citizen is one

- | | |
|---|--|
| 1. who is born and brought up in India. | 4. who pays income tax to the Indian Government. |
| 2. whose parents were born in India. | 5. who has lived in India for five years. |
| 3. who holds property in India. | 6. who is entitled to vote. |

Q. 18. Underline the correct statement :—

The philosophy of non-violence was first conceived in the past by

- | | |
|---------------|-------------|
| (a) Asoka | (c) Buddha |
| (b) Confucius | (d) Mahavir |

OBJECTIVE VI : To develop in the student the ability to apply the principles of Social Studies to the solution of social problems, and to analysing social issues.

BEHAVIOURS : The student

(a) recognizes illustrations of the observance or violation of the principles of Social Studies.

(b) applies social principles to defend a course of action or justify a position.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(a) The student recognizes illustrations of the observance or violation of the principles of Social Studies.

Q. 19. Give examples of violations of the principle of equality laid down in the Constitution.

(a) do

Q. 20. Describe five situations in which the principle of the equality of the sexes is observed.

(c) makes out the limitations of the application of social principles.

(d) predicts outcomes of the application of social principles.

TOOLS

Recognition Form

Q. 19. Indicate in each blank the serial number of that principle given in Column B, which is violated by each situation listed in Column A :—

A.

B.

—(a) A principal of the only high school in Nirmal, Hyderabad, did not admit girls in that school.

(i) Social equality of all

—(b) In the Hindu High School, Kazipet, Harijan pupils are not admitted.

(ii) Legal equality of the sexes

—(c) Harijans are not allowed to worship in a certain temple.

—(d) Only “the gazetted officers of the Government” are allowed to stay in a particular hotel in Baroda.

(iii) Non-discrimination on the basis of caste

—(e) In India some women have no property rights.

(iv) Untouchability as a legal offence

Q. 20. A. Mark X against situations which violate, Y for those which accept and Z for those not related to the principle of *equality of the sexes* :—

(a) The parents of the bridegroom demanded dowry from the parents of the bride.

(c) There are many women lawyers and doctors in India.

(b) The Government of India have appointed Mrs. Vijayalaxmi Pandit as the High Commissioner for India in the United Kingdom.

(d) In Nazi Germany the woman was looked upon as a factor for producing more German soldiers.

(e) In India, a boy may choose the girl he wants to marry, but a girl may not do so.

B. The Indian Constitution accepts the principle of equality of the sexes. Will this be passed in its Parliament ?

(i) The Hindu Code Bill

(iii) A bill allowing a man to have more than one wife

(ii) The Widow Marriage Bill

(iv) A bill disallowing women being appointed in the Indian Administrative Service

OBJECTIVE VII : To develop in the student the ability to understand the forces and factors involved in social conflicts and their resolutions.

BEHAVIOURS : The student

- (a) analyses and finds out why and how disputes arise.
- (b) determines why a particular group takes a particular side (psychological and social reasons).

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Passage

In an extract from the autobiography of Mahatma Gandhi, we read that there was a dispute between Mahatma Gandhi went to Champaran.

Essay Form

- | | |
|--|--|
| <p>(a) The student analyses and finds out why and how disputes arise.</p> | <p>Q. 21. With reference to the above passage from Mahatma Gandhi's autobiography, find out what were the exact grievances of the workers.</p> <ul style="list-style-type: none"> (a) What are the expectations of the managers from workers in general ? (b) Are these always reasonable ? |
| <p>(c) The student analyses objectively the factors involved in a dispute—apart from his own views and desires.</p> | <p>Q. 22. Why could the managers make use of physical force ?</p> <p>When does a person use force ?</p> |
| <p>(f) The student determines the utility of various methods for resolving disputes.</p> | <p>Q. 23. Would the labourers have been justified, if they had retaliated in the same way ? Why ?</p> |
| <p>(b) The student determines why a particular group takes a particular side (psychological and social reasons).</p> | <p>Q. 24. The managers refused to put up the dispute for arbitration. What were the probable reasons ?</p> |
| <p>(f) The student determines the utility of various methods for resolving disputes.</p> | <p>Q. 25. What should have been the attitude of the managers ? Were you in their place, what would you do ?</p> |

- (c) analyses objectively the factors involved in a dispute—apart from his own views and desires.
- (d) distinguishes between soundness of the majority and minority view-points.
- (e) determines the effect of appeal to reason under various conditions.
- (f) determines the utility of various methods for resolving disputes.
- (g) mentions the duties of various national and international agencies which work for peaceful solution of conflicts.

TOOLS

for Questions 21 to 28

the managers and labourers of the indigo farm at Champaran. The labourers had certain grievances.

Recognition Form

Q. 21. In the light of the above extract from Mahatma Gandhi's autobiography and your own understanding of such conflicts, judge the following statements and tick off the correct one :—

The labourers complained because

- | | |
|----------------------------------|--|
| (a) they wanted better amenities | (c) the managers demanded more work than it was humanly possible to do |
| (b) they were being ill-treated | (d) the service conditions were unfair |

Q. 22. Tick off the correct statement :—

The managers could ill-treat the labourers because

- | | |
|--|--|
| (i) the labourers were ignorant and poor | (iii) they themselves belonged to the ruling class |
| (ii) the labourers were disorganised | (iv) there was no labour law |

Q. 23. Tick off the practice that is socially desirable:—

- | | |
|---|---|
| (a) The labourers threaten the managers | (c) They seek legal aid |
| (b) They go on strike | (d) They wait in deputation on the managers |

Q. 24. Tick off the correct statement :—

- | | |
|--|--|
| (i) The managers were the sole masters and thought that they had full control over the labourers | (ii) The managers were afraid to go for arbitration because they knew that their case was weak |
|--|--|

Q. 25. Which of the following practices is likely to be successful ? Put a tick mark against it :—

- | | |
|--|---|
| (i) Dispensing with the services of the grumbling labourer | (iii) Holding a meeting of all the labourers, carrying on negotiations and diagnosing the causes of dissatisfaction |
| (ii) Satisfying the grumbling worker by special emoluments | |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|--|--|
| <p>(f) The student determines the utility of various methods of resolving disputes.</p> | <p>Q. 26. Why did the workers seek the help of Gandhiji ?</p> |
| <p>(f) &</p> <p>(g) The student mentions the duties of various national and international agencies which work for peaceful solutions of conflicts.</p> | <p>Q. 27. To whom are the disputes in factories or farms at present referred ? Who helps in settling the disputes ?</p> |
| <p>(f) The student determines the utility of various methods of resolving disputes.</p> | <p>Q. 28. What should the managers do if they wish to prevent discontent and avoid disputes of labourers ?</p> |

Passage

There was a report in a newspaper about a fight between a tenant and a landlord, how other intervene and send them to hospital.

- | | |
|---|---|
| <p>(a) The student analyses and finds out why and how disputes arise.</p> | <p>Q. 29. What are the grievances which a tenant usually has ?</p> |
| <p>(a) -do-</p> | <p>Q. 30. Why must he have quarrelled with his landlord ?</p> |

TOOLS**Recognition Form****Q. 26.** Tick of the correct statement:—

Gandhiji was called upon to help because

- (a) he was a barrister (c) his technique of solving disputes was useful
 (b) he was a great *satyagrahi* (d) he was a national leader

Q. 27. Tick off the correct statement:—

It is the duty of the welfare officer

- (i) to give legal aid to the managers and workers (iii) to plead the cause of the workers
 (ii) to resolve the causes of the conflict peacefully (iv) to ask them to strike work, if demands are not granted

Q. 28. Tick off the best course:—

A good manager

- (i) avoids disputes by abiding by the letter of the rules (ii) tries to understand the view-points of his employees
 (iii) consults his employees and is democratic in his attitude and behaviour

for Questions 29 to 37

tenants helped him against the landlord and how they beat the landlord and the mediator. The police had to

Q. 29. Underline the best three statements:—

Tenants usually have the following grievances:

- (a) They are poor (c) They do not get concession in case there are natural calamities
 (b) They are squeezed for money by their landlord (d) The law of the country is not helpful
 (e) Government machinery is slow to give redress

Q. 30. The tenant must have quarrelled with his landlord because

- (a) the landlord must have insulted him (d) he desired to terrorise the landlord
 (b) he was poor and unable to pay rent (e) he must have been incited by other tenants
 (c) he must have been exploited much in the past (f) the landlord wanted to get rid of him so that he might get a tenant paying higher rent

Select the best three reasons given above and write their serial number in the appropriate column given below:—

1	2	3
<i>Most important</i>	<i>Less important</i>	<i>Least important</i>

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (b) The student determines why a particular group takes a particular side (psychological and social reasons). | Q. 31. Under what conditions is there co-operation in society ? |
| (f) The student determines the utility of various methods for resolving disputes. | Q. 32. What do we generally do when people quarrel ? |
| (a) The student analyses and finds out why and how disputes arise. | Q. 33. In the quarrel referred to above, people used force. Why should they have done so ? |
| (b) The student determines why a particular group takes a particular side (psychological and social reasons). | Q. 34. Who came to the rescue of the landlord ? |
| (g) The student mentions the duties of various national and international agencies which work for peaceful solution of conflicts. | Q. 35. How do the police help us ? |
| (g) -do- | Q. 36. How are the quarrels in our everyday life settled ? |
| (g) -do- | Q. 37. What agency is there to settle quarrels in society ? |

TOOLS

Essay Form

Q. 31. Underline the best statement :—

People co-operate when

- (a) there is a common cause (c) they are of the same religious community
 (b) they belong to a common class (d) they speak the same language
 (e) they put on the same type of dress

Q. 32. Tick off the correct reason :—

We help people who quarrel

- (a) to effect a peaceful settlement (c) to go to the court
 (b) to develop the quarrel into a fight (d) to postpone the quarrel

Q. 33. Put a tick mark against the appropriate statement :—

People had to use force because they were

- (a) too poor to go to court (c) very angry with the landlord
 (b) convinced of the efficacy of force (d) larger in number

Q. 34. Underline the names of those who come to the rescue when a quarrel is on :—

- (i) the police (ii) more tenants
 (iii) passers—by

Q. 35. Which of the following gives the correct reason? Indicate it by a tick mark :—

The police help us

- (a) to protect us from bad characters (c) to earn money
 (b) to direct traffic (d) to study at home
 (e) to drive a motor car

Q. 36. Choose from the following statements only *two* which are most appropriate :—

The quarrels in our everyday life are settled

- (a) by going to court (c) by fighting to the last
 (b) by successful mediation (d) by bribing an opponent
 (e) by postponing it to some future date

Q. 37. Fill in the blanks with words chosen correctly from those given in brackets at the end :—

- (a) When two persons or two groups quarrel, they settle their quarrels with the help of either _____ or _____. (c) When nations quarrel at present, they take the help of _____ to settle their quarrels.
 (b) When the villagers quarrel they settle the matter with the help of _____. (a mediator ; U.N.O. ; *Gram Panchayat* ; court of justice)

HISTORY

OBJECTIVES with reference to which the Test Materials on History have been prepared.

To develop in the student the ability

- (1) **to relate cause and effect in History.** (Questions 1 to 7).
- (2) **to see the influence of various factors (*i.e.* social, economic, political etc.) on human progress and development.** (Questions 8 to 11).
- (3) **to see India in the context of the whole world.** (Questions 12 to 15).
- (4) **to understand the present environment in relation to the past.** (Question 16).
- (5) **to use historical material for understanding historical facts and events.** (Questions 17 to 19.)
- (6) **to view historical personalities in their different perspectives.** (Questions 20 and 21).
- (7) **to understand world problems in historical perspective.** (Questions 22 to 30).
- (8) **to locate sources of information on historical questions.** (Questions 31 to 37).

OBJECTIVE I: To develop in the student the ability to relate cause and effect in History.

BEHAVIOURS: The student

- (a) **recognizes the direct and indirect causes of an event.**
- (b) **recognizes the direct and indirect results of an event.**
- (c) **recognizes the trend of events at a particular period of History.**
- (d) **recognizes causal relations among events.**
- (e) **draws general inferences from a number of causes leading to identical results.**

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (a) The student recognizes the direct causes of an event. **Q. 1** Why did Babar settle in India ?
- (b) The student recognizes the direct result of an event. **Q. 2.** What was the result of the conquest of the Muslim kingdoms in the Deccan by Aurangzeb ?
- (c) The student recognizes the trend of events at a particular period of History. **Q. 3.** Trace the growth of the religious Reformation Movement in the 17th Century in Europe, emphasising the contributions made by different persons.
- (d) The student recognizes causal relations among events. **Q. 4.** What were the major events in the later half of the 19th Century which led to the partition of Bengal ?
- (e) The student draws general inferences from a number of causes leading to identical results. **Q. 5.** Many empires like the Moghal Empire, the Vijaynagar Empire, the Bahmani Kingdom, and the Maratha Empire fell in India. What common cause may be attributed for the downfall of such empires ?

TOOLS

Recognition Form

Q. 1. Tick off the correct answer :—

Unlike the previous invaders, Babar decided to settle in India because

- (a) he was invited to settle in India by Indian rulers
 (b) he had no kingdom of his own in his native land
 (c) India was a rich country
 (d) he loved India more than his own native land

Q. 2. Underline the correct answer :—

Conquest of the Muslim kingdoms in the Deccan by Aurangzeb resulted in

- (a) the weakening of the Mughal Empire
 (b) the establishment of Maratha rule
 (c) the fall of the Vijayanagar Empire
 (d) the rise of the English power in India

Q. 3. Complete each statement with the right word from within brackets :—

In the seventeenth century religious reformation in Europe was propagated by

- (a) John Knox in (b) Martin Luther in (c) Henry VIII in
 (Scotland, England, Germany, France)

Q. 4. Two sets of events are given here. Each event in one set is the result of an event in the other set. In the space provided before each item in Column 1, place the number of the appropriate item from Column 2 :—

<i>Cause</i>	<i>Effect</i>
—(a) Wood's Despatch	(1) Jallianwala Bagh Tragedy
—(b) "Sepoy Mutiny"	(2) English as medium of instruction
—(c) Rowlatt Act	(3) Queen Victoria's proclamation
	(4) Birth of the Indian National Congress

Q. 5. Complete each sentence giving the most appropriate cause :—

- (a) The fall of the Mughal Empire was due to
 (b) The fall of the Vijayanagar Empire was due to.....
 (c) The fall of the Bahmani Kingdom was due to.....
 (d) The fall of the Maratha Empire was due to
 (e) Generally the fall of an empire in India in the past was due to.....

BEHAVIOUR CHANGES EXPECTED**EVALUATION**

Essay Form

- (e) The student draws general inferences from a number of causes leading to one event.
- Q. 6.** What is your opinion about the truth of the text-book account of the Black Hole tragedy? Give reasons in support of your stand.
- (b) The student recognizes the direct and indirect results of an event.
- Q. 7.** What have been the advantages and disadvantages of the division of states in India on a linguistic basis ?

TOOLS

Recognition Form

Q. 6. In the space provided before each statement in B, put the appropriate letter from A according to your opinion about the Black Hole tragedy :—

A

- (a) if it tends to support the likelihood of the tragedy happening
- (b) if it tends to deny the likelihood of the tragedy happening
- (c) if it neither supports nor denies the likelihood of the tragedy happening

B

- (i) Holwell wanted to stir up feeling against the Nawab
- (ii) No contemporary author has denied the occurrence of the tragedy
- (iii) Holwell may have exaggerated the whole thing
- (iv) Holwell could not have simply imagined the whole thing
- (v) Holwell says that 114 prisoners were put in a cell 18 ft. square
- (vi) Clive did not make any effort to punish those responsible for the tragedy

On the basis of the above evidence only, which of the following conclusions appears to be warranted ? :—

- | | |
|---------------------------------|--------------------------------|
| (a) Some such tragedy did occur | (c) Its occurrence is doubtful |
| (b) It probably occurred | (d) It probably did not occur |
| (e) It did not occur | |

Q. 7. Linguistic grouping, it has been said, has led or will lead to the following results. Before each statement write A, if you think it is true, B if doubtful, C if false :—

- | | |
|---|--|
| —(a) It has led to better harmony amongst the people | —(f) It will permit the development of regional languages |
| —(b) It has been responsible for the defeat of the Congress party in Kerala | —(g) It will help in the more efficient working of the legislature |
| —(c) It has led to greater economy in administration | —(h) It has made some states too large |
| | —(i) It will develop provincial outlook |
| —(d) It has made the Congress unpopular in Bombay State | —(j) It will weaken the Central Government |
| | —(k) It has led to the development of communal outlook |
| —(e) It will help in the development of Hindi as the State language | —(l) It has led to serious riots in some states. |

History

OBJECTIVE II : To develop in the student the ability to see the influence of various factors (*i.e.* social, economic, political, etc.) on human progress and development.

BEHAVIOURS : The student

- (a) recognizes which conditions produce particular results of progress or want of progress.
- (b) offers some reasonable explanations of the causes of achievements and failures in certain epochs of society.
- (c) Recognizes trends of events in different periods of history.

BEHAVIOUR CHANGES EXPECTED	E V A L U A T I O N	
	Essay Form	Data
<p>The Aryans were nomadic people who came tribe by tribe to India. They came to the Sapta-Sindhu,</p> <p>(a) The student recognizes which conditions produce particular results of progress or want of progress.</p>	<p>Q. 8. With reference to the above facts answer the following questions :—</p> <ul style="list-style-type: none"> (a) What changes did their coming to India bring about in their mode of life ? (b) What changes in their forms of wealth resulted from these changes in their mode of life ? (c) What were their relations with the original inhabitants at the start ? (d) Where they did not wipe out or drive out the original inhabitants, what social status were the latter permitted to enjoy after conquest ? 	
<p>(a) & (b) The student offers some reasonable explanations of the causes of achievements and failures in certain epochs of society.</p>	<p>Q. 9. What factors (political, social and economic) were responsible for the gradual expansion of the Aryans towards the Gangetic plain ?</p>	

- (d) looks for all the factors that have contributed to an event or condition of society.
- (e) explains an event or course of events in terms of the (social, economic, etc.) conditions of society.
- (f) interprets statements made against the background of conditions prevailing at the time.
- (g) draws conclusions on the basis of facts.

T O O L S

Recognition Form

for Question 8

a well-watered and fertile land. They found people already in possession of that land.

Q. 8. With reference to the above facts certain statements are made below. Tick off in each case, *i.e.* (a) to (e), the item that completes the statement most accurately.

- | | |
|---|--|
| <p>(a) On their arrival in India the Aryans</p> <p>(i) continued their original form of nomadic life.</p> <p>(ii) developed a nomadic pastoral form of life.</p> <p>(iii) changed to a settled pastoral form of life.</p> <p>(iv) changed to an agricultural mode of life.</p> <p>(b) In the course of a few centuries, the Aryans</p> <p>(i) were still herdsmen</p> <p>(ii) became skilled farmers</p> <p>(iii) developed various industrial arts</p> <p>(iv) developed an urban form of life</p> <p>(c) At this stage they considered their wealth to be</p> <p>(i) the possession of milch cows</p> <p>(ii) the possession of land</p> <p>(iii) the possession of the means of work</p> <p>(iv) the possession of big palaces</p> | <p>(d) The Aryans in the Sapta Sindhu</p> <p>(i) were continually engaged in war with the original inhabitants</p> <p>(ii) drove away the original inhabitants and occupied their lands</p> <p>(iii) subdued the original inhabitants and made them their slaves</p> <p>(iv) made peace with the original inhabitants and peacefully co-existed with them</p> <p>(e) Where the Aryans admitted the original inhabitants to dwell with them they</p> <p>(i) intermarried and fused with them</p> <p>(ii) kept altogether aloof from them</p> <p>(iii) reduced them to the position of their serfs</p> <p>(iv) organised a caste system which would assure separation and intercourse at the same time</p> |
|---|--|
- Q. 9.** Tick off these items which complete the following statement partially correctly :—
The Aryans moved gradually to the Ganges valley because
- | | |
|--|---|
| <p>(i) they were being continually pressed by incoming tribes</p> <p>(ii) they were being harassed by the local inhabitants</p> <p>(iii) their natural increase in numbers urged them to seek new lands</p> <p>(iv) they were attracted by the riches and fertility of the Gangetic plains</p> | <p>(v) their own lands became poorer and poorer</p> <p>(vi) they were invited by the inhabitants there</p> <p>(vii) they were urged by the desire for loot</p> <p>(viii) disunity made the land an easy prey</p> <p>(ix) their own military strength and habits urged them to conquer new regions</p> |
|--|---|

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form****Passage for**

The *Moghul* writers at the end of the 17th century

(i) Sivaji was a mountain rat. (ii) The Marathas were bandits. (iii) Their country was a God-The *Maratha* Bhakhars of

(i) Sivaji was a God-appointed hero sent to lead the people to independence and glory.
(iii) God protected His children against the attacks of the unholy ones by giving them stiff mountains for

- (f) The student interprets statements made against the background of conditions prevailing at the time.
- Q. 10.** (a) To what situation do all the above remarks refer ?
(b) How do you explain the seemingly opposed statements ?
(c) What do you infer from the above statements about the nature and course of war ?

Data or

Both the Guptas and the Moghuls have left

- Q. 11.** (a) Compare the contributions referred to in the above statement.

- (e) The student explains an event or course of events in terms of the (social, economic etc.) conditions of society.
(f) The student interprets statements made against the background of conditions prevailing at the time.
- (b) What do you deduce from them about the art and wealth of these periods ?

TOOLS

Recognition Form

Question No. 10.

made the following statements :

forsaken one. (iv) The people were treacherous. (v) They were benighted *kaffirs*

the same period wrote :

(ii) The brave sons of the soil hindered the advance of the Moghul armies by cutting off their supplies, defence. (iv) The Moghuls were never able to subdue the Marathas completely.

Q. 10. Below are given some inferences from the above statements. Put the correct key-letter after each item in (a), (b) & (c) as suggested *i.e.* if you consider it is *true*, put (T) ; as *probably true* (PT) ; as *uncertain* (U) ; as *probably false* (PF) ; and as *false* (F) ;

- | | |
|--|--|
| <p>(a) The Moghul writers made such statements because</p> <ul style="list-style-type: none"> —(i) they had no sense of historical truth —(ii) they viewed things from the angle of conquerors —(iii) they wished to blacken the name of the Marathas —(iv) they were a fanatical people | <p>(c) From both sets of statements, it is clear that</p> <ul style="list-style-type: none"> —(i) the Moghuls and the Marathas were engaged in a war with each other. —(ii) the Moghuls were the aggressors and the Marathas the defenders —(iii) the war had a religious colour —(iv) the Moghuls had at first conquered the land, but were later driven out —(v) the Moghuls found great difficulty in subduing the Marathas —(vi) the Marathas routed the Moghuls in open fights —(vii) the Marathas used "guerilla tactics." —(viii) the Moghuls never gained a firm foothold in the Maratha country —(ix) in times of difficulty the Marathas retired to their mountain fastnesses |
| <p>(b) The Maratha Bakhars made such statements</p> <ul style="list-style-type: none"> —(i) out of religious prejudice —(ii) to honour their own people —(iii) to stir up resistance —(iv) because they viewed things as defenders | |

Question No. 11

behind monuments of their art, architecture and wealth.

- Q. 11.** Study the above statement and tick (✓) those items in (a), (b) and (c) which you consider correct :—
- | | |
|---|---|
| <p>(a) The Gupta monuments reveal that the people then were</p> <ul style="list-style-type: none"> (i) fond of putting up grand buildings (ii) fond of excavating caves (iii) motivated by religion (iv) fond of elaborate designs in architectural sculptures (v) artistic in architectural planning (vi) fond of statues and paintings | <p>(c) In comparing the two types of monuments we see that</p> <ul style="list-style-type: none"> (i) art and architecture flourished alike in both periods (ii) the Moghuls were superior in art (iii) the Guptas were superior in art (iv) people in both periods were rich (v) the Guptas were more fond of statues than the Moghuls (vi) the Moghuls were more fond of statues than the Guptas (vii) the Moghuls were more fond of paintings than the Guptas (viii) the Guptas were more fond of paintings than the Moghuls |
| <p>(b) The Moghul monuments show that the Moghuls were</p> <ul style="list-style-type: none"> (i) fond of putting up grand buildings (ii) fond of excavating caves (iii) fond of elaborate designs in architectural sculptures (iv) artistic in architectural planning (v) fond of statues and paintings (vi) fond of inlaid work (vii) solely motivated by religion | |

OBJECTIVE III : To develop in the student the ability to see India in the context of the whole world.

BEHAVIOURS : The student

- (a) recognizes the effects of world events on our country.
 (b) explains how our principles and policies may affect world events.

BEHAVIOUR CHANGES EXPECTED	EVALUATION
(d) The student assesses international events in the context of the world situation. (e) The student recognizes the essentials of India's internal and foreign policy.	<p style="text-align: center;">Essay Form</p> <p>Q. 12. (a) Why was the Suez crisis so important in the world situation ? (b) What should India have done about the Suez crisis ? Give reasons for your answer.</p>
(h) The student explains why India attracted foreign rulers	<p>Q. 13. What led Babar to come to India ?</p>
(c) The student recognizes the essentials of India's internal and foreign policy.	<p>Q. 14. In what way has the Indian Republic tried to meet the problem of multiplicity of religions in India ?</p>
(c) -do-	<p>Q. 15. What do you understand by the policy of non-alignment ? Why is India following it ?</p>

- (c) recognizes the essentials of India's internal and foreign policy
- (d) assesses international events in the context of world situation.
- (e) explains why India attracted foreign rulers.

TOOLS

Recognition Form

Q. 12. (a) Tick off the best answer :—

The Suez crisis was important because

- (i) it affected the economic life of Egypt
- (ii) it affected the trade of many countries
- (iii) the making of the Suez Canal was the work of many nations
- (iv) The Suez Canal shortens the distance between Europe and the East.

(b) Mark off the correct statement :—

India's foreign policy makes it necessary that in regard to the Suez crisis, she

- (i) should not concern herself with the Suez crisis because she has many internal problems that need her attention
- (ii) should not interfere because she has no shares in the Canal, so will lose nothing if Egypt controls it
- (iii) should merely look on because the interference in the trade of other countries will be of advantage to India
- (iv) must help to solve this problem because her trade route will be affected and the disturbance to the trade of other countries will affect her trade as well

Q. 13. Tick off the best answer :—

Babar came to India because

- (a) chaos in his kingdom in Central Asia forced him to fly to India
- (b) he felt India was his heritage through his ancestors, Chengiz Khan and Timur
- (c) India was rich and fertile
- (d) he was invited to bring peace and order to a divided India

Q. 14. The Indian Constitution gives freedom to every citizen to profess, practise and propagate his religion because

- (a) India is a secular state
- (b) there are many religions in India
- (c) this enables foreigners to come and live in India
- (d) contact with and observation of other religions is possible

Q. 15. Tick off in the following, the item which best describes India's foreign policy :—

- (a) avoidance of alignment with any power bloc
- (b) passive neutrality on all issues
- (c) positive friendship with all nations
- (d) avoidance of foreign questions in order to attend to internal problems

OBJECTIVE IV : To develop in the student an understanding of the present in relation to the past.

BEHAVIOURS : The student recognizes

(a) parallels between present and past events.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|--|
| (a) The student recognizes parallels between present and past events. | <p>Q. 16. (a) Discuss the religious policy of Akbar and compare it with the religious policy of the present Government of India.</p> <p>(b) Describe the political condition of India at present and compare it with the political condition of India at the time of Alexander's invasion of India.</p> <p>(c) Discuss the foreign policy of the Government of India, making a comparison with the principles advocated by Asoka.</p> |

- (b) similarities and differences between a set of present and past events.
- (c) causal or other relationship between a present event and certain past events.
- (d) the relevance of certain historical material to present-day events.

TOOLS

Recognition Form

Q. 16. Below is a series of statements about modern India and about past India. Against each statement write :

- | | |
|--|--|
| <p>A if it was true in the past (old India)</p> | <p>C if it is true of both past India and present India.</p> |
| <p>B if it is true of modern India</p> | <p>D if it is true of neither.</p> |
| <p>(i) Efforts are made by the Central Government to unite the people of many religions under one religion</p> | <p>(vi) India is divided into small States with much fighting among their rulers</p> |
| <p>(ii) There is no special tax on any religious group of people</p> | <p>(vii) The people of India believe in the principles of peace and non-violence</p> |
| <p>(iii) People of divers religions live in India.</p> | <p>(viii) All adults are permitted to vote for the members of the Government</p> |
| <p>(iv) Complete religious freedom is given to all sections of people and there is no Government interference in matters of religion</p> | <p>(ix) The foreign policy of India is based on the principles of peace, non-violence and neutrality</p> |
| <p>(v) The Government pursues a hostile religious policy towards a vast section of the community</p> | <p>(x) The idea of Ahimsa influences the political life of India</p> |

OBJECTIVE V : To develop in the student the ability to use some historical material for understanding historical facts and event.

BEHAVIOURS : The student

- (a) **uses sources like coins, inscriptions etc. and arrives at correct inferences regarding historical facts and events**

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

An actual inscription

Study carefully the contents of the inscription conveying the message of a Hindu Emperor of India, answer Question 17 below.

- (a) The student uses sources like coins, inscriptions etc. and arrives at correct inferences regarding historical facts and events.
- Q. 17.** (i) Whose message is this ?
 (ii) To which country and period of time did he belong ?
 (iii) How did he describe himself ?
 (iv) What was the religion of the time referred to here ?
 (v) What are the achievements mentioned ?
 (vi) What is the theory of kingship referred to ?

- (b) recognizes the various sources from which different kinds of historical material can be gathered.
- (c) compares and contrasts various source materials in order to make accurate inferences.
- (d) relates material from particular sources to his own knowledge of History.

T O O L S

Recognition Form

is to be presented to the students on the basis of which they will answer the questions.

dealing with his theory of kingship, religious and social conditions of the time and his achievements, and

Q. 17. Put a \checkmark mark against the correct or best answer in the following :—

- | | |
|--|--|
| <p>(i) This is a message to his people by</p> <ul style="list-style-type: none"> —(a) Chandragupta —(b) Buddha —(c) Harsha —(d) Asoka —(e) Akbar —(f) Napoleon —(g) Charles I —(h) Roosevelt —(i) Hitler <p>(ii) He belonged to</p> <ul style="list-style-type: none"> —(a) India —(b) France —(c) England —(d) America —(e) Germany <p>(iii) He lived in the</p> <ul style="list-style-type: none"> —(a) 5th century B.C. —(b) 3rd century B.C. —(c) 2nd century B.C. —(d) 7th century A.D. —(e) 16th century A.D. —(f) 17th century A.D. —(g) 19th century A.D. —(h) 20th century A.D. | <p>(iv) He described himself in this message as</p> <ul style="list-style-type: none"> —(a) Beloved of the People —(b) Beloved of God —(c) God —(d) Emperor —(e) Conqueror <p>(v) The religion of his time was</p> <ul style="list-style-type: none"> —(a) Hinduism —(b) Buddhism —(c) Jainism —(d) Islam —(e) Christianity <p>(vi) His most important achievement was</p> <ul style="list-style-type: none"> —(a) conquest of the whole country —(b) patronage of art and culture —(c) patronage and propagation of religion —(d) service to his people <p>(vii) His theory of kingship was</p> <ul style="list-style-type: none"> —(a) despotism —(b) dictatorship —(c) benevolent despotism —(d) unlimited monarchy |
|--|--|

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (b) The student recognizes the various sources from which different kinds of historical materials can be gathered.
- Q. 18.** Recently the Suez Canal Company was nationalized by Egypt. From what sources can you determine the following ? :—
- (a) The date of the opening of the Suez Canal
 - (b) The name of the builder of the Canal
 - (c) The agreement relating to the founding of the Company
 - (d) Trade and commerce between different countries through the Canal
 - (e) The recent events leading to its nationalization
- (d) The student relates material from particular sources to his own knowledge of history.
- Q. 19.** “The Indian Mutiny of 1857 was a rebellion of the soldiers against the lawful Government of the time.” What is the source material from which you can evaluate the real nature of the Indian Mutiny of 1857 ? In the light of your data, do you agree with the above view or not ? Give reasons.

TOOLS

Recognition Form

- Q. 18.** (a) Put a \checkmark mark against the appropriate source :—
The date of opening of the Suez Canal can be found out most easily from
- (i) a dictionary
 - (ii) an encyclopaedia
 - (iii) any year book
 - (iv) recent daily newspapers
 - (v) newspapers of the time
- (b) Put a \checkmark mark against the appropriate source :—
The information on the various clauses and conditions of the agreement between the countries concerned about the Suez Canal Company can be had from
- (i) periodicals
 - (ii) journals
 - (iii) documents in official files
 - (iv) reports of parliamentary proceedings
 - (v) newspapers
- (c) Put a \checkmark mark against the appropriate source :—
The information relating to trade and commerce through the Suez Canal is best given in
- (i) the accounts of the Company
 - (ii) the daily statements of merchandise passing through this canal
 - (iii) *The Trade Journal*
- (d) Put a \checkmark mark against the appropriate source :—
The information on the background events leading to the nationalization can be had from
- (i) daily newspapers of one year
 - (ii) monthly political reviews
 - (iii) the U.N. Year Book
 - (iv) magazine articles on the topic
- Q. 19.** Put a \checkmark mark against each appropriate statement in the items (a) to (d) :—
- (a) The Indian Mutiny of 1857 is described as the Sepoy Mutiny because
- (i) only soldiers rebelled
 - (ii) native rulers rebelled
 - (iii) the people as a nation rebelled
- (b) The main cause for describing it as the Sepoy Mutiny is that
- (i) the centres of the rebellion were Nagpur, Jhansi, Satara, Gwalior, and Indore
 - (ii) the leaders of the rebellion were Lakshmi Bai of Jhansi and Tantia Tope
 - (iii) The major part was played by the Sepoys in the British armies
- (c) The real nature of the Mutiny can be judged from
- (i) the number of people who took part in the rebellion
 - (ii) the native rulers who took part in the rebellion
 - (iii) the number of soldiers who took part in the rebellion
 - (iv) the defeat of the rebels
 - (v) the victory of the British power
 - (vi) the causes leading to the uprising
- (d) The causes of the Mutiny can be assessed in correct perspective with reference to
- (i) the good effects of British rule up to that time
 - (ii) the bad effects of British rule up to that time
 - (iii) the political manoeuvres of the native rulers
 - (iv) the social, economic and political conditions throughout the country at that time
 - (v) the passion of the people for independence

History

OBJECTIVE VI: To develop in the student the ability to view historical personalities in their different perspectives.

BEHAVIOURS : The student recognizes

- (a) the events and ideas associated with historical personalities.
- (b) possible differences in the view-points and perspectives of different persons and groups with regard to historical personalities.

BEHAVIOUR CHANGES EXPECTED

E V A L U A T I O N

Essay Form

- | | |
|---|---|
| <p>(b) The student recognizes possible differences in the view-points and perspectives of different persons and groups with regard to historical personalities,</p> | <p>Q. 20. Gandhiji was viewed in different ways by various groups. What aspects of his life, work and character were notable from the point of view of</p> <ul style="list-style-type: none"> (a) the rural people of India ? (b) the American Negroes ? (c) the major industrialists ? (d) the British ruling classes ? |
| <p>(a) The student recognizes the events and ideas associated with historical personalities.</p> | <p>Q. 21. List the principal social movements in history and state the name of the leader associated with each of them.</p> |

History

- (c) similarities and differences between particular historical personalities.
- (d) the variety of consequences of the actions and ideas of particular personalities.
- (e) the relation between a historical personality and the historical period in which he lived.

T O O L S

Recognition Form

Q. 20. Write in each blank provided in Column B, the number of the appropriate statements chosen from Column A.

Column A

Some of the most outstanding things for which Mahatma Gandhi was known were

- | | |
|--|--|
| (i) his service to the cause of the down-trodden | (v) the economic reconstruction of the country through village economy |
| (ii) his achievement of freedom for the country through non-violence | (vi) his leadership of the Congress movement |
| (iii) his unshakable faith in truth and non-violence | (vii) his <i>swadeshi</i> movement and boycott of foreign goods |
| (iv) the unrest he caused in the country by his long fasts | (viii) his ideal <i>Ram Raj</i> |
| | (ix) his uncompromising attitude towards the colour bar |
| | (x) his leadership of labour strikes |

Column B

- | | |
|--|--|
| —(a) which most nearly reflect the way in which the rural people viewed him | —(c) which most nearly reflect the ways in which his political opponents and the British ruling race viewed him. |
| —(b) which most nearly reflect the way the American Negroes or the natives of South Africa viewed him. | —(d) which most nearly reflect the way in which the major industrialists in India viewed him. |

Q. 21. In Group A is given a list of great movements and in Group B a list of great leaders in history. Fill in each blank in B with the serial letter showing the name of the movement connected with the leader :—

A

- | | |
|--------------------------|--|
| (a) Freedom movement | (c) Abolition of colour-bar |
| (b) Abolition of slavery | (d) Integration and consolidation of the country |
| | (e) Religious reformation |

B.

- | | |
|------------------------|---------------------------|
| —(i) Mahatma Gandhi | —(v) William Wilberforce |
| —(ii) Sardar Patel | —(vi) Martin Luther |
| —(iii) Abraham Lincoln | —(vii) Raja Ram Mohan Roy |
| —(iv) Jan Masaryk | —(viii) Swami Vivekananda |
| | —(ix) Otto Von Bismarck |

OBJECTIVE VII : To develop in the student the ability to understand world problems in historical perspective.

BEHAVIOURS : The student

- (a) cultivates acquaintance with present-day world problems.
- (b) points out connections between present-day problems and their historical background.
- (c) recognizes the possible solutions of the problem.

BEHAVIOUR CHANGES EXPECTED	EVALUATION
	Essay Form
(a) The student cultivates acquaintance with present-day world problems.	Q. 22. What do you understand by "Four Power Resolution on Kashmir?" How was it brought about ?
(a) do	Q. 23. What was the principal recommendation of the Four-Power Resolution on Kashmir ?
(b) The student points out connections between present-day problems and their historical background.	Q. 24. What were the reasons which led India to take the Kashmir issue to U.N.O. ?
(b) do	Q. 25. How do you account for the unhealthy relations between India and Pakistan ? What is the most important reason according to Pakistan leaders ?
(c) The student recognizes possible solutions to the problems.	Q. 26. How do you think the Kashmir problem can be solved ?
(d) The student traces the influence of these problems on man's life.	Q. 27. How has the Kashmir problem influenced the thinking of the common man in India and Pakistan ?

- (d) traces the influence of these problems on man's life.
- (e) calls attention to inter-relationships among world problems.
- (f) mentions similarities between current and historical events.
- (g) recognizes relationships between current events and past conditions.

T O O L S

Recognition Form

Q. 22. Put a tick mark before the correct group :—

The Four Power Resolution was put forth in the U.N.O. by

- (a) Peru, Egypt, Argentina and Columbia
- (b) Australia, China, Ceylon and Philippines
- (c) U.S.A., Cuba, U.K and Australia
- (d) U.K., France, U.S.A. and Iran
- (e) Iran, Canada, Mexico and France

Q. 23. Put a \checkmark mark against the correct answer :—

The Four Power Resolution on Kashmir suggested

- (a) demilitarisation
- (b) partition of Kashmir
- (c) sending of Commission
- (d) plebiscite
- (e) decision by Kashmir Constituent Assembly

Q. 24. Put a \checkmark mark against the main reason put forth by Indian delegates for taking the Kashmir question to U.N.O. :—

- (a) to establish Kashmir's accession to India
- (b) to establish Pak aggression on Indian territory
- (c) to save Nehru's birthplace
- (d) to ascertain the will of the people of Kashmir
- (e) to safeguard her boundaries
- (f) to annex Kashmir

Q. 25. Put a \checkmark mark against the main reason put forth by Pakistan leaders for the unhealthy relations between India and Pakistan :—

- (a) refugee problem
- (b) border incidents
- (c) evacuee property
- (d) harmful propaganda by India
- (e) the Kashmir problem

Q. 26. Put a \checkmark mark against the method which, according to the Indian stand, can best solve the Kashmir problem :

- (a) to keep Kashmir an independent state
- (b) arbitration
- (c) keeping Kashmir under U.N. control
- (d) plebiscite
- (e) amicable settlement between India and Pakistan

Q. 27. Put a \checkmark mark against the result which has been clearly brought about by the Kashmir problem :—

- (a) increase in armament production
- (b) wider outlook
- (c) development of war *phobia* amongst people
- (d) development of international understanding

BEHAVIOUR CHANGES EXPECTED**EVALUATION**

Essay Form

- (e) The student calls attention to inter-relationships among world problems. **Q. 28.** What are the factors responsible for delay in the solution of the Kashmir problem ?
- (f) The student mentions similarities between current and historical events. **Q. 29.** What were the factors common to the Glorious Revolution of 1688 and Kashmir's accession to India ?
- (g) The student recognizes relationships between current and past conditions. **Q. 30.** What improvements have been brought about in Kashmir after her accession to India ?

T O O L S

Recognition Form

- Q. 28.** Put a \checkmark mark against the main factor responsible for the delay in the solution of the Kashmir problem :—
- | | |
|--------------------------|---|
| (a) foreign intervention | (d) sympathy for backward nations |
| (b) economic necessity | (e) racial discrimination |
| (c) war mentality | (f) Pakistan's refusal to undo aggression |
- Q. 29.** Put a \checkmark mark against the factor common to the Glorious Revolution of 1688 and Kashmir's accession with India :—
- | | |
|------------------------|------------------------|
| (a) two nation theory | (c) military pacts |
| (b) will of the people | (d) constitutional law |
- Q. 30.** Put a \checkmark mark against the correct answer :—
The main change that has taken place in Kashmir after her accession to India is
- | | |
|--|--|
| (a) establishment of a peoples' government | (d) abolition of female labour |
| (b) theocratic constitution | (e) control of unemployment problem |
| (c) 95% literacy | (f) compulsory military training for all |

OBJECTIVE VIII : To develop in the student the ability to locate sources of information on historical questions.

BEHAVIOURS : The student

- (a) makes out the sources most relevant to a particular question.
- (b) distinguishes the limitations and values of a particular source.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|---|
| (a) The student makes out the sources most relevant to a particular question. | Q. 31. What source materials will you utilize to know why the kings of Magadha succeeded in establishing an empire ? |
| (a) & (b) The student distinguishes the limitations and values of a particular source. | Q. 32. What sources are helpful in determining the most important causes for the overthrow of republics in ancient India ? |
| (a) | Q. 33. How can you know how and to what extent Kautilya was responsible for the overthrow of republics ? |
| (a) & (b) | -do- |

- (c) checks and verifies statement of doubtful validity.
- (d) gathers information from a variety of sources to solve one problem.
- (e) selects relevant source book from the library.
- (f) quickly spots out from the contents or index of a book the requisite information.

T O O L S

Recognition Form

- Q. 31.** Underline the source on which you will rely most to know why the kings of Magadha succeeded in establishing an empire :—
- | | |
|----------------------|-----------------------------------|
| (a) <i>Jatakas</i> | (c) <i>Puranas</i> |
| (b) historical drama | (d) sacred texts of the Buddhists |
- Q. 32.** Underline the source that would be most helpful to you to determine the important causes of the overthrow of republics in ancient India :—
- | | |
|------------------------------|-----------------------|
| (a) Greek works on Alexander | (c) <i>Mahabharat</i> |
| (b) Buddhist sources | (d) Hindu polity |
- Q. 33.** Underline the sources you will utilize to study the lines of action Kautilya suggested against the republics :—
- | | |
|---|----------------------------------|
| (a) <i>Artha Sastra</i> | (c) <i>Mudra-Rakshash</i> |
| (b) commentaries on <i>Artha Sastra</i> | (d) historical novel on Kautilya |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|--|---|
| (a) The student makes out the sources relevant to a particular question. | Q. 34. "What Asoka aimed at spreading was no Buddhism as such, but the moral principles involved in every religion." From where do we get the relevant material to discuss this ? |
| (d) He gathers information from a variety of sources to solve one problem. | Q. 35. With the help of what original sources would you find out the causes that led to the invasion of India by the Greeks in the beginning of the second century B.C. ? |
| (d) -do- | Q. 36. "Chandragupta, though an autocrat, could not administer the country in any way he liked." From which sources do we know the checks imposed upon him ? |
| (d) -do- | Q. 37. From what sources can we know India's reactions to Alexander's invasion ? |

TOOLS

Recognition Form

- Q. 34.** A. "What Asoka aimed at spreading was not Buddhism as such but the moral principles involved in every religion."
Underline the sources from which we get the relevant material to discuss the above statement :—
- (a) a selection of his inscriptions
(b) biographies of Asoka
(c) Buddhist sources
(d) stories dealing with his life
- B. Underline the source from which you can find out most quickly that Asoka was a Buddhist :—
- (a) Asoka's inscriptions
(b) history of Buddhism
(c) biography of Asoka
- C. Underline the sources you will rely on most to find out what was regarded by Asoka as the most important duty of human beings :—
- (a) Asoka's inscriptions
(b) history of Buddhism
(c) biography of Asoka
- Q. 35.** Underline the sources you will rely on most to find out the causes for the invasion of India by the Greeks in the beginning of the second century B.C.
- (a) account of the Greeks in Bactria and India.
(b) history of ancient India
(c) coins of the period
- B. Arrange the following in the order of importance to find out the main causes for the weakening of the Mauryan Empire :—
- (a) *Maha Bhashya*
(b) Jain sources
(c) Kalidas
(d) history of ancient India
- Q. 36.** Underline the sources you will rely on to find out the most important check on Chandragupta's authority :—
- (a) *Artha Sastra*
(b) Megasthenes
(c) Asoka's inscriptions
(d) *Smritis*
- Q. 37.** A. Underline the name of the book you will consult to find out the correctness or otherwise of the policy followed by the Indian rulers of Alexander's time :—
- (a) historical dramas
(b) biography of Alexander
(c) biography of Chandragupta
- B. Underline the sources that will give you the most significant results of Alexander's invasion :—
- (i) journals
(ii) Hindu *Puranas*
(iii) history of Chandragupta's time
(iv) inscriptions of Greek rulers in India

GEOGRAPHY

OBJECTIVES with reference to which Test Materials on Geography have been prepared.

To develop in the student the ability :—

1. to relate geographic principles and knowledge to problems involving the development of material resources. (Questions 1 and 2).
2. to use geographic knowledge to explain the activities and characteristics of people in different parts of the world. (Questions 3 to 9).
3. to recognize the effects of climate and topography. (Questions 10 to 13)
4. to recognize the inter-dependence of nations. (Questions 14 to 21)
5. to understand the necessity for interdependence of regions and peoples. (Questions 22 to 25)
6. to use space and time concepts in solving problems. (Questions 26 to 28)
7. to interpret maps. (Questions 29 to 33)
8. to read maps. (Questions 34 to 42)
9. to read and interpret maps. (Questions 43 to 50)

OBJECTIVE I : To develop in the student the ability to relate geographic principles and knowledge to problems involving the development of natural resources.

BEHAVIOURS : The student

- (a) classifies the natural resources.
- (b) recognizes the limitations and potentialities of a given area from data collected.
- (c) criticises or analyses a new plan for the development of an area.
- (d) compares several plans for the same or different areas.
- (e) indicates the stages by which a plan might be carried into action.
- (f) determines the appropriateness of several methods to solve a particular problem.
- (g) analyses the underlying factors responsible for the growth or decline of a particular place as regards agriculture, industries and population etc.
- (h) prepares plans and charts to show to how many different uses land, mineral and agricultural products can be put.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|--|
| <p>(c) The student criticises or analyses a new plan for the development of an area.</p> <p>(d) The student compares several plans for the same or different areas.</p> | <p>Q. 1. How can the evil effects of floods in the river Hwangho in China be minimized? Indicate the relative importance of different methods from the point of view of</p> <ul style="list-style-type: none">(i) easy and cheap provision(ii) permanency. |
| <p>(f) The student determines the appropriateness of several methods to solve a particular problem.</p> | <p>Q. 2. In order to develop wood production in Siberia which parts are suitable? Give reasons for your choice.</p> |

TOOLS

Recognition Form

Q. 1. The river Hwangho was said to be the "Sorrow of China" because of its disastrous floods. Below are listed some methods that might be used to control floods. From your knowledge of the Hwangho and methods of controlling floods, mark in the blank before each statement, A, if it would be of value in controlling floods; B, if it is uncertain whether it would be of value or not in controlling floods; and C, if it would not be of value in controlling floods:—

- | | |
|---|--|
| —(1) by changing the course of the river. | —(7) by manufacturing salt. |
| —(2) by growing trees on the bank. | —(8) by increasing the slope of the bed. |
| —(3) by deepening the bed of the river. | —(9) by putting stones in the bed. |
| —(4) by making bridges. | —(10) by broadening the bed of the river. |
| —(5) by constructing dams. | —(11) by constructing canals. |
| —(6) by making embankments. | |

Q. 2. A. Tick off the right items in the following:—

It is said that, if properly developed, Siberia alone can serve the whole world's requirement of wood. The growth and exploitation of a particular forest region depend upon:

- | | |
|-------------------------------|---|
| (a) suitable temperature. | (e) nearness of market. |
| (b) good water supply. | (f) gregarious growth of one kind of trees. |
| (c) fertile soil. | (g) natural or human power available for lumbering. |
| (d) easy and cheap transport. | |

B. Indicate in the blanks the serial number of factors (given above) available for growth of forests in the five regions of Siberia:—

- | | |
|-----------------|-----------------|
| (i) North..... | (iii) East..... |
| (ii) South..... | (iv) West..... |
| (v) Centre..... | |

NOTE :—These problems would be more appropriate if specific information were given about a new area or region and the student asked to make a plan or criticise a proposed plan for the development of the resources of the region.

Geography

OBJECTIVE II : To develop in the student the ability to use geographic knowledge to explain the activities and characteristics of people in different parts of the world.

BEHAVIOURS : The student

- (a) suggests reasons for the activities of the people of different regions of the world.
- (b) compares and contrasts the people of different regions.
- (c) guides himself and others with regard to the activities of people of other regions of the world.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|---|
| <p>(d) The student recognizes the influence of surroundings on life around.</p> <p>(d) -do-</p> <p>(b) The student compares and contrasts the people of different regions.</p> | <p>Q. 3. Where do you find rice fields and why ?</p> <p>Q. 4. The principal dress of Bengalis is made of cotton. How do you explain it ?</p> <p>Q. 5. What are the chief means of livelihood of Australians, Eskimoes, Canadians, Pigmies and Japanese ?</p> |
|--|---|

- (d) recognizes the influence of surroundings on life around.
- (e) recognizes the part played by his immediate surroundings in the development of his country's economy.
- (f) relates the modes of life (human, vegetable and animal) to the varying environments.
- (g) recognizes the difference in products in different areas.
- (h) uses geographical data in respect of commerce, transport, climate and vegetation.
- (i) relates the growth of various civilizations to different environments.

T O O L S

Recognition Form

Q. 3. Tick off the correct statements :—

The kind of climatic condition needed for the growth of rice is :

- | | |
|---|---|
| (a) sandy and low land and dry weather. | (e) lots and lots of water, either rain or flowing river. |
| (b) rainy and cold weather. | |
| (c) heavy showers at long intervals. | |
| (d) regular rainfall where water does not stand near the roots. | (f) shady slopes of the hills where summers are not very hot. |

Q. 4. Put a tick mark in the space provided if you agree with the statement and an 'x' mark if you do not agree :—

The principal dress of the Bengalis is made of cotton because :

- | | |
|---|--|
| (a) Bengal is mainly a tropical region. | (c) warm clothes cannot be manufactured in Bengal. |
| (b) Bengal has an equitable climate. | (d) wool is not available in Bengal. |

Q. 5. The following is a list of activities. Indicate in each blank the serial number of the given activities carried on extensively by the people named :—

- | | | | |
|-------------------|-----------------|-------------------|---------------|
| (a) farming | (d) fishing | Australians | Eskimos |
| (b) sheep rearing | (e) hunting | Canadian | Pigmies |
| (c) lumbering | (f) sericulture | Japanese | |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(f) The student relates the mode of life (human vegetable and animal) to the varying environments.	Q. 6. Why is the camel called "the ship of the desert" ?
--	---

(g) The student recognizes the difference in products in different areas.	Q. 7. How has Egypt become famous for cotton ?
---	---

-do-

Q. 8. Why does the Eskimo kill the snow bear ?

(h) The student uses geographical data in respect of commerce, transport, climate and vegetation.	Q. 9. Why are there so many canals in the Punjab ?
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TOOLS**Recognition Form**

Q. 6. Tick off the statements with which you agree:—

The camel is called “the ship of the desert” because

- | | |
|--|---|
| (a) it is big and can carry heavy loads. | (d) its feet do not sink in the sand and thus it can run or walk easily and cover long distances. |
| (b) its hair is helpful in making tents used by the Arabs. | (e) its hump makes a good seat for the rider, |
| (c) it can go without water for many days. | (f) it can live even on dry twigs and rough grass. |
| (g) its legs help it to move smoothly like a ship going through water. | |

Q. 7. Tick off the statements with which you agree:—

The reason for the high quality of the cotton in Egypt is that

- | | |
|---|---|
| (a) it is the land of the Pharaohs who used cotton and set the fashion and have left a tradition. | (d) the Egyptian farmers are expert in growing cotton. |
| (b) it is on the Mediterranean shores where cotton cloth is used by all the peoples. | (e) the water of the Nile has good chemicals which are helpful in the growth of cotton. |
| (c) its soil is rich because the Nile deposits new layers of soil every year and there is a sure supply of water. | (f) Egypt is hot and sandy and cotton needs such conditions. |

Q. 8. Tick off the statement with which you agree:—

The Eskimo kills the snow bear because

- | | |
|--|---|
| (a) he does not like the meat of the black bear or the brown bear. | (c) in the snow-covered regions the white bear is the only bear found. |
| (b) he enjoys the sport of hunting. | (d) he likes white and thinks it is a matter of honour to be in possession of white bear skins. |

Q. 9. Tick off the reasons with which you agree:—

There are many canals in the Punjab because

- | | |
|--|--|
| (a) it is a border state of India and canals are needed for its defence. | (d) it is fertile and the farmers are very hard working and use the canal water. |
| (b) its soil is soft and canals can be dug easily. | (e) the snow-covered mountains lie near it. |
| (c) this plain is vast and level and also there is not enough rainfall. | (f) for the growth of wheat, canal water is a necessity. |
| | (g) there are many rivers having a regular flow of water. |

Geography

OBJECTIVE III: To develop in the student the ability to recognize the effects of climate and topography.

BEHAVIOURS: The student

- (a) finds out the probable location of places enjoying particular climates.
- (b) predicts the characteristics of plants, animals and men from their geographical surroundings.
- (c) locates an area on a map if supplied with the essential data about the climate and other conditions.

BEHAVIOUR CHANGES EXPECTED**EVALUATION**

				Essay Form	
				Data for	
Months :	January	February	March	April	May
Temperature : (F.)	91°	84°	78°	70°	64°
Rainfall :	—	2"	4"	3"	6"

The above chart shows the temperature and rainfall of a certain country. Study the chart carefully

- | | | | |
|-----|--|---------------|--|
| (a) | The student finds out the probable location of places enjoying particular climates. | Q. 10. | What can be the probable location of the place with respect to the Equator ? |
| (f) | From available data the student draws inferences about season, vegetation and agriculture. | Q. 11. | Which are the busiest months for the agriculturists of the area ? |
| (f) | -do- | Q. 12. | What are the main problems of the agriculturists of this area ? |
| (f) | -do- | Q. 13. | What can you say about the climate and agricultural products of the place ? |

- (d) analyses new climatic and geographic data in determining economic possibilities and possible occupation of the inhabitants.
- (e) describes on the basis of data gathered from newspapers and other sources, the nature of dress, food etc. of people he has not seen.
- (f) draws, from available data, inferences about season, vegetation and agriculture.

TOOLS

Recognition Form

Questions 10 to 13

June	July	Aug.	Sept.	Oct.	Nov.	Dec.
59°	53°	62°	78°	81°	85°	87°
9''	7''	4''	5''	3''	2''	—

and answer Questions 11 to 13 given below.

Q. 10. Tick off the right statement :—

The country is situated

- (a) north of the equator. (c) on the equator.
 (b) south of the equator. (d) near the pole.

Q. 11. Underline the statements with which you agree :—

The busiest months for the agriculturists of the area are

- (a) February, March and April. (c) August, September and October.
 (b) May, June and July. (d) November, December and January.

Q. 12. Tick of the statements with which you agree :—

The agriculturist of this area must plan for one of these :—

- (i) heavy rainfall and low temperature. (ii) scanty rainfall and high temperature.
 (iii) no rainfall and high temperature.

Q. 13. (a) Fill in the blank before each of the following statements with the appropriate key letter, as indicated, *i.e.*, A, if the statement is true ; B, if the statement is probably true; C, if the statement is false ; D, if the statement is probably false ; and E, if there is not enough information for any judgment :—

- (i) There is only one season when the wind blows from the sea to the land. —(vii) Agriculturists use irrigation throughout the whole year.
 —(ii) For the whole year the wind blows from one direction. —(viii) The cotton industry gets its raw materials from this place.
 —(iii) The place is a belt of calm. —(ix) We would expect to find evergreen forests in this place.
 —(iv) Inhabitants of this place do not need woollen clothes. —(x) We would expect to find evergreen shrubs and bushes in this place.
 —(v) Inhabitants of this place never see snowfall. —(xi) We would expect to find tall and rough grass in this place.
 —(vi) There is the problem of providing irrigational facilities.

(b) Put a cross mark in the space provided against the name of the crop that could *not* be grown in this region :—

- | | | |
|----------------|---------------|-----------------|
| .. (i) rice | .. (iv) wheat | .. (vii) olive |
| .. (ii) millet | .. (v) cotton | .. (viii) onion |
| .. (iii) grape | .. (vi) jute | .. (ix) potato |

OBJECTIVE IV : To develop in the student the ability to recognize the independence of nations.

BEHAVIOURS : The student

- (a) predicts what will happen to prices, supplies etc. if given conditions exist or change.
- (b) analyses the relation between political situations and economic conditions.
- (c) makes plans for the future of an area by considering the various factors involved.
- (d) recognizes deficiencies and inconsistencies in a set of plans by pointing to the political, geographical, economic and cultural differences.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|--|
| (i) The student recognizes the inter-dependence of agriculture and industry. | Q. 14. In what ways are agriculture and industry inter-dependent ? |
| (a) The student predicts what will happen to prices, supplies, etc. if given conditions exist or change. | Q. 15. What are the causes of rise in the price of agricultural products ? |
| (e) The student traces the relationship among a series of events involving economic and political considerations. | Q. 16. What are the causes for the imposition of import duty on certain foreign goods in India ? |
| (e) -do- | Q. 17. In which countries is the price of dairy products likely to go up because of the closing of the Suez Canal ? |
| (a) The student predicts what will happen to prices, supplies etc. if given conditions exist or change. | Q. 18. State with reasons some of the ways in which export and import of commodities will be affected in case India breaks off trade relations with Iraq. |
| (e) The student traces the relationship among a series of events involving economic and political considerations. | |

- (e) traces the relationship among a series of events involving economic and political considerations.
- (f) recognizes the effects of trade and price agreements.
- (g) understands why certain commodities are not produced in certain regions.
- (h) discovers alternative sources of supply and substitutes.
- (i) recognizes the interdependence of agriculture and industry.

TOOLS

Recognition Form

Q. 14. Tick off the best answer :—

Agriculture and industry depend on each other because

- | | |
|---|---|
| (a) agriculture cannot be carried on without implements from factories. | (c) agricultural and industrial areas exist side by side. |
| (b) industry cannot get raw materials without agriculture. | (d) in many respects they supply the needs of each other. |

Q. 15. Tick off the best two answers :—

The price of agricultural products rises if

- | | |
|--|--|
| (a) there is an inadequate supply of agricultural machinery. | (c) the demand goes up with no corresponding increase in supply. |
| (b) modern methods of cultivation have not been adopted. | (d) costly machines are used in agriculture. |
| (e) the yield falls below the normal consumption. | |

Q. 16. Tick off the best answer :—

The purpose of heavy import duty on certain foreign goods in India is

- | | |
|--|--|
| (a) to give protection to Indian industries. | (b) to make Indian villages self-sufficient. |
| (c) to increase the revenue of the country. | |

Q. 17. Underline the appropriate answer :—

The closing of the Suez Canal cut short the supply of dairy products; hence the price of these rose in

- | | |
|----------------|--------------|
| (a) India. | (b) Denmark. |
| (c) Australia. | |

Q. 18. Put T against the statement if it is true, U if it is uncertain and F if it is false :—

If India breaks off trade relations with Iraq

- | | |
|--|--|
| (a) Egypt will begin to export oil to India. | (c) We will lose an important market for our animal skins. |
| (b) The price of dates will go up in India. | (d) The marble quarries in India will be badly hit. |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(a) The student predicts what will happen to prices, supplies, etc. if given conditions exist or change.

and

(e) The student traces the relationship among a series of events involving economic and political considerations.

(a) & (e) -do-

(a) & (e)

Q. 19. Name some countries which are likely to import more tea from India if India reduces the price of tea by Rs. 2/- per ton? Explain the reasons.

Q. 20. India and Great Britain are, to some extent, inter-dependent so far as import and export are concerned. What steps on the part of the Indian Government may possibly make Great Britain face a major trade crisis?

Q. 21. What will be the effects on production, price and trade of cotton cloth and on the workers in cotton mills in India, if the workers in cotton mills in England go on a four months strike?

T O O L S

Recognition Form

- Q. 19.** Other things remaining the same, which of the following countries are likely to import more tea from India if the sale price of tea is reduced in India by Rs. 2/- per ton ? Tick off the correct answer or answers.
- | | |
|-----------------|--------------------|
| (a) Australia. | (d) Great Britain. |
| (b) Canada. | (e) Tibet. |
| (c) Indo-China. | (f) Burma. |
| (g) U.S.A. | |
- Q. 20.** Put T against the statement if it is true, F if it is false and U if it is uncertain :—
- Great Britain will face a major trade crisis if
- | | |
|---|--|
| (a) no jute is exported from India and Pakistan. | (c) persons appointed on tea plantations in India stop work for a month. |
| (b) India stops all import of scientific apparatus from abroad. | (d) India stops export of rice for a season. |
| (e) India develops her own shipping for foreign trade. | |
- Q. 21.** Tick off the correct answer :—
- If the workers in the cotton mills of England went on a four months' strike
- | | |
|--|--|
| (a) there will immediately be a sympathetic strike in the cotton mills in India. | (c) cloth merchants in India will immediately sell away their existing stock of foreign cloth at reduced prices. |
| (b) the prices of cloth made in Indian mills will rise. | (d) cotton mills in India will immediately discharge a number of their labourers. |

OBJECTIVE V : To develop in the student an understanding of the necessity for interdependence of regions and peoples.

BEHAVIOURS : The student

- (a) draws comparisons with regard to the capacity to effect export and import.
- (b) discovers appropriate alternatives.
- (c) draws inferences regarding direction of dependence, value of interdependence, patterns of economic development and environment.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|---|
| <p>(c) The student draws inferences regarding direction of dependence, value of interdependence, patterns of economic development and environment.</p> <p>(d) The student analyses relation between political situation and economic condition.</p> | <p>Q. 22. What will be our difficulties in executing our Five Year Plan if war breaks out in Western Europe ?</p> |
| <p>(c) & (d) -do-</p> | <p>Q. 23. How will the failure of the cotton crop in the U.S.A. affect the textile industry in India, U.K., Japan, Pakistan and U.S.S.R. ?</p> |
| <p>(c) The student draws inferences regarding direction of dependence, value of interdependence, patterns of economic development and environment.</p> | <p>Q. 24. Pakistan is trying to develop her jute manufacturing industry. What should we do to keep our jute industry prosperous ?</p> |
| <p>(e) The student traces relationship between a series of events involving economic, political and physical considerations.</p> | <p>Q. 25. What changes are likely to take place in the composition of India's trade after successful conclusion of the Five-Year Plan ?</p> |

Geography

- (d) analyses relation between political situation and economic condition.
- (e) traces relationship between a series of events involving economic, political and physical considerations.
- (f) recognizes the effects of various trade and price agreements.
- (g) recognizes deficiencies, inconsistencies or weaknesses in a plan with reference to political, geographical, economic and cultural factors.

T O O L S

Recognition Form

Q. 22. Tick off the best answer :—

A war in Western Europe will affect our Plan because

- | | |
|---|--|
| (a) there will be difficulty in importing food grains from America. | (e) there will be difficulty in the installation of the Bhilai Steel Plant. |
| (b) there will be shortage in the supply of machinery for the Plan. | (d) there will be difficulty in the installation of Rurkela and Durgapur Steel Plants. |
| (e) foreign aid will be stopped. | |

Q. 23. Fill in each blank with the word *adversely* or *favourably* or *indifferently* as the case may be :—

Failure of the cotton crop in the U.S.A. will affect the textile industry in

U.S.S.R.....

U.K.....

India.....

PAKISTAN.....

Japan.....

Q. 24. Put a \checkmark mark before the correct statement :—

If Pakistan's efforts to set up her own jute industry are successful, we in India should try

- | | |
|--|--|
| (a) to grow still more jute. | (d) to produce better and specialized type of manufactured articles from jute. |
| (b) to ask Pakistan to desist from it. | (e) to discourage the jute industry and utilize the capital elsewhere. |
| (c) to offer jute at lower prices than Pakistan's. | |

Q. 25. Tick off the correct statements :—

At the successful conclusion of India's Five-Year Plans there will be

- | | |
|---|---|
| (a) increase in the volume of her trade. | (d) decrease in her export of raw material. |
| (b) increase in her import of food grain. | (e) decrease in her import of petroleum. |
| (c) decrease in her export of sugar. | (f) decrease in her import of manufactured goods. |

OBJECTIVE VI : To develop in the student the ability to use space and time concepts in solving problems.

BEHAVIOURS : The student

- (a) recognizes the way in which the spatial pattern is organised in the world (distance, direction, latitudes, longitudes).

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (b) The student determines differences in local time of places with reference to longitude. **Q. 26.** What will be the local time at Banaras ($82\frac{1}{2}^{\circ}\text{E}$) when it is noon at Greenwich ?
- (d) The student selects the best suited transportation for various articles. **Q. 27.** Which form of transport is best suited for each of the following goods to be taken conveniently and economically from Bombay to Calcutta, and why ?
- (a) flowers (can keep fresh up to 10 hours).
 - (b) green vegetables (can keep fresh up to 20 hours).
 - (c) potatoes (can keep fresh for 3 days).
 - (d) wheat flour (can keep fresh for 7 days).
 - (e) cutlery (no time limit).
 - (f) cloth (no time limit).
 - (g) urgent letters (must reach within 8 hours).
 - (h) text books (in bulk, must reach within a month).
- (d) The student selects the best-suited transportation for various articles. **Q. 28.** The message of Nadir Shah's invasion (1739) of Delhi reached Poona (900 miles away) in 30 days (the messenger being a horse rider). In 1840, the steamship required about 75 days to go from London to Bombay, a distance of about 7500 miles via the Cape of Good Hope.
- In 1945, the news of the atom bomb attack on Hiroshima (Japan) was flashed in newspapers of New York (12000 miles) within 5 minutes of the explosion.
- In the light of the above, discuss how technological developments have reduced time and distance almost to nothing.

Geography

- (b) determines differences in local time of places with reference to longitude) Local Time ; I.S.T.,G.M.T.).
- (c) recognizes how space and time are affected by geographical pattern, transportation and technology.
- (d) selects the best-suited transportation for various articles.

TOOLS

Recognition Form

- Q. 26.** In the following table, the longitudes of cities B, C, etc. are given against them. Classify the cities into (A.M.) and (P.M.) indicating respectively some hour in the forenoon or afternoon when it is noon at Greenwich :—

Note : Write A.M. or P.M. against the letter representing the city.

City	Longitude	City	Longitude
—B	27° E	—K	135° E
—C	53° W	—L	90° W
—D	79° E	—M	50° W
—F	82° W	—N	45° W
—G	45° E	—O	82½° E
—H	75° W	—P	90° E
—I	105° E	—Q	70° E
—J	135° W		

- Q. 27.** The means of transport are arranged below according to decreasing speed and costs of transport.

- (i) aeroplane (ii) passenger railway train (iii) steamship
(iv) motor truck (v) bullock cart

The goods listed below have to be taken conveniently and economically from Bombay to Calcutta. Which form of transport is best suited for each ? Fill in each blank with the serial number of the most suitable form of transport :—

- (a) flowers (can keep fresh up to 10 hours). —(e) cutlery (no time limit).
—(b) green vegetables (can keep fresh up to 20 hours). —(f) cloth (no time limit).
—(c) potatoes (can keep fresh for 3 days). —(g) urgent letter (must reach within 8 hours).
—(d) wheat flour (can keep fresh for 7 days). —(h) textbooks (in bulk must reach in one month).

- Q. 28.** The Security Council meeting at Lake Success (New York) is discussing the Kashmir problem. The items numbered below are to be dispatched to Bombay from New York.

- (i) important policy statements by representatives. (iv) copies of reports submitted to the committee.
(ii) summary of the speeches of the representatives. (v) copies of newspapers of New York publishing the reports of the meeting.
(iii) detailed accounts of these speeches. (vi) photographs of the committee meeting.

Which of the following means is the best for the correct dispatch of each of the above items at high speed and low cost ?

- (a) wire dispatches. —(b) radio telephone. —(c) cables. —(d) air mail. —(e) sea mail.

Fill in each blank with the serial number of the item which can best be sent that way.

OBJECTIVE VII: To develop in the student the ability to interpret maps.

BEHAVIOURS : The student

- (a) draws inferences (b) locates places (c) makes sketches

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

Give a map of India drawn to an indicated scale, with the following cities and the railway lines Pupils to study the map and answer Questions 29 to 33.

- | | |
|--|---|
| <p>(g) The student indicates direction (<i>i.e.</i> N., S., E. W.)</p> <p>(h) The student measures length or area.</p>

<p>(i) The student recalls facts.</p> <p>(h) measures length or area.</p> <p>(h) -do-</p> | <p>Q. 29. In what direction is (a) the city of Madras from the city of Bombay? (b) the city of Bombay from the city of Goa?</p>

<p>Q. 30. What is the approximate distance between Goa and Bombay</p> <p>Q. 31. Name the foreign possessions in India today.</p> <p>Q. 32. Which town is nearest to Bombay?</p> <p>Q. 33. Via which city is the shortest route from Bombay to Madras?</p> |
|--|---|

OBJECTIVE VIII : To develop in the student the ability to read maps.

BEHAVIOURS : The student

- (a) distinguishes between representations of different land forms and topographies.
- (b) uses the scale of the map to determine distance and time.
- (c) gives the direction of one place in relation to other places.
- (d) explains the potentialities and limitations of a particular region.
- (e) suggests effective and appropriate utilization of the resources of a particular region.

Note : Several maps will be supplied to the student. He may refer to the maps

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|--|
| (a) The student distinguishes between representations of different land forms and topographies. | Q. 34. Why is most of Brazil shown in yellow colour ? |
| (b) The student uses the scale of the map to determine distance and time. | Q. 35. (a) Baroda is 1174 miles from Bhagalpur. If the scale is 40m=1". what will be the map distance between the two places ?
(b) State whether Baroda has, in comparison with Bhagalpur, (i) a behind time (2) an advance time or (iii) the same time. |
| (i) The student recognizes how the position on the globe of two places determines the difference in regard to their local time. | |
| (c) The student gives the direction of one place in relation to other places. | Q. 36. Which of the following islands will have summer in October and why ?
(a) Iceland (b) Cuba (c) Falkland
(d) Trinidad (e) Taiwan |
| (h) The student compares one region with other regions in relation to climate, situation, natural resources, vegetation, means of communication, industries, trades, etc. | Q. 37. From a study of the vegetation map of Canada, what can you infer with regard to her potentialities in paper and pulp industry ? |
| (h) -do- | Q. 38. Study the physical map of Bihar and state how the water of the river Kosi can be best utilized. |

Geography

- (f) draws inferences with regard to climate and way of life from topography, location and climate.
- (g) recognizes how geographical factors have affected or may in future affect the course of events or development (historical, social, political or otherwise) of a particular region.
- (h) compares one region with other regions in relation to climate, situation, natural resources, vegetation, means of communication, industries, trade, etc.
- (i) recognizes how the position on the globe of two places determines the difference in regard to their local time.

as he answers the questions.

TOOLS

Recognition Form

- Q. 34.** Indicate by a tick mark whether most of Brazil is a
- | | |
|-----------------------|------------------------------|
| (a) mountainous area. | (c) plain area. |
| (b) plateau area. | (d) area of inland drainage. |
- Q. 35.** (a) Baroda is 1174 miles from Bhagalpur. If the scale is $40\text{m} = 1''$, the map distance between the two places will be about (Tick off the right answer).
- | | |
|-------------|--------------|
| —11 inches. | —40 inches. |
| —29 inches. | —118 inches. |
- (b) Underline the correct answer :—
- Compared to Bhagalpur, Baroda has
- | | | |
|------------------|-------------------|--------------------|
| (1) behind time. | (2) advance time. | (3) the same time. |
|------------------|-------------------|--------------------|
- Q. 36.** Study the physical map of the world and underline the names of those islands that lie to the south of the equator in the list given below :—
- (a) Iceland. (b) Cuba. (c) Falkland. (d) Trinidad. (e) Taiwan.
- Q. 37.** Study the vegetation map of Canada and tick off the correct statement in the following list :—
- Canada has paper and pulp industry because it has
- | | |
|-----------------------------|----------------------------|
| (a) equatorial forest belt. | (c) deciduous forest belt. |
| (b) coniferous forest belt. | (d) monsoon forest belt. |
- Q. 38.** Tick off the correct answers :—
- The water of the River Kosi can be best utilized in Bihar for the purpose of
- | | |
|--------------------------------------|-------------------------------|
| (a) irrigation. | (c) navigation. |
| (b) generation of hydro-electricity. | (d) development of fisheries. |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|--|---|
| (d) The student explains the potentialities and limitations of a particular region. | Q. 39. From a study of the climate map of India state why there is little rainfall in Sindh. |
| (g) The student recognizes how geographical factors have affected or may in future affect the course of events or development (historical, social, political or otherwise) of a particular region. | Q. 40. From the map showing the settlement of U.S.A. in the 17th. century, it appears that the population was confined to the eastern coastal region. Why is it so ? |
| (d) The student explains the potentialities and limitations of a particular region. | Q. 41. Study the physical map of Brazil and state which irrigation system of India will suit Brazil. |
| (h) The student compares one region with other regions in relation to climate, situation, natural resources, vegetation, means of communication, industries, trades, etc. | Q. 42. In what respects is the Canadian shield similar to the Deccan? Illustrate this from the physical map of India and North America. |

OBJECTIVE IX : To develop in the student the ability to read and interpret maps.

BEHAVIOURS : The student

- (a) **uses latitude and longitude to locate places on the map.**
- (b) **translates the key (physical features)**

Note : Students are presented with two maps—Map I, North America and Map II, the World, showing

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|--|---|
| (a) The student uses latitude and longitude to locate places on the map. | Q. 43. Which are the immediate neighbouring countries of U.S.A. ? |
| (a) do | Q. 44. Find out the boundary latitudes of U.S.A. (approximately). |
| (b) The student translates the key (physical features) | Q. 45. Study a physical map of America and answer the following questions :—
(a) On which side of U.S.A. are the highest mountains ? How are they situated ?
(b) In which part of U.S.A. is the great plain situated ?
(c) In which direction and through which part does the main river (Mississippi) flow ?
(d) Name the great lakes of U.S.A.
(e) How and through which river do the great lakes have an opening on the east coast of U.S.A. ? |
| (b) do | Q. 46. Considering only the latitudes and longitudes between which the U.S.A. lies and her height from the sea level, what conclusions can you draw about her climate ? |

- (c) **makes inferences about the climate from the map data.**
- (d) **makes inferences about food, occupation and population of a given region from data provided in the map.**
- (e) **uses the scale.**

the dry and wet regions.

T O O L S

Recognition Form

- Q. 43.** Tick off the correct answers :—
The immediate neighbours of U.S.A. are
- (a) Greenland. (b) Alaska. (c) Mexico. (d) Canada.
- Q. 44.** Tick of the correct answer :—
The boundary latitudes of U.S.A. are
- (a) 27°N and 49°N. (b) 27°S and 48°S. (c) 40°N and 50°N.
- Q. 45.** Study the physical map of America and tick off the correct answer in each of the following groups :—
- (a) The highest mountains of U.S.A. are situated in
(i) north. (ii) south. (iii) east. (iv) west.
- (b) The great plain of U.S.A. is situated in
(i) the western part. (ii) the middle part. (iii) the eastern part.
- (c) Indicate by a tick mark in which direction and through which part the main river of U.S.A. flows
(i) north-south. (ii) south-north. (iii) east-west. (iv) middle of U.S.A.
(v) west of U.S.A. (vi) east of U.S.A.
- (d) The great lakes of U.S.A. are
(a)—— (b)—— (c)—— (d)—— (e)——
- (e) The great lakes have an opening on the east coast through
(a) the Mississippi River. (b) the St. Lawrence River. (c) the Ohio River.
- Q. 46.** Tick off the correct answer :—
Considering only the latitudes and longitudes between which the U.S.A. lies and her height from sea level, we may conclude that
- (a) Northern India is colder than Northern U.S.A. (c) Western India has the same climate as Western U.S.A.
(b) Southern India is colder than Southern U.S.A. (d) Eastern India is warmer than Eastern U.S.A.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (b) The student translates the key (physical features). **Q. 47.** Having studied Maps I and II and considering the physical features, water bodies and the direction of winds etc., which part of U.S.A. do you think is likely to get heavy rain ?
- (c) The student makes inferences about the climate from the map data.
- (d) The student makes inferences about food, occupation and population of a given region from data provided in the map. **Q. 48.** Considering the geographical situation of U.S.A., which coast of U.S.A. do you think is likely to have more trade and why ?
- (e) The student uses the scale. **Q. 49.** Find out the least distance between San Francisco and New York by means of the scale given in Map I. What is the given scale ?
- (a) The student uses latitude and longitude to locate places on the map. **Q. 50.** Find out the latitude and longitude of the following cities :—Los Angeles ; Washington

GENERAL SCIENCE

OBJECTIVE with reference to which the Test Materials on General Science have been prepared.

To develop in the student the ability to apply scientific principles to new situations in everyday life.

BEHAVIOURS : The student

- (a) predicts results from given data.
- (b) explains events in daily life in terms of scientific principles, concepts and theories.
- (c) finds illustrations of scientific principles in daily life.
- (d) recognizes the limits within which a scientific principle is applicable.
- (e) determines the causes of difficulty in home equipments (such as electrical, water supply, etc.)
- (f) applies the principles of science to determine appropriate courses of action in gardening and other home activities.
- (g) observes accurately events taking place around his home.
- (h) corrects defects and overcomes difficulties encountered in home equipments.
- (i) makes use of common scientific instruments in working out new or unfamiliar problems.
- (j) recognizes certain scientific facts, in new situations.

BEHAVIOUR CHANGES EXPECTED	EVALUATION
	Essay Form
(a) The student predicts results from given data.	Q. 1. Mercury in the barometer of your room reads 75 cms. at 4 P.M. and 70 cms. at 4.15 P.M. What is the probable weather forecast?
-do-	Q. 2. Compare the effect that gravity has on your body on the earth with the effect it would have on the moon.
(i) The student makes use of common scientific instruments in working out new or unfamiliar problems.	Q. 3. Describe how a barometer can be used to measure the altitude of any place, say Simla.
(c) The student finds illustrations of scientific principles in daily life.	Q. 4. Explain the part played by vitamins in our daily diet.
(b) The student explains events in daily life in terms of scientific principles, concepts and theories.	Q. 5. Write two illustrations of physical change and two of chemical change in daily life.
(c) The student finds illustrations of scientific principles in daily life.	
(c) The student finds illustrations of scientific principles in daily life.	Q. 6. Give illustrations of each type of energy transformation.
(i) The student makes use of common scientific instruments.	Q. 7. Describe how a syphon is used to take out liquid from a reservoir bottle.
(d) The student recognizes the limits within which a scientific principle is applicable.	Q. 8. Explain the limits to which a common pump could be used to lift water to a higher level.

TOOLS

Recognition Form

- Q. 1.** Indicate the right answer by a tick mark :—
Mercury in the barometer of your room reads 75 cms. at 4 p.m.; at 4.15 p.m. it reads 70 cms.
This indicates that
- | | |
|---------------------------------|-----------------------------------|
| (a) there will be fine weather. | (c) there will be rain. |
| (b) there will be a storm. | (d) the weather will be unsteady. |
- Q. 2.** Tick off the correct response :—
Gravitational pull on the moon is much less than it is on earth. This would mean the weight of a stone on the moon is
- | | |
|------------------------------------|----------------------------------|
| —(a) less. | —(c) more. |
| —(b) equal to what it is on earth. | —(d) double what it is on earth. |
- Q. 3.** Tick mark the most appropriate one :—
The barometer helps us in measuring the altitude of a place since
- | | |
|--|--|
| (a) The height of mercury rises at the rate of 1" for every 1000'. | (c) The gravitational pull is less at higher altitudes and it affects the mercury. |
| (b) The height of mercury falls at the rate of 1" for every 1000'. | (d) The temperature is less at higher altitudes and it affects the mercury. |
- Q. 4.** Tick off the right answer :—
People suffer from rickets when
- | | |
|---|-----------------------------------|
| (a) there is a lack of vitamin A in their diet. | (c) the bones are weak. |
| (b) there is a lack of carbohydrates in their diet. | (d) they suffer from indigestion. |
- Q. 5.** Mark each of the following as A, if it is a physical change, or B, if it is a chemical change :
- | | |
|--|--|
| —(a) a metal wire in an electric stove gets heated when a current of electricity is passed through it. | —(c) iron placed in moist air becomes coated with rust. |
| —(b) when wax is heated, it melts. | —(d) in an ice factory when water is cooled below 0°C. it becomes ice. |
- Q. 6.** Match each of the following appliances with the principle involved in it by filling each blank with the correct letter :—
- | <i>Appliances</i> | <i>Principles</i> | <i>Appliances</i> | <i>Principles</i> |
|-------------------|--|-------------------|--|
| (a) electric bulb | — mechanical energy is changed into electric energy. | (c) motor | — electric energy is changed into heat energy. |
| (b) dynamo | — chemical energy is changed into electric energy. | (d) simple cell | — electric energy is changed into mechanical energy. |
- Q. 7.** (Tick mark the most appropriate one :—
a syphon is used to take out liquid from a reservoir because
- | | |
|--|--|
| (a) its two arms are of unequal lengths. | (c) the pressure in the shorter arm is more than that in the longer arm. |
| (b) the syphon tube is filled with liquid. | (d) the pressure in the shorter arm is less than that in the longer arm. |
- Q. 8.** A common pump will lift water to a maximum height of (Tick of the correct response)
- | | | | |
|---------|---------|---------|---------|
| —30 ft. | —34 ft. | —40 ft. | —76 ft. |
|---------|---------|---------|---------|

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (c) The student finds illustrations of scientific principles in daily life. | Q. 9. Give examples of certain machines that work in our homes as a result of the heating effect of electricity. |
| (j) The student recognizes certain scientific facts in new situations. | Q. 10. What effects are produced by an electric current ? |
| -do- | Q. 11. What metal is the filament of an electric bulb made of ? |
| (b) The student explains events in daily life in terms of scientific principles, concepts and theories. | Q. 12. Why is heat produced in the filament of an electric lamp ? |
| -do- | Q. 13. Why does the lamp glow ? |
| -do- | Q. 14. Why is the filament thin ? |
| (j) The student recognizes certain scientific facts. | Q. 15. What kind of gas is used in an electric bulb ? |

TOOLS

Recognition Form

- Q. 9.** From the following, tick off the names of machines working through heating effect of electricity :—
 —electric lamp. —electric toaster.
 —electric iron. —telegraphic apparatus.
- Q. 10.** Tick off in the appropriate blank space, the possible effect produced by an electric current :—
 —heating. —burning —sound. —rusting.
 —lighting. —magnetic. —chemical.
- Q. 11.** From the following elements, check the two which have been most commonly used as filaments of electric bulbs :—
 —copper. —tungsten. —iron. —carbon. —silver.
- Q. 12.** Tick off the right answer :—
 Heat is produced in the filament of an electric lamp because
 —it offers resistance. —its specific heat is high. —there is friction.
- Q. 13.** Select the correct answer from the following :—
 Light is produced in the filament because
 —the filament reflects light from the —the filament becomes white hot and
 current. emits light.
 —the current makes the filament luminous.
- Q. 14.** Select the correct answer :—
 If the filament is replaced by a thick wire, the following happens :
 —more light is emitted. —no light is emitted.
 —it will not fuse. —it will last long:
- Q. 15.** Place tick marks before the wrong statements :—
 The glow lamp is filled with
 —oxygen. —nitrogen. —hydrogen. —carbon dioxide. —inert gas.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(j) The student recognizes certain scientific facts.

Q. 16. What gas is produced in a fire extinguisher ?

-do-

Q. 17. Write the general principle that describes the repulsion of magnetic poles.

(a) The student predicts results from given data.

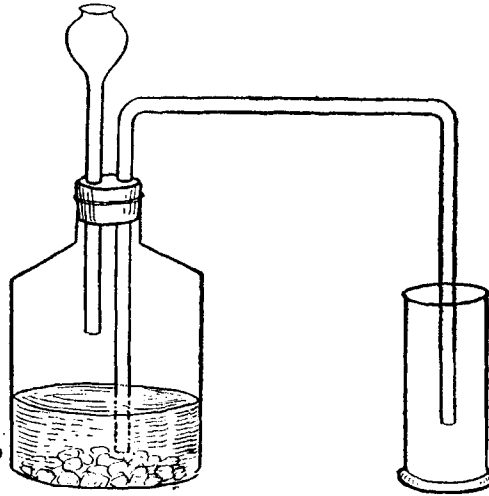
Q. 18. What are the probable effects of the property that "water seeks its own level" ?

TOOLS

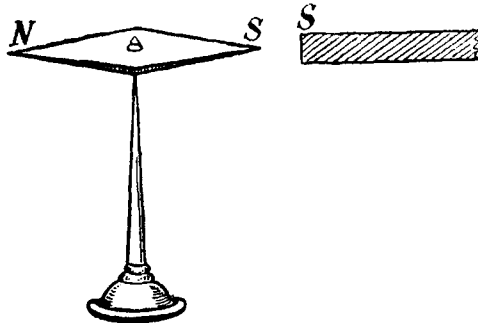
Recognition Form

Q. 16. Correct this diagram of apparatus for the preparation of carbon dioxide, by keeping, (Tick mark the correct one)

- (i) part 'a' in the liquid.
- (ii) part 'a' in the liquid and part 'b' outside.
- (iii) part 'b' outside.



Q. 17. Correct this diagram of a pivoted magnetic needle kept near a bar magnet.



Q. 18. "Water seeks its own level." From this we predict : (tick mark the most significant prediction) that :—

- (a) water moves from a higher level to a lower level.
- (b) water moves by gravitational force.
- (c) water can move against gravity.
- (d) water on a plane level is steady.

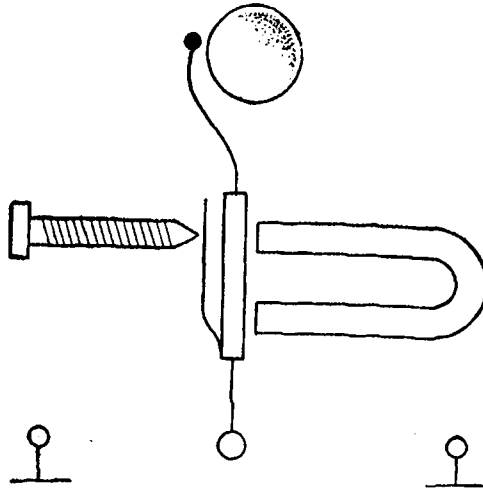
BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|--|
| (b) The student explains events in daily life in terms of scientific principles, concepts and theories. | Q. 19. Explain, through the use of a sketch, the principle of a wiring circuit in an electric bell. |
| (a) The student predicts results from given data. | Q. 20. In the adjoining diagram in Q.20, Recognition Form, if a battery is put at B, in place of the switch B, what would happen to lamp 1 and lamp 2 ? |
| (j) The student recognizes certain scientific facts in new situations. | Q. 21. What essential materials are needed to set up a simple electric cell ? |

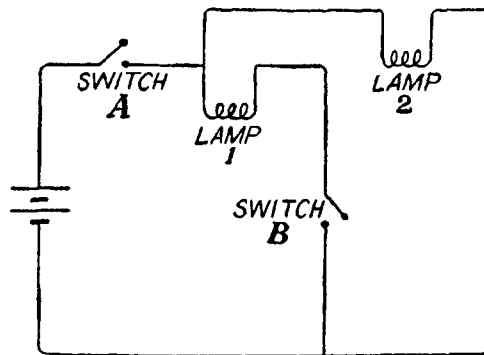
TOOLS

Recognition Form

Q. 19. Sketch the wiring into this diagram of an electric bell.



Q. 20. What lamp or lamps light up if



(a) switch 'A' is closed ?.....

(b) switch 'B' is closed ?.....

(c) both are closed at the same time ?.....

Q. 21. Tick off from the list below the essentials needed to set up a simple electric cell :—

- | | | | |
|---------------|---------------|-----------------|------------------|
| water, | sand, | glass rod, | glass jar, |
| zinc plate, | caustic soda, | sulphuric acid, | aluminium plate, |
| copper wires, | | copper plates, | piece of wood. |

C H E M I S T R Y

OBJECTIVES with reference to which Test Materials on Chemistry have been prepared :

To develop in the student :—

1. **knowledge of laboratory procedures** (Question Nos. 1 to 10).
2. **the ability to apply knowledge of Chemistry to problems of everyday life.**
(Question Nos. 11 to 28).
3. **the ability to classify new materials and processes.** (Question Nos. 29 to 38).

OBJECTIVE I : To develop in the student knowledge of laboratory procedures.

BEHAVIOURS : The student

- (a) **selects suitable apparatus for his experiments.**
- (b) **assembles the apparatus needed for his experiments.**
- (c) **selects suitable compounds, reagents etc. needed for his experiments.**
- (d) **selects relevant procedures when performing experiments.**
- (e) **recognizes the facts, principles, etc. relevant to the laboratory procedures.**
- (f) **knows the precautions to be taken in various laboratory procedures.**
- (g) **classifies materials.**

BEHVAIOUR CHANGES EXPECTED

EVALUATION

Essay Form

In order to evaluate the knowledge of laboratory procedures the student is assigned the

- | | |
|--|--|
| (a) The student selects suitable apparatus for his experiments. | Q. 1. List the apparatus to be used in the preparation of hydrogen gas. |
| (b) The student assembles the apparatus needed for his experiments. | Q. 2. Describe how you would fit up the apparatus. |
| (c) The student selects suitable compounds, reagents, etc. needed for his experiments. | Q. 3. Describe the chemicals and reagents to be used in the preparation of hydrogen. |
| -do- | Q. 4. Describe the chemicals and reagents to be used in testing the properties of carbon-dioxide. |
| (d) The student selects relevant procedures when performing experiments. | Q. 5. Describe the mode of collecting hydrogen. |

TOOLS

Recognition Form

following topic :—Prepare and study the properties of hydrogen gas.

Q. 1. Place tick marks in the spaces preceding those items that you would use in the preparation of hydrogen gas :

- | | | | |
|-----------------------|----------------|------------------|--------------------|
| —round—bottomed flask | —bunsen burner | —glass tubing | —condenser |
| —glass jars | —dessicator | —thistle funnel | —wheatstone bridge |
| —pneumatic trough | —thermometer | —gas jar covers. | —tripod |

Q. 2. Place tick marks in the blank spaces preceding the correct procedure :—

- | | |
|---|--|
| (a) Glass tubing should be cut to the size by drawing the file
(—both ways, —one way). | —The lower end of the delivery tube inside the bottle should touch the bottom and that of the thistle funnel should be slightly below the cork. |
| (b) The ends of the glass tubing should be rounded with
(—stone,—wood,—flame). | —The lower end of the thistle funnel should nearly touch the bottom of the bottle and that of the delivery tube be slightly below the cork. |
| (c) Cork borer diameter should be
(—greater than,—equal to, —smaller than) that of the glass tubing which will pass through the hole. | (f) The apparatus should be made air-tight by sealing it with
—bee's wax,—clay, —plaster of paris. |
| (d) Cork should be bored by keeping it (—in the hand,—on the table,—on the ground). | (g) The end of the delivery tube from which hydrogen escapes should be placed
—outside the bee-hive shelf and at the same level.
—within the bee-hive shelf but extending above. |
| (e) When assembling the generator for hydrogen
—the lower end of the thistle funnel and that of the delivery tube should be in the same level. | |

Q. 3. Tick mark only the correct chemicals that are needed for the preparation of hydrogen :—

- | | | |
|--------------------|--------------------|------------------------|
| —chalk | —manganese dioxide | —strong nitric acid |
| —granulated zinc | —pyrogallie acid | —tartaric acid |
| —ammonium chloride | | —dilute sulphuric acid |

Q. 4. Tick mark the correct article needed for testing the properties of CO_2 :—

- lime water, —turmeric paper, —red litmus paper, —blue litmus paper,—white paper.

Q. 5. Tick off the correct method of collecting hydrogen :—

- | | |
|--------------------------------------|--------------------------------------|
| —(a) upward displacement of mercury. | —(c) downward displacement of water. |
| —(b) upward displacement of air. | —(d) upward displacement of water. |

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|---|
| (e) The student recognizes the facts, principles, etc. relevant to laboratory procedures. | <p>Q. 6. Describe the physical and chemical properties of hydrogen gas. In your description refer to the following properties :—</p> <ul style="list-style-type: none"> (a) the colour of the gas. (b) lighter or heavier than air. (c) solubility in water. (d) smell of the gas. (e) acidic, basic, neutral. (f) the gas supports combustion or not. (g) the gas is combustible or non-combustible. (h) the effect of an electric discharge in the presence of hydrogen and oxygen |
| do | <p>Q. 7. The specific gravity of concentrated sulphuric acid is 1.84. In what proportion are water and sulphuric acid to be mixed to dilute the acid to 6 normal ?</p> |
| do | <p>Q. 8. What weight of Zn will produce 6000 c.c. of hydrogen gas, at standard temperature and pressure ?</p> |
| (f) The student knows the precautions to be taken in various laboratory procedures. | <p>Q. 9. (a) Describe the precautions to be observed while diluting H_2SO_4.</p> <p>(b) Describe the precautions to be observed to avoid damage of the apparatus when effervescence takes place.</p> <p>(c) Describe the precautions to be observed to avoid escape of gas from the jar.</p> |
| (e) The student recognizes the facts, principles, etc. relevant to laboratory procedures. | <p>Q. 10. What information did you verify from the experiment performed for the preparation of hydrogen ?</p> |

OBJECTIVE II : To develop in the student the ability to apply knowledge of Chemistry to problems of everyday life.

BEHAVIOURS : The student

- (a) predicts accurately what will happen in a given new situation.
- (b) determines the relative value of various materials for a given purpose.

BEHAVIOUR CHANGES EXPECTED	EVALUATION
	ESSAY FORM
(e) The student distinguishes between genuine materials and their imitations.	Q. 11. What gas is evolved when coke burns in air ?
do.	Q. 12. Describe the action of acids on litmus paper.
do.	Q. 13. Why are the following called oxidizing agents ? Nitric acid, Manganese dioxide, Oxygen, Potassium Permanganate, Hot and strong sulphuric acid, Potassium dichromate.
do.	Q. 14. What is the essential constituent of every acid ? Illustrate with a few examples.
(f) The student recognizes certain facts of chemistry.	Q. 15. What is combustion ? Name some substances that support combustion and some that do not support combustion.
(d) The student classifies materials.	
(d) The student classifies materials.	Q. 16. List three common metals, three non-metals, and three substances that are neither metal nor non-metal.

- (c) recognizes possible substitutes for given chemical materials.
- (d) classifies materials.
- (e) distinguishes between genuine materials and their imitations.
- (f) recognizes certain facts of Chemistry.
- (g) applies chemical principles in a new situation.

TOOLS

Recognition Form

- Q. 11.** By a tick mark, indicate the gas formed when coke burns in air :—
 (a) CO_2 (b) CO (c) Cl_2 (d) HCl
- Q. 12.** Indicate by a tick mark, what will happen if red litmus paper is treated with H_2SO_4 .
 (a) it will dissolve. (b) it will turn blue.
 (c) it will remain unaffected.
- Q. 13.** Place a tick mark in the space that precedes the correct completion of the following statement:—
 Manganese dioxide is an oxidizing agent because,
 —(a) it helps to give out oxygen from potassium chlorate.
 —(b) it is used in the Laclanche cell.
 —(c) it converts hydrogen into water in the dry cell.
 —(d) it is black in colour.
 —(e) it is formed when manganese is strongly heated.
- Q. 14.** Underline the incorrect elements in the following acids :—

Nitric acid	contains H. N. O. C.	Phosphoric acid	contains P. O. H. C.
Sulphuric acid	„ S. O. H. N.	Oxalic acid	„ C. O. H. N.
Hydrochloric acid	„ H. O. N. Cl.	Sulphurous acid	„ O. H. S. P.
Carbonic acid	„ O. C. H. S.		

 Hence the essential constituent of every acid is
 —O —S —N —H —C —P
- Q. 15.** Write the serial letter in the blank to show whether each of the following five substances is
 (a) combustible. (b) supporter of combustion. (c) non-supporter of combustion.
 —Oxygen, —Hydrogen, —Carbon dioxide —Chlorine, —Wood.
- Q. 16.** Place an 'M' in the space preceding the names of substances that are metals and an 'N' before those which are non-metals :—

—Sodium	—Wood	—Phosphorus
—Sulphur	—Copper	—Iron

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (a) The student predicts accurately what will happen in a given new situation. | Q. 17. Describe the effect of coal gas on a person sleeping in a tightly closed room ($8' \times 5' \times 10'$) if the gas goes on accumulating there for six hours ? |
| (b) The student determines the relative value of various materials for a given purpose. | Q. 18. What will you use to clean a greasy spot on your coat ? Why ? |
| do | Q. 19. When preparing carbon dioxide, what would you substitute for marble chips if they are not available ? |

T O O L S

Recognition Form

Q. 17 Tick off the correct answer :—

If one sleeps in a tightly closed room ($8' \times 5' \times 10'$), with coke burning inside, for six hours, one will

- (a) die. (c) have a headache.
(b) feel suffocated.

Q. 18 Underline the right answer :—

To remove a greasy spot on your coat you will use

- (a) petrol. (c) soap.
(b) benzene. (d) kerosene oil.

Q. 19. Which of the following would you use with HCl in the preparation of CO_2 when marble chips are not available ?

- (a) some carbonate. (c) lead.
(b) charcoal. (d) carbon.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(d) The student classifies materials, processes, etc.

Q. 20. Which of the following are acids and which alkalies ?

Soap solution, soda water, lemon juice, water tea, lassi, orange juice, milk, sea water.

(b) The student determines the relative value of various materials for a given purpose.

Q. 21. Which of the following materials are good for washing woollen clothes and why ? Write them in the order of preference :—

benzene, petrol, soap solution, lime powder, soap-nut powder.

-do-

Q. 22. Which of the following vessels will you reject for storing concentrated sulphuric acid and why ?

1. Copper vessel.
2. Iron vessel.
3. Stone vessel.
4. Glass vessel.
5. Earthen vessel.

(d) The student classifies materials, processes, etc.

Q. 23. Classify the following changes into physical and chemical ones, giving reason :—

- (a) formation of a cloud.
- (b) manufacture of paper.
- (c) boiling of an egg.
- (d) converting milk into cheese.

-do-

Q. 24. Three liquids have been provided, one belonging to the class of acids, another to the class of salts.

Explain how you would proceed to classify each.

T O O L S

Recognition Form

Q. 20. In the proper columns place a tick mark for each substance to show its effect on litmus, its taste, and its classification :—

Substance	Effect on Litmus		Tastes				Classification	
	red	blue	saltish	sweet	bitter	tasteless	acid	alkali

soap solution
orange juice
soda water
milk
lemon juice
lassi
sea water
tea
water

Q. 21. Rank the following cleaning fluids in the order of their effectiveness for washing woollen clothes (consider "1" most effective, "5" least) :—

Woollen clothes should be washed with

- | | |
|-----------------|-------------------|
| —petrol. | —lime powder. |
| —soap solution. | —soap-nut powder. |
| —benzene. | |

Q. 22. Indicate by a tick mark which of the following should not be used for storing concentrated H_2SO_4 ?

- copper vessel. —iron jar. —stone vessel. —glass vessel. —earthen vessel.

Q. 23. The following changes are either physical or chemical. Score out the wrong one :—

- | | | | |
|-----------------------------------|--------------------|---------------------------|--------------------|
| (a) manufacture of paper. | chemical/physical. | (d) formation of a cloud. | chemical/physical. |
| (b) boiling of an egg. | chemical/physical. | (e) carbonising sugar. | chemical/physical. |
| (c) conversion of milk into curd. | chemical/physical. | | |

Q. 24. Three liquids A, B, and C were tested for classification into acids, alkalies and salts.

- A turned blue litmus into red. It was acid/ Hence A must contain/must not contain free alkali/salt (Score out the wrong one). hydrogen—ions. (Score out the wrong one).
- B turned red litmus to blue. It was salt/ Hence B must contain/must not contain free alkali/acid (Score out the wrong one). hydrogen—ions. (Score out the wrong one).

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(d) The student classifies materials, processes, etc.

-do-

(b) The student determines the relative value of various materials for a given purpose.

(d) The student classifies materials, processes, etc.

Q. 25. Lemon juice and lime water have been given to you in two different bottles. How would you proceed to put the right label on each of the two bottles ?

Q. 26. Five materials have been found in a certain place. Explain how you would proceed to classify them into metals and non-metals.

Q. 27. A student wants to find out which of the four specimens are non-metallic materials. Make a list of apparatus which would enable him to do so.

Q. 28. Four cylinders containing oxygen, hydrogen, carbon dioxide and nitrogen have been given to you for identification purposes. A student starts as follows :—

He first introduces a burning match in each, then puts each into water to observe which is soluble.

Could you suggest a better way of approach ?

TOOLS

Recognition Form

- Q. 25.** In the spaces preceding the following items, place an "A" before those which turn blue litmus red, and place "B" before those which turn red litmus blue :—
- | | |
|---------------|-------------------------|
| —lemon juice. | —soda water. |
| —vinegar. | —orange juice. |
| —lime water. | —washing soda solution. |
- Q. 26.** You have to determine, whether the new solid substance given to you is metal or non-metal. To do so select the relevant procedures out of the following and put a tick mark against them :—
- | | |
|---|---|
| —find out its solubility in water. | —determine the melting point of the substance |
| —prepare its oxide and check whether it is acidic or basic. | —observe the action of HCl and NaOH on the substance. |
| —ionize the substance and find out the kind of charge of its ion. | |
- Q. 27.** Place a tick mark in the spaces that precede those pieces of apparatus that you would need, to reduce copper oxide :—
- | | |
|--------------------|----------------------|
| —glass pyrex tube. | —carbon block. |
| —blow pipe. | —bunsen burner. |
| —pipette. | —deflagrating spoon. |
- Q. 28.** You have four cylinders containing oxygen, hydrogen, carbon-dioxide and nitrogen.
Underline the correct response :—
- | | |
|---|---|
| (a) A contains carbon-dioxide since it helps burning/turns lime water milky. | (b) B contains oxygen since it burns/helps burning/extinguishes burning things. |
| (c) C is hydrogen since it turns blue litmus red/ helps burning/extinguishes a burning metal. | |

OBJECTIVE III : To develop in the student the ability to classify new materials and processes.

BEHAVIOURS : The student

- (a) classifies processes or materials on the basis of their common characteristics.
- (b) determines the common properties of a selected group of chemical materials.
- (c) indicates the basis on which he has made the classification.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|--|
| <p>(a) The student classifies processes or materials on the basis of their common characteristics.</p> <p>(f) The student uses observational methods to begin the process of classification.</p> | <p>Q. 29. Classify the following changes into physical and chemical ones giving reasons :</p> <ol style="list-style-type: none"> 1. Souring of milk. 2. Combustion of petrol in a motor engine. 3. Rusting of iron. 4. Making a syrup. 5. Evaporation of spirit. |
| <p>(a) The student classifies processes or materials on the basis of their common characteristics.</p> | <p>Q. 30 Distinguish between mixture and compound.</p> |
| <p>do</p> | <p>Q. 31. What are elements ? How do you distinguish between a mixture and a compound, and an element ?</p> |
| <p>(a) and (f) The student uses observational methods to begin the process of classification.</p> | <p>Q. 32. You are given a white powdered substance. How will you show that it is a salt ?</p> |

- (d) makes a plan for the procedure to be used in classifying and analysing materials.
- (d) criticises a plan of tests for classification.
- (f) uses observational methods to begin the process of classification.
- (g) recognizes certain facts of Chemistry.
- (h) draws conclusions from given data.

T O O L S

Recognition Form

Q. 29. Put a letter in each blank to show whether the action is

A=physical change

C=both physical and chemical

B=chemical change

D=neither :—

—souring of milk.

—making a syrup.

—combustion of petrol in a motor engine.

—growing of a plant.

—rusting of iron.

—making of paper from wood pulp.

—electrolysis of sodium chloride.

—evaporation of water.

—burning of sparkler.

Q. 30. Put the key letter in each blank to show whether the underlined substance is

A=a mixture, B=a compound :—

—gun powder is made of nitre, sulphur and charcoal.

—hydrogen and chlorine are exposed to light to form HCl.

—the resulting substance when iron and sulphur are heated together.

—when charcoal burns in air we get CO_2 .

Q. 31. Put the key letter in each blank to show whether it is

A=an element B=a mixture C=a compound :—

—ice cream.

—water.

—mercury.

—air.

—sodium carbonate.

Q. 32. You are given a white powdered substance. It is soluble in water. Will it be a salt if (Put a check mark before the correct statement).

—it turns lime water milky ?

—it is neutral in litmus ?

—it turns blue litmus red ?

—it is saltish in taste ?

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|---|
| (d) The student makes a plan for procedure to be used in classifying and analysing materials. | Q. 33. How will you proceed to determine the composition of water by weight ? |
| (f) The student uses observational methods to begin the process of classification. | Q. 34. How will you identify these given liquids ?
sodium carbonate solution, caustic soda solution, lime water, ammonium hydroxide. |
| (a) The student classifies processes or materials on the basis of their common characteristics. | Q. 35. Justify the following items giving your reasons for the answer :—
(a) freezing of ice cream is a physical change.
(b) lime water is a base.
(c) nitrogen is a gas.
(d) addition of manganese dioxide in the preparation of oxygen is superfluous. |
| (c) The student indicates the basis on which he has made the classification. | |
| (f) The student uses observational methods to begin the process of classification. | |

TOOLS

Recognition Form

Q. 33 Arrange systematically the steps of observation given below in the determination of the composition of water by weight, by placing 1, 2 or 3 in the blank spaces :—

1. for the first 2. for the second 3. for the third.

- | | |
|---|--|
| —weight of hydrogen used up. | —final weight of calcium chloride tube. |
| —initial weight of the calcium chloride tube. | —weight of oxygen consumed in the formation of water. |
| —final weight of the copper oxide tube. | —ratio of oxygen and hydrogen by weight in the composition of water. |
| —weight of water formed. | |
| —initial weight of copper oxide tube. | |

Q. 34. Place the letter of solution in the blank to show tests to be used to identify each liquid :—

Tests	Solution
—passing in exhaled air.	A. sodium carbonate.
—adding acid.	B. caustic soda.
—smelling test.	C. ammonia.
—tumeric test.	D. lime water.

Q. 35 Read the item in column I. Then in column II underline the response that is most closely associated with the item in column I. In column III place the key letter which indicates the correct reason for the choice that you made in column II.

I	II	III	I	II	III
a. freezing of ice cream	physical change chemical change	d. nitrogen is	non-poisonous poisonous
b. lime water	acid/alkali	e. addition of manganese dioxide in the preparation of oxygen	superfluous/ essential helpful
c. sodium salts make water	hard/soft			

Reasons for answers (with the key letters A to H).

- The air we breathe is largely made up of this element.
- It is useful in making aeroplanes.
- Its composition remains the same.
- It has a different taste,
- Soap lathers easily in such water.
- It leaves a residue when used in laundering.
- More oxygen is given.
- There are other reasons than the above.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (d) The student makes a plan for the procedure to be used in classifying and analysing materials.
- Q. 36.** Giving reasons, classify the following gases on the basis of the plans for collecting them in cylinders.
1. Oxygen.
 2. Carbon dioxide.
 3. Chlorine.
 4. Ammonia.
 5. Nitrogen.
 6. Hydrogen sulphide.
- (f) The student uses observational methods to begin the process of classification.
- and
- (h) The student draws conclusions from given data.
- Q. 37.** Prove experimentally that all carbonates contain carbon-dioxide.
- (h) The student draws conclusions from given data.
- Q. 38.** What are the properties and the essential constituents of alkalies ?

TOOLS

Recognition Form

Q. 36. Classify the following gases on the basis of the plans for collecting them in cylinders. Indicate the appropriate letter in the blank space provided for each gas.

- | | |
|--|--------------------|
| A. Downward displacement of water. | —Oxygen |
| B. " " " " air | —Carbon dioxide |
| C. Upward " " " | —Chlorine |
| | —Ammonia |
| | —Nitrogen |
| | —Hydrogen sulphide |

Q. 37. Generalize from the data given below :—

Caustic soda contains
sodium, hydrogen, oxygen.

Caustic potash contains
potassium, hydrogen and oxygen.

Therefore the essential constituents of every alkali are.

Ammonia liquor contains
nitrogen, hydrogen and oxygen.

Lime water contains
calcium, hydrogen and oxygen.

Q. 38. Tick off the name of the solution poured on a carbonate to prove that all carbonates contain carbon :—

- | | | |
|----------------------------|---------------------------|------------------------------|
| —silver nitrate solution. | —barium nitrate solution. | —hydrogen chloride solution. |
| —sodium chloride solution. | | —caustic soda solution. |

P H Y S I C S

OBJECTIVES with reference to which Test Materials on Physics have been prepared :

To develop in the student

- (1) **the ability to collect and interpret data for the solution of problems.** (Questions 1 to 3)
- (2) **skill in laboratory techniques** (Questions 4 and 5).
- (3) **the ability to see relationships among the observed facts** (Questions 6 to 13)
- (4) **the ability to apply knowledge of Physics to new situations** (Questions 14 to 18)
- (5) **the ability to apply principles of Physics to new situations** (Questions 19 to 22)

OBJECTIVE I : To develop in the student the ability to collect and interpret data for the solution of problems.

BEHAVIOURS : The student

- (a) **selects aspects of the situation which are relevant to the hypothesis.**
- (b) **makes appropriate observations in relation to a particular hypothesis.**
- (c) **selects the appropriate methods needed for recording necessary observation.**
- (d) **organizes data so as best to reveal the underlying relationships.**
- (e) **recognizes the scientific principles underlying a phenomenon.**
- (f) **selects the appropriate items for arriving at conclusions.**

BEHAVIOUR CHANGES EXPECTED

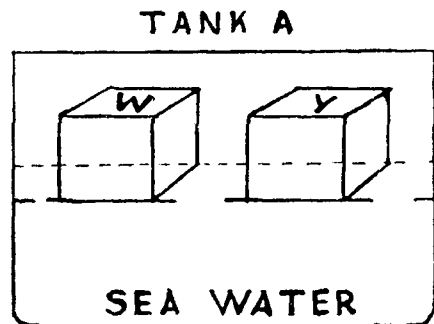
EVALUATION

Essay Form

(a) The student selects aspects of the situation which are relevant to the hypothesis.

Q. 1. If cylinders of the same dimensions, but different wood are floating in water, how will you compare their densities ?

Diagrams for



(f) The student selects the appropriate items for arriving at conclusions.

Q. 2. Tank A contains sea water and Tank B well water. Wood-pieces W and Y are floating in Tank A, while wood-pieces X and Y are floating in Tank B. Indicate which liquid is heavier. Explain why.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (e) The student recognizes the scientific principles underlying a phenomenon.
- Q. 3.** What changes will occur in the depth of immersion of a solid when floating in liquids of different densities ? Explain the reasons.

T O O L S

Recognition Form

Q. 3. Tick off the correct response :—

From the above illustration it could be said that

- (a) solids sink more in lighter liquids.
- (b) solids sink more in heavier liquids.
- (c) solids of greater volume sink proportionately more.
- (d) solids sink to the same depth in any liquid.

- (g) keeps equipment and chemicals in proper places after using them.
- (h) observes cleanliness, systematization, confidence and other personality traits.
- (i) produces or procures required materials without much delay.
- (j) labels the apparatus, especially the chemicals, correctly and stores the poisonous chemicals separately.

Experimental skills : The student

- (k) plans the experiments according to his hypothesis and prepares a diagram of each plan.
- (l) performs the experiments according to his plan.
- (m) tries to solve the doubts as soon as they arise through further tests or reference to books.
- (n) records all observations minutely whether relevant or irrelevant.

T O O L S

Recognition Form

Q. 4. Observe the following apparatus and fill in each blank with the letter indicating the function for which that apparatus is suitable :—

<i>Apparatus</i>	<i>Functions</i>
—(i) pipette	(a) direct delivery of the liquid to react with the contents of the flask.
—(ii) burette	(b) delivery of a fixed volume of the solution.
—(iii) separating funnel	(c) delivering a range of precise volumes of the solution.
—(iv) thistle funnel	(d) separating insoluble residue from the solvent.
—(v) filtering funnel	(e) separating two immiscible solutions.

Q. 5. Select the precautions that you would take while using the apparatus in the process of titration. Mark \checkmark for precautions you would take and X for those you would not take :—

- | | |
|--|---|
| —(a) the stop cock should not leak. | (f) the solution from the burette should be delivered fast in the beginning and slowly at the point of neutralization. |
| —(b) the burette should be 100 c.c. capacity. | (g) the pipette should be blown to remove the last drop while delivering the solution. |
| —(c) the lower end of the burette should touch the wall of the beaker. | (h) the approximate quantity of solution in the burette needed for neutralization should be calculated before titration begins. |
| —(d) the solution from the burette should be dropped fast throughout. | |
| —(e) the solution from the burette should be dropped slowly. | |

OBJECTIVE III To develop in the student the ability to see relationships among the observed facts.

BEHAVIOURS : The student

(a) recognizes that cause should precede or accompany effect.

(b) recognizes the factors that affect a phenomenon.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

	Essay Form
(a) The student recognizes that cause should precede or accompany effect.	Q. 6. What are the factors that affect the nature of the image of a body in a plane mirror ?
(d) The student finds the inter-relation between the different factors relating to a phenomenon.	Q. 7. Where is the image that is formed by a plane mirror, located ?
do	Q. 8. What relationship do you notice between the distance of the object and the distance of the image from the plane mirror ?
(e) The student formulates a hypothesis as a possible relationship among the phenomena.	Q. 9. Why does the right hand appear as the left hand in a plane mirror ?
(c) The student changes each factor and observes its effect on the phenomenon.	Q. 10. Describe what happens when a candle is burning if (a) the burning candle is placed in an ordinary glass jar. (b) another burning candle is placed in the same jar after the earlier burning candle is extinguished. (c) the burning candle, when about to be extinguished in the glass jar, is brought out into the open air.

- (c) changes each factor and observes its effect on the phenomenon.
- (d) finds the inter-relation between the different factors relating to a phenomenon.
- (e) formulates a hypothesis as a possible relationship among the phenomena.
- (f) verifies the hypothesis by suitable experiments and rejects it if found wrong on verification.
- (g) recognizes errors in the formulation of cause and effect relation.

T O O L S

Recognition Form

- Q. 6.** Tick off the correct answer :—
If two rays start from a point in front of a plane mirror and strike it at different angles, the corresponding reflected rays
- (a) meet at a point in front of the mirror.
 - (b) appear to meet at a point behind the mirror.
 - (c) are parallel.
 - (d) are coincident with the incident rays.
- Q. 7.** Tick off the correct answer :—
The image formed by reflection in a plane mirror is located
- (a) directly behind the mirror.
 - (b) in front of the mirror.
 - (c) on the surface of the mirror.
 - (d) on the object itself.
- Q. 8.** Place a check mark in the space that indicates the relationship between the distance of the object and that of its image from the surface of the plane mirror :—
- (a) the distance of the image is greater than that of the object from the mirror.
 - (b) the distance of the image is less than that of the object from the mirror.
 - (c) there is no relation between them.
 - (d) the two distances are equal.
- Q. 9.** Tick off the correct answer :—
The most probable cause of the right hand appearing like the left hand in the image is that
- (a) the light is regularly reflected.
 - (b) the mirror is well polished.
 - (c) the image is formed where two reflected rays meet.
 - (d) the image of every point appears at an equal distance directly behind the mirror as the object is in front.
- Q. 10.** Indicate by a tick mark in the blank what will happen under conditions (i) to (iv) :—
- | | |
|--|--|
| <p>(i) If a burning candle is placed in an ordinary glass jar</p> <ul style="list-style-type: none"> —(a) it is extinguished immediately. —(b) it steadily burns as before, till it is completely burnt out. —(c) it burns for some time and then is extinguished. —(d) it burns brighter than before. | <p>(ii) If another burning candle is placed in the same jar after the earlier burning candle is extinguished</p> <ul style="list-style-type: none"> —(a) it will burn well. —(b) it will be extinguished at once. —(c) it will burn brighter than before. —(d) it will burn for some time, and then be extinguished. |
|--|--|

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|--|
| <p>(c) The student changes each factor and observes its effect on the phenomenon.</p> <p>(d) The student finds the inter-relation between the different factors relating to a phenomenon.</p> | <p>Q. 11. Describe the phenomenon that you will observe as a result of convection currents energized by a lighted kerosene lamp in the case of the following experiments :—</p> <p>(a) a glass chimney, with an asbestos curtain hung in the middle, is placed on the burning lamp.</p> <p>(b) a smoke-producing substance is kept on either side of the asbestos curtain in the above experiment, (a).</p> |
| -do- | <p>Q. 12. What will happen if the lower door of a coal furnace is closed ?</p> |
| <p>(b) The student recognizes the factors that affect a phenomenon.</p> | <p>Q. 13. Describe the main requirements of combustion.</p> |

TOOLS

Recognition Form

- (iii) if a candle is suddenly brought out from the jar into the open air when the flame is about to be extinguished
- (a) it will be extinguished at once.
 - (b) it will burn with smaller flame than before.
 - (c) it will burn with the same brilliance as before.
 - (d) it will burn more brightly than before.
- (iv) If a chimney of glass is placed over a burning candle, so that air cannot enter from the bottom
- (a) the candle will go on burning.
 - (b) the candle will be immediately extinguished.
 - (c) the candle will burn for some time and then be extinguished.
 - (d) the candle will be brighter at first and then be extinguished suddenly.
- Q. 11.** Indicate by a tick mark in the blank, what will happen under conditions (i) to (iii) :—
- (i) If a glass chimney, within which an asbestos curtain has been hung in the middle, is placed on the burning candle
- (a) the candle will be extinguished.
 - (b) the candle will burn as usual.
 - (c) the candle will burn brighter than before.
 - (d) the flame of the candle will be smoky.
- (ii) If in the above experiment a substance producing smoke is kept on either side of the curtain of the chimney
- (a) smoke will enter the chimney from both its sides.
 - (b) smoke will enter the chimney from one side and will get out from the other side forming a convection current of air.
 - (c) smoke will accumulate in the chimney.
- (ii) If, after lighting a kerosene lamp, the holes which are near the flame are closed
- (a) the flame will be as bright as before.
 - (b) the flame will be brighter than before.
 - (c) the flame will be smoky.
- Q. 12.** Indicate by a tick mark how coal will burn if the lower door of the furnace is closed :—
- (a) coal will give strong heat.
 - (b) coal will burn as usual.
 - (c) coal will burn slowly and will extinguish slowly.
- Q. 13.** Tick off the hypothesis suggested by your own experience :—
- (a) all the constituents of air take part in the process of burning of a substance.
 - (b) a combustible substance burns on very well when there occurs a convection current of air.
 - (c) rapid or slow burning has no connection with the supply of fresh air but depends upon the nature of the burning substance i. e., whether it is solid or liquid.
 - (d) supply of fresh air convection current is needed more in the burning of solids than of liquids

OBJECTIVE IV : To develop in the student the ability to apply knowledge of Physics to new situations.

BEHAVIOURS : The student

(a) recognizes a scientific principle acting in a new situation.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|--|
| (a) The student recognizes a scientific principle acting in a new situation. | Q. 14. A drop of water and a drop of methylated spirit are placed on the back of your hand. Explain why the skin beneath the methylated spirit feels cooler. |
| (b) The student predicts what will happen in a new situation. | Q. 15. Geographically many places in India have different altitudes above sea level. What effect does this varying altitude have on the boiling point of liquids ? |
| (d) The student recognizes the limits within which a principle is operative. | Q. 16. You are given two plane mirrors AB and AC. If the final reflected ray is to be perpendicular to the original incident ray, state the binding relation between the angle formed between AB and AC, and the angle of original incidence of the ray. |
| (b) The student predicts what will happen in a new situation. | Q. 17. Describe the image (in relation to the object) that is formed when the object is placed <ul style="list-style-type: none"> (a) beyond the centre of curvature of a convex mirror. (b) between the pole and focus of a concave mirror. (c) between the focus and centre of curvature of a concave mirror. (d) between two plane mirrors that are set in parallel planes. (e) between two plane mirrors that are set perpendicular to each other. |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

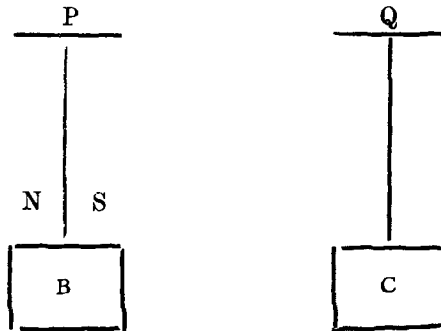
(b) The student predicts what will happen in a new situation.

Q. 20. A magnet and an iron piece having equal weights are suspended nearby one another. What motion would you expect by each ?

TOOLS

Recognition Form

- Q. 18.** A magnet B and an iron piece C of equal masses are suspended from two wooden slabs P and Q. Which of the following will you observe ?



- (a) the magnet will move towards the iron piece.
- (b) the magnet will move away from the iron piece.
- (c) the iron piece will move towards the magnet.
- (d) the iron piece will move away from the magnet.
- (e) both will move toward each other.

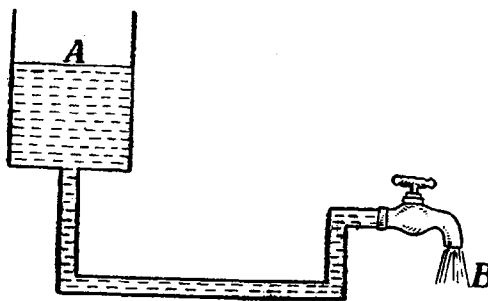
OBJECTIVE V : To develop in the student the ability to apply the principles of Physics to new situations.

BEHAVIOURS : The student

(a) explains apparent conditions of a problem through the use of the principles of Physics.

BEHAVIOUR CHANGES EXPECTED	EVALUATION
<p>(b) The student predicts what will happen in a given new situation through the use of principles of Physics.</p> <p>(d) The student recognizes the hints of a particular principle of Physics.</p>	<p style="text-align: center;">Essay Form</p> <p>Q. 19. (a) Explain what happens when a balloon filled with hydrogen is released.</p> <p>(b) What will happen if balloons filled with the following gases are released and why ?</p> <p>(i) air (ii) air blown through mouth</p> <p>(iii) oxygen (iv) nitrogen</p> <p>(v) helium (vi) water vapour</p> <p>(c) What are the conditions under which a body can float in air ?</p>

Diagram 1



- (a) The student explains apparent conditions of a problem through the use of the principles of Physics.
- do-
and
- (c) The student recognizes or discovers new illustration of the principles of Physics in his environment.
- (a) The student explains apparent conditions of a problem through the use of the principles of Physics.
- and
- (d) The student recognizes the hints of a particular principle of Physics.
- Q. 20.** Why does water flow as a result of the situation in Diagram 1 ?
- Q. 21.** Why does water flow in Figures X and Z and not in Y in Diagram 2 ?
- Q. 22.** Why does water flow from T_1 to t_1 ? (See Diagram 2. Figure X).

- (b) predicts what will happen in a given new situation through the use of the principles of Physics.
- (c) recognizes or discovers new illustration of the principles of Physics in his environment.
- (d) recognizes the hints of a particular principle of Physics.

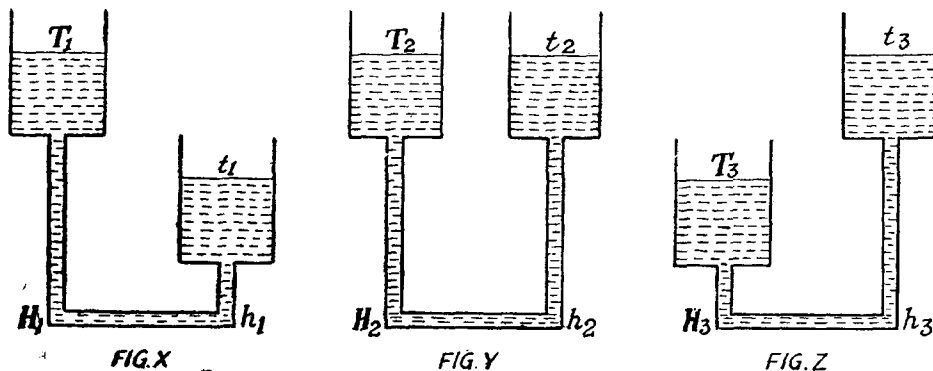
TOOLS

Recognition Form

Q. 19. Tick off the correct responses :—

- (a) A balloon on release shoots up if it is filled with
- (i) air.
 - (ii) carbon dioxide.
 - (iii) air blown through the mouth.
 - (iv) hydrogen.
- (b) A balloon filled with hydrogen shoots up at the start but its upward motion becomes slower and slower because.
- (i) the weight of the balloon is gradually decreasing.
 - (ii) the density of air is gradually decreasing.
 - (iii) the balloon is getting farther and farther away from the earth.
- (c) The balloon stops going upward when
- (i) its weight becomes equal to the weight of its own volume of air.
 - (ii) its weight becomes less than the weight of its own volume of air.
 - (iii) its weight becomes more than the weight of its own volume of air.
- (d) If hydrogen is partially released from the balloon, the balloon.
- (i) will shoot upward.
 - (ii) will remain standing.
 - (iii) will come downward.

Diagram 2



Q. 20. Tick off the correct answers :—

Water flows as in Diagram 1 because

- (a) the water level at A is higher than at B.
- (b) the cross section at A is greater than at B.
- (c) there is a large quantity of water in the reservoir.

Q. 21. Tick off the reason why water flows in Figures X and Z and not in Y in diagram 2 :—

- (a) because of difference in water level.
- (b) because of difference in size of reservoir.
- (c) because of difference in the width of H and h.
- (d) because of the difference in the height of H and h.

Q. 22. Tick off the correct answer :—

Water flows from T_1 to t_1 because

- (a) T_1 is higher.
- (b) T_1 is wider.
- (c) the pressure at t_1 is greater.
- (d) the cross section of H_1 and h_1 is different.

MATHEMATICS

OBJECTIVES with reference to which Test Materials on Mathematics have been prepared.

To develop in the student the following abilities and skills :—

1. to understand and use mathematical concepts. (Questions 1 to 8).
2. to draw valid inferences from mathematical assumptions. (Questions 9 and 10).
3. to relate mathematical terms and processes to everyday problems. (Questions 11 to 14).
4. to use mathematical instruments. (Questions 15 to 23).
5. to use tables and ready reckoners. (Questions 24 to 32).
6. to plan and analyse budgets. (Questions 33 to 36).
7. to do relational thinking. (Questions 37 to 47).
8. to interpret and use graphical representations. (Question 48 to 60).
9. to make and recognize symbolic representation of quantitative relationships observed in life situations. (Questions 61 to 63).
10. to relate mathematical relations and terms to everyday problems and situations involving quantitative relationships. (Questions 64 to 72).
11. to attack mathematical problems in different ways. (Questions 73 to 75).

OBJECTIVE I : To develop in the student the ability to understand and use mathematical concepts.

BEHAVIOURS : The student

- (a) recognizes and illustrates certain concepts.
- (b) recognizes and illustrates certain definitions.
- (c) gives symbolic representation of concepts when needed.
- (d) detects errors in definitions and statements.
- (e) differentiates between closely related concepts.
- (f) recognizes the concepts necessary to solve problems.
- (g) recognizes the common elements in a given set of situations.
- (h) expresses quantitative relationships in different ways.
- (i) explains the usefulness of certain mathematical concepts to society,

BEHAVIOUR CHANGES EXPECTED

EVALUATION

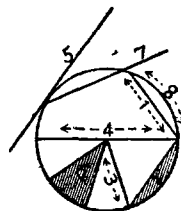
Essay Form

- | | |
|--|--|
| <p>(a) The student recognizes and illustrates certain concepts.</p> <p>(b) The student recognizes and illustrates certain definitions.</p> | <p>Q. 1. Draw the following in a circle. Name your drawings (use more than one circle if necessary).</p> <p>(a) centre (b) chord (c) diameter (d) tangent (e) radius (f) sector (g) major arc.</p> |
| <p>(c) The student gives symbolic representation of concepts when needed.</p> | <p>Q. 2. Give the perimeter of a triangle in terms of its sides.</p> |
| <p>(a) The student recognizes and illustrates certain concepts.</p> <p>(b) The student recognizes and illustrates certain definitions.</p> | <p>Q. 3. (a) Define and draw a pair of parallel straight lines.</p> <p>(b) What is an axis of symmetry ?</p> <p>(c) Define and draw a parallelogram.</p> <p>(d) Construct an equilateral triangle given one side.</p> <p>(e) Define and draw a square.</p> <p>(f) Define and draw a rectangle.</p> <p>(g) Define a parallelogram.</p> |
| <p>(a) The student recognizes and illustrates certain concepts.</p> | <p>Q. 4. (a) Give the formula for the volume of a cylinder of radius r and height h.</p> <p>(b) State the formula for the area of a circle of radius r.</p> |
| <p>(e) The student differentiates between closely related concepts.</p> | <p>Q. 5. Give one example each of an identity and an equation.</p> |
| <p>(a) (b) & (c)</p> | <p>Q. 6. Find the capacity of a cubical tank of length 16', breadth 12', height 6',</p> |

TOOLS

Recognition Form

- Q. 1. You are given a circle with certain parts numbered.
Write the appropriate number in the blanks provided :—
- | | | |
|---------|------------|----------|
| —sector | —diameter | —tangent |
| —chord | —minor arc | —radius |



- Q. 2. Given the 3 sides of a triangle a , b , c , and the perimeter p ; put a tick mark in the space provided before the expression that represents the perimeter.

- | | |
|------------------------|----------------|
| —(i) $\frac{a+b+c}{2}$ | —(iii) $a+b+c$ |
| —(ii) $\frac{abc}{3}$ | —(iv) abc |

- Q. 3. On the space provided against each statement write T or F according as it is true or false.

- | | |
|---|---|
| —(a) A diameter is an axis of symmetry. | |
| —(b) A parallelogram is a four-sided figure with its opposite sides equal. | —(f) A four-sided figure, with all four sides equal, is always a square. |
| —(c) The diagonals of a parallelogram are equal. | —(g) A rectangle is a parallelogram with one of its angles a right angle. |
| —(d) An equilateral triangle can be constructed if one side is given. | —(h) An equilateral triangle is one with two of its sides equal. |
| —(e) Parallel straight lines are those which do not meet, however far they are produced on either side. | |

- Q. 4. Choose the appropriate item from Column B and write it in the blank space provided in Column A :—

A

- (a) The circumference of a circle of radius r
 —(b) The volume of a sphere of radius r
 —(c) The area of a circle of radius r
 —(d) The volume of a cylinder of height h and radius r

B

- πr^2
 $\pi r^2 h$
 $2\pi r$
 $2\pi r h$
 $\frac{4}{3}\pi r^3$

- Q. 5. (a) In the blank spaces provided before the following expressions put I, if it is an identity and E if it is an equation :

- | | |
|--------------------|----------------------|
| —(i) $x^2=4$ | —(iii) $3x=9$ |
| —(ii) $(x+1)=2x-1$ | —(iv) $2(2x+4)=4x+8$ |

- (b) Tick off the correct answer :—

- | | |
|---|--|
| —(i) The root of the equation $2x+3=x$. 4 is
(a) 2; (b) $\frac{1}{2}$; (c) -7. | —(ii) The expansion of $(x+1) \times (x-1)$ is
(a) x^2-1 ; (b) x^2+1 ; (c) x^2-2x-1 . |
|---|--|

- Q. 6. Given the length l , breadth b and height h of a cubical tank, Put a tick mark against the expression that represents the capacity of the tank in cubic feet :—

- | | | |
|---------------------------|-------------|---------------|
| (a) $l \times b \times h$ | (b) $l+b+h$ | (c) $2(l+b)h$ |
|---------------------------|-------------|---------------|

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (h) The student differentiates between closely related concepts.
- Q. 7.** Give the percentage equivalents of the following :—
(a) $\frac{1}{4}$ (b) $\frac{1}{3}$ (c) $\frac{1}{1}$ (d) $\frac{3}{2}$ (e) $\frac{2}{1}$
- (a) The student recognizes and illustrates certain concepts.
- (b) The student recognizes and illustrates certain definitions.
- Q. 8.** Give examples from your newspaper reading where you have come across these terms :—
(a) average (b) percentage (c) directed numbers.

TOOLS

Recognition Form

Q. 7. Choose the appropriate expression from column II and place the appropriate letter before it in the blank space provided in Column I —

I	II
—(i) $\frac{1}{4}$	A 100%
—(ii) $\frac{1}{3}$	B 25
—(iii) 1	C 20
—(iv) $\frac{3}{2}$	D $33\frac{1}{3}$
—(v) 2	E 150
	F $66\frac{2}{3}$
	G 15
	H 200

Q. 8. (a) A person walks at the rate of 3 miles per hour for 2 hours and 2 miles per hour for 3 hours. Put a tick mark in the space provided before the correct answer out of the following :—

The person's average speed is

(i) 1 mile per hour.

—(iii) 2 miles per hour.

(ii) 3 miles per hour.

—(iv) 2.4 miles per hour.

(b) Put a \checkmark mark in the space provided before the correct answer or answers :—

If height above sea level is indicated by a positive sign, 480 feet below sea level can be written as

—(i) 480 :

—(ii) +480 :

—(iii) —480 ;

—(iv) 480°

OBJECTIVE II : To develop in the student the ability to draw valid inferences from mathematical assumptions.

BEHAVIOURS : The student

- (a) distinguishes assumptions from inferences.
- (b) recognizes the implications of an assumption.
- (c) selects relevant assumptions for the purpose of drawing certain inferences.
- (d) recognizes the relationship between various assumptions.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

Data for

Here are several

- (a) ABC is a right-angled triangle. (b) Two sides of the triangle ABC are equal. (c) $\angle B$ is equal to 90°
- (b) The student recognizes the implications of an assumption. **Q. 9.** What inference can you draw from the above assumptions regarding the magnitude of $\angle C$?
- (c) The student selects relevant assumptions for the purpose of drawing certain inferences. (a) What is the relationship between the lengths of sides AB and AC ?
- (d) The student recognizes the relationship between various assumptions. (b) Which sides of $\triangle ABC$ are equal ?
- (g) The student recognizes the scope and the limitations of assumptions, that is, *how much they tell*. (c) From which of the above assumptions can you draw the inference that
- (i) AC is the hypotenuse
- (ii) $\angle A + \angle C = 90^\circ$

Data for

<i>Parties</i>	<i>Votes polled</i>	<i>1951 %</i>	<i>Seats contested</i>
Congress	3336054	35.5	201
Communists	909022	10.0	53
P.S.P.	1088173	12.0	22
Dravida Munnetra Kazhagam		—	117
Congress Reforms Committee		—	55

(b), (c), (d), (e), (f), (g) and (i)

Q. 10. Which party improved their position most from 1951 to 1957 ?

- (e) distinguishes between valid and invalid inferences.
- (f) locates mistakes in the case of invalid inferences.
- (g) recognizes the scope and the limitations of assumptions, that is, *how much they tell*.
- (h) recognizes that the validity of inferences also depends upon the truth of the assumptions.
- (i) uses logic.
- (j) recognizes the limitations of logical inferences in practical situations.

TOOLS

Recognition Form

Question 9

mathematical assumptions :

(d) $AC=9$ cm. (e) The side opposite the right angle in a right-angled triangle is called the hypotenuse.

Q. 9. The following are some of the inferences drawn from the above assumptions. In the blanks provided write the letter or letters referring to the assumption or assumptions relevant to each inference :—

- (i) $BC=AB$.
- (ii) $AB < AC$.
- (iii) $\angle B + \angle C = 90^\circ$.
- (iv) AC is the hypotenuse.
- (v) $\angle A$ is not a right angle.

Question 10

1957

Seats won	Votes polled	%
151	4913375	42
4	865941	7
2	269437	2.3
15	1584706	13.8
16	903175	7.7

Q. 10. The following statements were made by readers who studied the above table. Some of these statements are true, others are false and still others are uncertain, that is, they may be true or false but nothing definite can be said on the basis of this table. Read each statement carefully and write on the provided blank T for true, F for false and U for uncertain :

- (a) Congress has improved its position in the Madras State since 1951.
- (b) The main opposition to Congress in Madras State is from the Communist party.
- (c) Dravida Munnetra Kazhagam is a parochial party.
- (d) Congress will improve its position even more in 1962.
- (e) P.S.P. polled a larger number of votes in this State in 1951 than it did in 1957.
- (f) Dravida Munnetra Kazhagam and Congress Reforms Committee will unite themselves into a strong opposition group in Madras State.

OBJECTIVE III :—To develop in the student the ability to relate mathematical terms and processes to every-day problems.

BEHAVIOURS :—The student

- (a) distinguishes relevant from irrelevant material or data in problems.
- (b) distinguishes what is given and what is required.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|--|
| <p>(a) The student distinguishes relevant from irrelevant material or data in problems.</p> | <p>Q. 11. Indicate the factors in the following problems which must be taken into account in their solution :</p> <p>(a) What sum should be invested in 4% stock at Rs. 90 to buy Rs. 5000 stock ?</p> <p>(b) A man wanted to sell his cow at a gain of 10%. He sold his cow for Rs. 128 and found that his net gain was 12 %. For what sum should he sell the cow to gain 50% ?</p> |
| <p>(a) The student distinguishes relevant from irrelevant material or data in problems.</p> | <p>Q. 12. A certain room is 20' long, 15' broad and 11' high. Find the cost of painting its walls @ annas 4 per square yard. Area of floor 300 sq. ft., cost of paint Rs. 5 per gallon. What items are necessary to find the cost of painting the walls ?</p> <p style="text-align: right;">Data for</p> <p>A family goes to Chandigarh by car. The fare of the car is T. The cost of purchases on the way is M,</p> |
| <p>(a) The student distinguishes relevant from irrelevant material or data in problems.</p> | <p>Q. 13. According to the information furnished above, what will the family have to pay ?</p> |
| <p>(f) The student recognizes laws governing a series.</p> | <p>Q. 14. Put the following numbers in a descending order of value :—</p> <p>(a) 2, 4, 16, 64, 32, 8.</p> <p>(b) $a, a-1, a+1, a-2, a+2$.</p> |

OBJECTIVE IV :—To develop in the student skill in the use of mathematical instruments.

BEHAVIOURS :—The student

- (a) selects the appropriate units for measurement.
- (b) selects the appropriate instruments for measurement.
- (c) adjusts the instruments to suit the conditions.
- (d) recognizes the degree of accuracy needed in a measurement.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|---|
| (a) The student selects the appropriate units for measurement. | Q. 15. There is a rectangular plot of land whose area is between 3 and 4 acres. What units of measure will you use to find out its area ? |
| (b) The student selects the appropriate instruments for measurement. | Q. 16. A mud wall is under construction. How can you know whether or not it is perpendicular to the ground ? |
| do | Q. 17. You are asked to survey and draw a plan of a big plot of land near your school. What apparatus will you select for this purpose and why ? What procedure will you follow in the survey ? |
| do | Q. 18. A vessel contains 7 seers of milk. What measure will you use to divide it equally among four persons ? |
| (b) The student selects the appropriate instruments for measurement. | Q. 19. Draw an angle of 90° using only a pair of compasses and a ruler and showing your construction. |
| (a) The student selects the appropriate units for measurement. | Q. 20 In what units would you express the weight of a <ul style="list-style-type: none"> (a) railway wagon. (b) letter. (c) suitcase. |

- (e) reads the scales accurately.
- (f) detects and corrects errors, if any, in the instruments.
- (g) takes due precautions to minimise personal errors.
- (h) registers the measurements in correct units.
- (i) recognizes the reasonable limit within which the estimate should lie.

TOOLS

Recognition Form

- Q. 15.** There is a rectangular plot of land whose area is between 3 and 4 acres.
Underline the correct answer for the following :—
- (a) to find its area most accurately, its dimensions should be measured in
 (i) centimeters. (iii) yards.
 (ii) cubits. (iv) inches.
- To measure its dimensions most accurately, the instrument to be used is
 (i) foot-rule. (ii) chain. (iii) tape (cloth). (iv) rope.
- Q. 16.** Underline the correct answer to the following :—
 A mud wall is under construction. To know whether it is perpendicular to the ground or not, the one instrument to be used is a
 (a) rod. (b) protractor. (c) plumb line. (d) set square.
- Q. 17.** You are asked to survey and draw a plan of a big plot of land near your school.
 Tick mark the name of the instrument you will select for this purpose :—
 (a) stool and plane-table. (d) rods and flagstaffs.
 (b) sextant and protractor. (e) set squares.
 (c) tape and Gunter's chain. (f) plumb line.
- Q. 18.** A vessel contains 7 seers of milk. Underline the name of the one measure you will use to divide the milk equally among four persons :—
 (a) a container of half a seer. (c) different weights of seers and chataks.
 (b) a weight of one seer. (d) a container of a pao ($\frac{1}{4}$ seer).
- Q. 19.** Underline the correct answer to the following :—
 To draw an angle of 90° using only a pair of compasses and a ruler, you will first construct an angle of
 (a) 45° (b) 180° (c) 60° (d) 120°
- Q. 20.** In the blank space before each number write the letter indicating the most appropriate unit of measurement :—
 (a) unit of weight :—tola : A, ton : B, pound : C, milligram : D.
 (i) The weight of a railway wagon. (iii) The weight of a suit-case.
 (ii) The weight of a letter.
 (b) unit of time :—second : A, minutes : B, hour : C, day : D, year : E
 (i) The time a train halts at a station. (iii) The time of flying from Baroda to Bombay.
 (ii) The time between World War I and II. (iv) The time for a 100 yard's dash.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (a) The student selects the appropriate units for measurement.
- Q. 21.** In what units would you express
- (a) the height of a child ?
 - (b) the time taken by a man to walk a mile ?
 - (c) the side of a square field ?
- (b) The student selects the appropriate instrument for measurement.
- Q. 22.** Name the instrument that you would require for measuring each one of the following :—
- (a) the expansion of the chest.
 - (b) the magnitude of a given angle.
 - (c) the angle of elevation of the top of tower.
 - (d) the length of a sari.
- (h) The student registers the measurements in the correct unit.
- Q. 23.** What will be the circumference of a circle of diameter 20 yards ?

T O O L S

Recognition Form

Q. 21. Underline the best answer :—

- | | |
|--|--|
| (a) the probable weight of a boy of 14 year is three (poruds, quarters, cwts.) | (d) The probable time taken by a man to walk a mile is 20 (seconds, minutes, hours). |
| (b) The probable height of a boy of 14 years is 150 (m.m., c.m., ins.). | (e) The probable cost of a lead pencil is 4 (rupees, annas, pies). |
| (c) The probable distance which a boy of 16 years can walk in an hour is 3 (feet, yards, miles). | (f) The side of a square field can be 15 (acres, yards, sq. yds.). |
| | (g) The weight of a road-roller is likely to be 4 (tons, pounds, tolas) |

Q. 22. Fill in each blank with the letter indicating the instrument for the measurement :—

- | | |
|--|---------------------|
| —(i) The angle of elevation of the top of a tower. | A : the tape |
| —(ii) The expansion of the chest. | B : the foot-ruler. |
| —(iii) The diameter of a leadshot. | C : the yard-stick. |
| —(iv) The of a sari. | D : the protractor. |
| —(v) The magnitude of a given angle. | E : the vernier. |
| | F : the clinometer. |

Q. 23. Below are given a few questions. Estimate the result in each case and write it in the blank space. (Estimations should be the closest approximating to the correct result).

- | | |
|--|--|
| (i) The circumference of a circle of diameter 30 yds. is (a) 80 yds, (b) 90 yds. (c) 100 yds. (d) 120 yds. (Ans.....) | (iv) The sq. root of 12.5 is (a) $3\frac{1}{2}$ (b) 3 (c) 4 (d) 6.25. (Ans.....) |
| (ii) If 2 sides of a triangle are 2" each the third side can be (a) 7" (b) 5" (c) 4" (d) 3" (Ans.) | (v) The product of 2.76 and 6.83 is (a) 18850. (b) 1885.08 (c) 188.508 (d) 18.8508. (Ans.....) |
| (iii) The interst on Rs. 400 for one year at $4\frac{3}{8}\%$ is (a) Rs. 20 (b) Rs. 19 (c) Rs. 17 (d) Rs. 15. (Ans.....) | |

OBJECTIVE V : To develop in the student skill in the use of tables and ready reckoners.

BEHAVIOURS : The student

- (a) recognizes what table is required for getting a needed item of information.
- (b) locates the correct reading in a given table.
- (c) interprets the principles embodied in certain tables.

BEHAVIOUR CHANGES EXPECTED

E V A L U A T I O N

Essay Form

- | | |
|--|---|
| <p>(a) The student recognizes items of information included in a particular table.</p> <p style="text-align: center;">do</p> <p style="text-align: center;">-do-</p> <p>(b) The student locates the correct reading in a given table.</p> <p style="text-align: center;">&</p> <p>(c) The student interprets the principles embodied in certain tables.</p> <p>(g) The student recognizes what items of information are included in a particular table.</p> | <p>Q. 24. What kinds of information would you look for in a railway time-table ?</p> <p>Q. 25. Find out the time of departure of the express and mail trains from Madras to Delhi;</p> <p>Q. 26. What is the distance between Trivandrum and Delhi by rail ?</p> <p>Q. 27. How will you calculate the fares from one place another ?</p> <p>Q. 28. In going from one place to another does it make any difference if you take different tickets for parts of the journey ?</p> <p>Q. 29. What kinds of information can be had from each of the given tables ?</p> |
|--|---|

- (d) recognizes the kinds of tables in which interpolation or extrapolation or both or neither is possible and the limitations of such interpolations and extrapolations.
- (e) interpolates from a given table.
- (f) extrapolates from a given table.
- (g) recognizes items of information included in a particular table.

TOOLS

Recognition Form

- Q. 24.** More than one of the following statements are correct. Underline the correct ones :—
From the railway time-table we can find—
- | | |
|---|---|
| (a) the height of a station above sea level. | (e) the number of the platform where a train arrives. |
| (b) the distance between two stations along the railway line. | (f) The distance of a village from the nearest railway station. |
| (c) the time of departure of trains. | |
| (d) the distance of the post office from a station. | |
- Q. 25.** Consult the given time-table and underline the correct answer :—
The time of departure of the Janata Express from Madras to Delhi is
- | | | | | |
|----------|----------|-----------|-----------|----------------|
| (a) 8.50 | (b) 9.50 | (c) 13.00 | (d) 14.35 | (Ans.) |
|----------|----------|-----------|-----------|----------------|
- Q. 26.** Consult the given time-table and underline the correct answer :—
The shortest distance between Delhi and Trivandrum by rail is
- | | | | | |
|----------------|----------------|----------------|----------------|----------------|
| (a) 1306 miles | (b) 1543 miles | (c) 1842 miles | (d) 1873 miles | (e) 1947 miles |
|----------------|----------------|----------------|----------------|----------------|
- Q. 27.** Consult the given time-table and underline the correct answer :—
For 237 miles the third class fare is
- | | | | | |
|----------------|----------------|----------------|----------------|---------------|
| (a) Rs. 11/8/- | (b) Rs. 13/6/- | (c) Rs. 7/10/- | (d) Rs. 7/12/- | (e) Re. 6/6/- |
|----------------|----------------|----------------|----------------|---------------|
- Q. 28.** Consult the given time-table and underline the correct answer :—
The 1st class fare from Madras to Jalarpet is Rs. 12/8/- The distance between Jalarpet and Mangalore is double of that from Madras to Jalarpet ; therefore the railway fare from Jalarpet to Mangalore is
- | | |
|--------------------------------|--------------------------------|
| (a) Rs. 21. | (c) slightly less than Rs. 21. |
| (b) slightly more than Rs. 21. | (d) cannot be stated. |
- Q. 29.** Given the tables A, B, C, D and E, underline the correct answer :—
Amount of interest on a certain sum at 3% is easily read from Table (i) A, (ii) B, (iii) C, (iv) D, (v) E. ().
(Tables were provided to the children)

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(e) The student interpolates from a given table.

(f) The student extrapolates from a given table.

Q. 30. In which of the given Tables is (a) interpolation possible ? (b) extrapolation possible ? (c) neither possible ?

(b) The student locates the correct reading in a given table.

Q. 31. The square root table (with squares, reciprocals, cubes, etc. from 1 to 1000) is given. Find out the square root of (a) 43 (b) 127 (c) 520.

-do-

Q. 32. Calculate the square root of 4.3 from the table.

T O O L S

Recognition Form

Q. 30. Underline the correct answer from among the following :—

(a) Readings for intermediate values can be calculated from Table (i) A, (ii) B, (iii) C, (iv) D, (v) E ().

(b) For values beyond the maximum given in the table, readings may be taken from Table (i) A and (ii) B, (iii) C, (iv) D and (v) E.

Q. 31. Underline the correct answer from the following alternatives :—

The square root of 43 is (a) 6557 (b) 6.557 (c) .6481 (d) 6.481 (e) 18.49

Q. 32. Underline the correct answer from the following alternatives :—

The square root of 4.3 is (a) .6557 (b) .6481 (c) 2.074 (d) 2.049 (e) 18.49.

OBJECTIVE VI : To develop in the student skill in planning and analysing budgets.

BEHAVIOUR : The student

(a) recognizes the various items involved in a budget.

(b) recognized the relative importance of the various items included in a budget.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|---|
| (a) The student recognizes the various items involved in a budget. | Q. 33. Name the important items which govern a family budget, and explain their relative importance. |
| (b) The student recognizes the importance given to the items involved in a budget. | |
| (c) The student interprets the principles involved in framing a balanced budget. | |
| (a), (b) and (c). | |
| -do- | Q. 34. What is a balanced budget ? |
| -do- | Q. 35. What is the principle involved in a balanced budget ? |
| -do- | Q. 36. What do you mean by a deficit budget and when in your opinion is it justifiable ? |

(c) interprets the principles involved in framing a budget.

(d) prepares a budget when income and the items of expenditure to be included are specified.

TOOLS

Recognition Form

Q. 33. Choose from the following list the four more important items of the family budget and indicate your order of importance by writing 1 against the item which is most important, 2 against the next and so on.

—(i) accommodation.

—(v) medicine.

—(ii) education of children.

—(vi) clothing.

—(iii) food.

—(vii) insurance.

—(iv) recreation.

—(viii) miscellaneous.

For questions 34 to 36, the student is given four budgets.

Q. 34. In which budget is the amount spent on recreation appropriate to the income ?

Q. 35. In which budget is the amount devoted to education reasonable ?

Q. 36. In which budget is the amount spent on insurance appropriate to the income ?

Show in which budget the amount spent on miscellaneous is adequate. Which one is a deficit budget ?

OBJECTIVE VII : To develop in the student the ability to do relational thinking.

BEHAVIOUR : The student

- (a) recognizes the adequacy or inadequacy of given data in relation to the problem.
 (b) recognizes the relationship between different variables and makes generalizations.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (b) The student recognizes the relationship between different variables.
 and
- (c) The student recognizes the processes of finding out what is required in terms of what is given.
 -do-
- Q. 37.** The railway fare for 1st class from Calcutta to Baroda *via* Allahabad is Rs. 109. The fare *via* Bombay for the same is Rs. 117. The distance *via* Bombay is 1460 miles. What is the distance of Baroda from Calcutta *via* Allahabad ?
- Q. 38.** The assessment of municipal tax is made on the rental value of a house. The rates are as follows :
- | | | |
|--------------------------------|----------|-----|
| For annual valuation up to Rs. | 1000 | 15% |
| " " " | Rs. 2000 | 20% |
| " " " | Rs. 3000 | 25% |
| " " " | Rs. 4000 | 30% |
| " " " | Rs. 5000 | 35% |
- The annual rental valuation of your house has been assessed at Rs. 3430. State which of the above 5 rates will be applicable in your case and how you would find out the tax you will have to pay.

Data for

The detailed results of the Lok Sabha

District
 Maldaj
 Darjeeling

Name

Mrs. Renuka Roy
 Theodore Manner

- (b) The student recognizes the relationship between different variables.
 and
- (c) The student recognizes the processes of finding what is required in terms of what is given.
- Q. 39.** How would you say which one of the two candidates has gained relatively more support of the people than the other ?

Data For

Groups traffic receipt ..
 Working expenses ..
 Net miscellaneous expenditure ..

The railway budget
 335.00
 224.00
 13.00

- (c) recognizes the processes of finding out what is required in terms of what is given.
- (d) selects relatively the most economical process and order of solution.
- (e) recognizes relationships falling under a particular generalization.
- (f) recognizes possible exceptions to a generalization.
- (g) uses symbols or expressions to represent common relationships.

TOOLS

Recognition Form

- Q. 37.** The 1st class railway fare from Calcutta to Baroda *via* Allahabad is Rs. 109. The fare *via* Bombay is Rs. 117. The distance *via* Bombay is 1460 miles.
- (a) Of the following underline the relation ship which will be necessary for finding the distance between Calcutta and Baroda *via* Allahabad :—
- (i) $109 : 1460 :: 117 : ?$ (ii) $109 : 117 :: 1460 : ?$ (iii) $117 : 1460 :: 109 : ?$
- (b) Underline the route which is shorter :—
(*via* Allahabad ; *via* Bombay)
- Q. 38.** The assessment of municipal tax is made on the rental value of a house.
The rates are as follows :
- | | | | |
|---|-----|---|-----|
| (1) For annual valuation up to Rs. 1000 | 15% | (4) For annual valuation up to Rs. 4000 | 30% |
| (2) " " " Rs. 2000 | 20% | (5) " " " Rs. 5000 | 35% |
| (3) " " " Rs. 3000 | 25% | | |
- The annual rental valuation of your house is assessed at Rs 3430
- (i) Underline the rate applicable in your case 1 2 3 4 5
- (ii) Underline the operation that will give the amount you will have to pay :—
- | | |
|------------------------------|---|
| (a) 25% of 3000 + 30% of 430 | (d) $3430 \div 30$ |
| (b) 25% of 3000 + 15% of 430 | (e) 15% of 1000 + 20% of 2000 + 25% of 430. |
| (c) 30% of 3130 | |

Question 39

Elections for West Bengal are given below :

<i>Total votes polled</i>	<i>Votes gained</i>
209,000	97,000
140,000	60,000

- Q. 39.** Tick off the pair or pairs of ratios of the following that will help you to decide which one of the two candidates has gained relatively more support of the people than the other :—

(i) $\frac{97}{60} \quad \frac{209}{140}$ (ii) $\frac{97}{209} \quad \frac{60}{140}$ (iii) $\frac{209}{60} \quad \frac{140}{97}$

Question 40

is given as follows :

Appropriation to depreciation fund	..	5.00
Total expenditure	..	282.00
Net railway revenue	..	39.00
Net surplus	..	24.00

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- (b) The student recognizes the relationship between different variables.
- (e) The student recognizes the processes of finding out what is required in terms of what is given.
- (d) The student selects relatively the most economical process and order of solution.
- Q. 40.** How would you find :
- (a) the percentage of total expenses that have been appropriated to depreciation fund ?
- (b) the percentage of railway traffic receipt to the net surplus ?
- (c) the percentage of net miscellaneous expenditure to the total expenditure ?
- Q. 41.** In constructing an isosceles triangle having a base of 6'' and a height of 4'', what relationships do you have to keep in mind ?

Data for

The area of a triangle is a sq. inches,

- (b) The student recognises relationship between different variables and makes generalizations.
- Q. 42.** Express the base of the triangle in terms of area and height.

Data for

The following table shows the relationship between the number of family members

Number of members

2
3
5
6

- (b) The student recognizes the relationship between different variable and makes generalizations.
- and
- (g) The student uses symbols or expressions to represent common relationship.
- Q.43.** Express symbolically the relationship represented in the above data.

T O O L S

Recognition Form

Q. 40. Underline the expression :—

(a) that will give the percentage of total expenses to the depreciation fund.

(i) $\frac{45}{224} \times 100$

(ii) $\frac{45}{345} \times 100$

(iii) $\frac{45}{282} \times 100.$

(b) that will give the percentage of railway traffic receipt to the net surplus.

(i) $\frac{24}{63} \times 100$

(ii) $\frac{24}{282} \times 100$

(iii) $\frac{24}{345} \times 100.$

(c) that will give the percentage of net miscellaneous expenditure to the total expenditure.

(i) $\frac{13}{224} \times 100$

(ii) $\frac{13}{345} \times 100$

(iii) $\frac{13}{282} \times 106.$

Q. 41. Underline the relationships (from the ones mentioned below) that you will make use of in constructing an isosceles triangle having a base of 6'' and a height of 4'' :—

(a) two sides are equal

(c) in an isosceles triangle the perpendicular

(b) two angles are equal

from the vertex on the base bisects the base.

Question 42

its base is b'' and its height is h'' .

Q. 42. The relationships between the area and the base and height of a triangle are given below. Mark \checkmark before the right ones :—

—(a) $a = \frac{bh}{2}$

—(d) $2h = \frac{2a}{b}$

—(b) $h = \frac{2a}{b}$

—(e) $b = 2ah$

—(c) $2a = bh$

—(f) $b = \frac{2a}{h}$

Question 43

and the monthly expenses for the family.

Total monthly expenses

Rs. 200

Rs. 240

Rs. 320

Rs. 360

Q. 43. Tick off from the following the expressions representing correctly the relationship in the data given above, where c is the total monthly expenses and n is the number of members in the family :—

(a) $c = 200 + 40n$

(b) $c = 40 + 120n$

(c) $c = 120 + 20n$

(d) $c = 120 + 40n$

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (e) The student recognizes relationships falling under a particular generalization. **Q. 44** No essay form possible.

-do-

- Q. 45.** From what generalization about the three angles of a triangle have the inferences of Question 44 (Recognition Form) been drawn ?

Data for

Generalization : Multiplication of two numbers gives a product which is greater

- (e) The student recognizes relationships falling under a particular generalization. **Q. 46.** Examine the above statement to find whether there is any exception to this rule. Give an example of an exception if there is any.
- (c) The student recognizes the possible exceptions to a generalization.

Data for

Generalization : The longer the distance,

(Distance in miles)

1-25
26-75
76-150
151-300
301-500
501-800
801-1200
1201 and beyond.

- (b) The student recognizes the adequacy or inadequacy of given data relation to the problem. **Q. 47.** Examine the accuracy of the generalization in terms of the above freight structure. Mention in what way the generalization is inaccurate.
- (c) The student recognizes relationships falling under a particular generalization.

TOOLS

Recognition Form

- Q. 44.** Put a tick mark against each statement in (a) to (e) if it is true and a cross if it is not.
- (a) In a triangle ABC, if angle A = 80° , and angle B = 60° , then angle C is
 (i) 40° (ii) 45° (iii) 35° .
- (b) If a triangle is equiangular, each angle is
 (i) 45° (ii) 50° (iii) 60° .
- (c) In a right-angled triangle the sum of the two acute angles is
 (i) 89° (ii) 90° (iii) 91° .
- (d) If one side of a triangle is produced, the exterior angle so formed is
 (i) equal to the sum of the two interior opposite angles. (iii) nothing can be said about the interior opposite angles.
 (ii) less than the sum of the two interior opposite angles.
- (e) In the isosceles triangle ABC, if each of the equal angles is 70° then the third angle is
 (i) 30° (ii) 50° (iii) 40° .
- Q. 45.** The inferences of Question 44 have been drawn from the generalization :
- (a) there are different kinds of triangles and hence angles in a triangle are differently related.
 (b) the relation between the angles of a triangle can be found only when the kind of triangle is given.
 (c) the three angles of a triangle are together equal to two right angles.
 (d) the sum of the two adjacent angles is two right angles.

Question 46

than each of the two numbers multiplied.

Q. 46. From among the following underline the exceptions to the above rule if any :—

- (i) 3×7
 (ii) $3\frac{1}{2} \times 7$ (iv) $3 \times \frac{1}{2}$
 (iii) $4\frac{1}{2} \times 7\frac{1}{2}$ (v) $\frac{1}{2} \times \frac{1}{2}$

Question 47

the more the freight, but the lesser the rate.

Freight

3.60 pies per md. per mile

1.40 " " "

1.20 " " "

1.05 " " "

0.85 " " "

0.75 " " "

0.50 " " "

0.50 " " "

Q. 47. Underline the correct answer in the following :

The generalization made in respect of the above freight structure is true

- (a) always (b) within certain limits (c) never

OBJECTIVE VIII :—To develop in the student the ability to interpret and use graphical representations.

BEHAVIOURS :—The student

- (a) recognizes what is represented in a graph and what relationships are shown.
- (b) identifies the scales used in the graph.
- (c) can read the graph and can make simple extrapolation and interpolation.
- (d) recognizes the general trend of relationship shown in the graph.
- (e) draws inferences about any deviation from the general trend.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

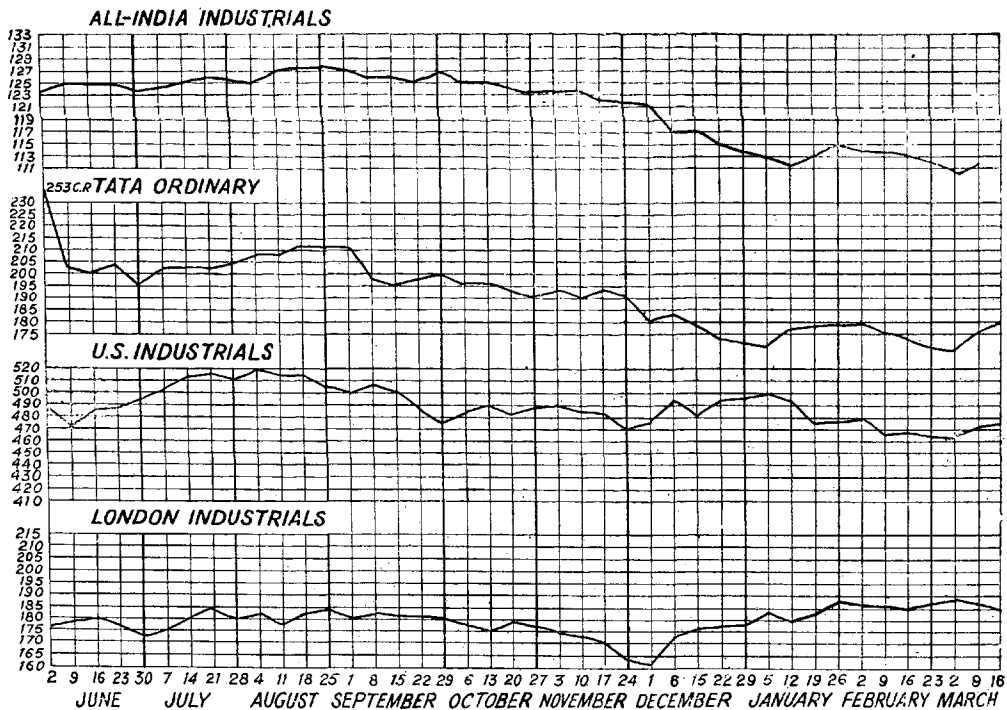
Essay Form

- | | |
|---|--|
| <ul style="list-style-type: none"> (a) The student recognizes what is represented in a graph and what relationships are shown. (c) The student answers questions having to do with the relationship shown in the graph and makes simple extrapolation and interpolation. (b) The student identifies the scales used in the graph | <p>Q. 48.</p> <ul style="list-style-type: none"> (a) What is represented along the vertical axis? (b) Have uniform scales been used for the different industrial ? (c) What scale has been used for time ? |
|---|--|

- (f) selects the appropriate scale to highlight the important relationship.
- (g) given a particular set of data, chooses the kind of graph suitable for its representation and constructs it.
- (h) recognizes whether any essential principles of an accurate representation have been violated.
- (i) recognizes the situation in which a graphical approach of representation serves a useful purpose.
- (j) recognizes the limitations of data while drawing conclusions.
- (k) draws inferences from given data.

TOOLS

Recognition Form



- Q. 48.** You are given the graphs shown above. For each of the following statements given mark A if it is true, B if it is probably true, C if it is uncertain, D if it is probably false, E if it is false :—(A.B.C. etc. may be indicated on the space provided against the various statements).
- (a) Along the vertical axis are shown the market rates for shares of the value of 100 each.
 - (b) While the scale for time is uniformly the same for all the four industries, it is not so for share prices.
 - (c) Time has been represented month-wise along the horizontal.
 - (d) Time has been represented month-wise along the horizontal,

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (b) The student identifies the scales used in the graph. | (d) What scale has been used to show share prices of the U.S.A. Industrials ? |
| (a) The student recognizes what is represented in a graph and what relationships are shown. | (e) What was the rate for Tata Ordinary shares on Nov. 24 ? |
| & | |
| (c) The student recognizes relationship shown in the graph and makes simple extrapolation and interpolation | |
| -do- | (f) Read the rate for the same on Sept. 5. |
| -do- | (g) Which industrial concern has the highest share rate on October 27 ? Read this value. |
| -do- | (h) Which industrial shows the most stable pattern of prices during the period shown ? |
| (a) The student recognizes what is represented in a graph and what relationships are shown. | (i) What kind of price trend does the graph for Tata Ordinary show ? |
| & | |
| (d) The student recognizes the general trend of relationships shown in the graph. | |
| (a) The student recognizes what is represented in a graph and what relationships are shown. | (j) During the months of June and July, how is June 30 a significant date for Tata Ordinary ? |
| & | |
| (e) The student draws inferences about any deviation from the general trend. | |
| -do- | (k) From this graph can we make a decision as to which of the four industrials offers the best investment ? Give reasons in support of your answer. |

TOOLS

Recognition Form

- | | |
|---|---|
| —(e) One division on the vertical axis stands for 10 in the case of U.S.A Industrials. | —(l) The share prices for Tata Ordinary show a sharp downward trend. |
| —(f) The share prices of Tata Ordinary on Nov. 24 is Rs. 200. | —(m) June 30 for Tata Ordinary is hardly significant of a special trend. |
| —(g) One Sept. 5 the rate for Tata Ordinary was 205, 3. | —(n) The London Industrials are likely to maintain an upward trend during the next four months after March. |
| —(h) The highest rate on Oct. 27 is that of U.S.A. Industrials. | |
| —(i) The share price for London Industrial on March 30 will be 195. | —(o) During the period September to November, all the four industrials show a similar trend. |
| —(j) Of all the four industrials, the U.S.A. Industrials shows the most stable pattern of prices. | —(p) All India Industrials can never reach the level of U.S. Industrials in share prices. |
| —(k) All-India Industrials and the Tata Ordinary show the same trend of prices. | —(q) The fact that the variable shown along the vertical axis has not been defined may lead to misinterpretation. |

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

Data for

The following graph shows the readings for petrol in a car at different hours of its journey from Baroda lunch. It left Baroda at 9 A.M. and reached Bombay at 6-30 p.m.

Read the graph carefully and answer Questions 49 to 60 (the car consumes a gallon of petrol for every

(k) The student draws inferences from given data.

-do-

-do-

Q. 49. What is the amount of petrol consumed during the journey?

Q. 50. What is the approximate distance between Baroda and Bombay?

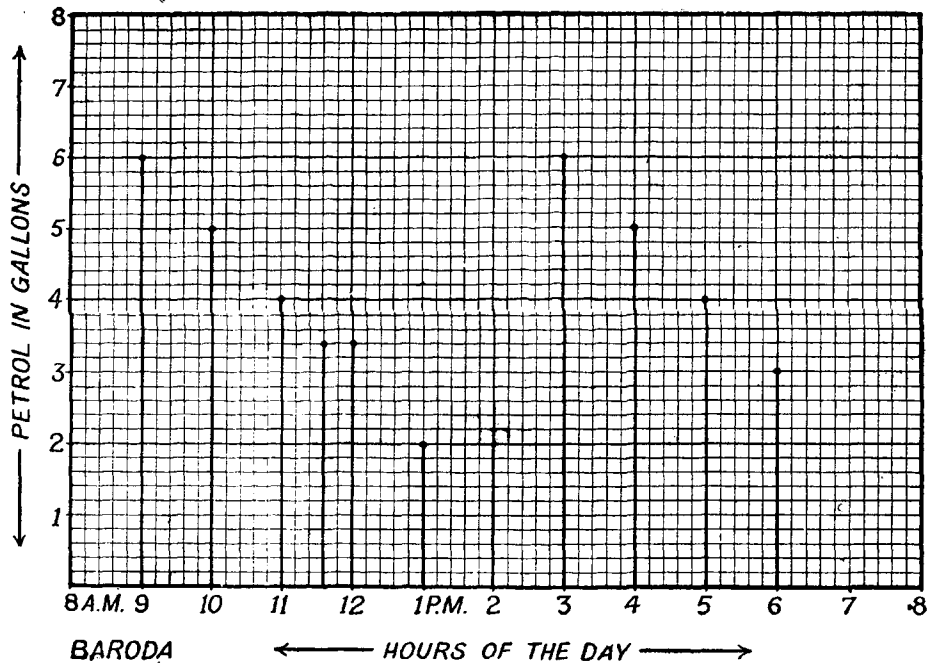
Q. 51. Between what hours was the tyre possibly replaced?

TOOLS

Recognition Form

Questions 49 to 60

to Bombay. On the way the car had to stop to get one of the tyres replaced, to take petrol and to get 30 miles).



- Q. 49. Tick off the correct answer :—
The amount of petrol consumed during the journey was
(a) 8 gallons (b) 10 gallons (c) 12 gallons (d) $7\frac{1}{2}$ gallons.
- Q. 50. Tick off the correct answer :—
The approximate distance between Baroda and Bombay is
(a) 360 miles (b) 300 miles (c) 225 miles (d) cannot be calculated.
- Q. 51. Tick off the correct answer :—
The tyre was replaced possibly between
(a) 8 a.m. and 9 a.m. (b) 11 a.m. and noon (c) 3 p.m. and 4 p.m. (d) it cannot be calculated.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (k) The student draws inferences from given data. | Q. 52. What was the approximate reading for petrol at 2.48 P.M. |
| -do- | Q. 53. Between what hours did the party stop for lunch ? |
| (c) The student can read the graph and make simple extrapolation and interpolation. | Q. 54. What was the approximate amount of petrol taken in on the way ? |

Data for

The following graph shows

- (a) student recognizes what is represented in a graph and what relationships are shown, **Q. 55.** What is the graph intended to represent ?

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|---|---|
| (b) The student identifies the scales used in the graph. | Q. 56. What does the picture of one man in the graph indicate ? |
| (c) The student can read the graph and make simple extrapolation and interpolation. | Q. 57. Of the various items of expenditure shown in the graph, what is the second heaviest ? |
| (f) The student selects the appropriate scale to high-light the important relationship. | Q. 58. If the pictures from the graph are removed, what advantage will be lost ? |
| and | |
| (h) The student recognizes whether any essential principles of an accurate representation have been violated. | |
| (j) The student recognizes limitations of data while drawing conclusions. | Q. 59. The total cost for the period 1951-1955 was Rs. 10 crores. What per cent of the total cost was spent on labour ? |
| (g) The student, given a particular set of data, chooses the kind of graph suitable for its representation and constructs it. | Q. 60. How has the circle been divided to represent expenditure on various items ? |

T O O L S**Recognition Form**

Q. 56. Underline the correct statement among the following :—

The picture of one man in the graph indicates one p.c. of the total

- (a) labour employed (c) expenditure on labour
(b) cost (d) area.

Q. 57. Underline the correct statement out of the following :—

Of the various items of expenditure shown in the graph, the second heaviest is that on

- (a) cotton. (c) labour.
(b) stores and spares. (d) municipal taxes.

Q. 58. If the pictures from the graph are removed, the advantage lost will be availability of information on

- (a) total cost (d) nothing will be lost.
(b) percentage expenditure on each item (e) the pictorial representation of costs per cent.
(c) the various items

Q. 59. The total cost for 1951-1955 was Rs. 10 crores. Underline the correct statement among the following :—

The cost on labour during the year 1951

- (a) was Rs. 1 lakh. (c) was Rs. 1 crore.
(b) was Rs. 5 lakhs. (d) it cannot be compiled.

Q. 60. Tick off the correct answer :—

To represent expenditure on various items, the circle has been divided according to

- (a) the total expenditure during the period (c) the space required for drawing different items
(b) the p.c. expenditure on different items (d) none of the above items.

OBJECTIVE IX :—To develop in the student the ability to make and recognize symbolic representation of quantitative relationship observed in life situations.

BEHAVIOURS :—The student

(a) recognizes functional relationship in given data.

BEHAVIOUR CHANGES EXPECTED

E V A L U A T I O N

Essay Form

Data for

Money order commission is charged at the following rates ; for a sum exceeding Rs. 25, 6 annas for each the charge for it will be 2 annas ; if the remainder does not exceed Rs. 10, the charge for it will be 3

(a) The student recognizes functional relationship in a given data. **Q. 61.** Calculate the money order commission for Rs. 32 and for Rs. 70.

(c) The student draws appropriate information from data represented in graphic forms. **Q. 62.** Read from the graph the temperature of air at 4 P.M. At what hour is the temperature highest ?

(a) The student recognizes functional relationship in some given data. **Q. 63.** Each edge of a square is a sq. inches and its perimeter is p . Express a in terms of p .

- (b) represents given data graphically.
- (c) draws appropriate information from data represented in graphic form.

TOOLS

Recognition Form

Question 61

complete sum of Rs. 25; 6 annas for the remainder, provided that when the remainder does not exceed Rs. 5, annas and if the remainder does not exceed Rs. 15, the charge for it will be 4 annas.

Q. 61. Put a tick mark against the correct answers to the following :—

- | | | | |
|--|-------------|--------------|-------------|
| (a) The money order commission charge for Rs. 32 is | | | |
| (i) 12 as. | (ii) 6 as. | (iii) 9 as. | (iv) 10 as. |
| (b) The money order commission charge for Rs. 55 is | | | |
| (i) 10 as. | (ii) 12 as. | (iii) 8 as. | (iv) 14 as. |
| (c) The money order commission charge for Rs. 70 is. | | | |
| (i) 18 as. | (ii) 12 as. | (iii) 20 as. | (iv) 10 as. |

Q. 62. The following graph (*graph to be given*) represents the temperature of air taken on a certain day at a certain hour. Before each of the following statements put a \checkmark if you think it is correct and put a \times if you think it is incorrect :—

- | | |
|---|--|
| —(a) The temperature rose most rapidly between 11 and 12 noon. | —(d) The fall in temperature in the afternoon is not gradual. |
| —(b) The temperature in the afternoon is gradually declining. | —(e) The rise in temperature in the forenoon is gradual. |
| —(c) The rise in temperature in the forenoon is uneven. | —(f) At 5 p.m. the temperature is 70° F. |
| —(h) At 11.4 a.m. the temperature is 75° . | —(g) At 4 p.m. the temperature is 75° F. |
| —(i) At 11 a.m. the temperature is 69° . | —(m) The temperature at 4 p.m. is greater than the temperature at 12 noon. |
| —(j) The highest temperature is between 2 p.m. and 2.40 p.m. | —(n) The temperature at 4 p.m. is less than the temperature at noon. |
| —(k) The probable temperature at 6.30 p.m. is (i) 0° F. (ii) 60° F. | —(o) The temperature at 4 p.m. is equal to the temperature at 12 noon. |
| —(l) The highest temperature is at 2.3 pm. | |

Q. 63. Each edge of a square is a'' and its perimeter is p'' .

Put a \checkmark against the correct statements out of the following relationships between a and p :—

- | | |
|----------------------------|---------------------------------|
| —(a) $4a=p$ | —(d) a is four times p |
| —(b) $\frac{a}{4}=p$ | |
| —(c) p is four times a | —(e) $19a''$ is equal to ap'' |

OBJECTIVE X : To develop the ability to use mathematical relations and terms to solve everyday quantitative problems.

BEHAVIOURS : The student

- (a) recognizes problems in everyday life involving quantities.
- (b) uses mathematical relations in estimating costs, distances and other quantities.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

BEHAVIOUR CHANGES EXPECTED	Essay Form
(b) The student uses mathematical relations in estimating costs, distances and other quantities.	Q. 64. Find the cost of white-washing a wall 24' long and 10' high @ $\frac{1}{2}$ anna per sq. ft.
(f) Given a problem involving quantities, the student finds the highest and lowest limits of the solution.	Q. 65. Estimate the volume of a cylindrical jar of radius 3" and height 8".
(g) The student recognizes the various formulae involving quantitative relationships.	Q. 66. What is the formula for calculating compound interest ?

Data for

R	1	2	3
S	2	5	8

- (d) The student organizes information relating to a problem so as to show the quantitative relations involved, **Q. 67.** Express the mathematical relationship between R and S from values given in this table,

- (c) expresses quantitative relation in precise language.
- (d) organizes information relating to a problem so as to show the quantitative relations involved.
- (e) recognizes appropriate limitation in data.
- (f) given a problem involving quantities, finds the highest and lowest limits of solution.
- (g) recognizes the various formulae involving quantitative relationships.
- (h) understands the trends represented by given data.

TOOLS

Recognition Form

- Q. 64.** A wall is 24 feet long and 10 feet high. Estimate the cost of white-washing the wall @ $\frac{1}{2}$ anna per sq. ft. From the following, underline the quantity nearest to the correct result :—
 (a) Rs. 8 (b) Rs. 15 (c) Rs. 30.
- Q. 65.** Underline the nearest limits (both high and low) for the volume of a cylindrical jar of radius 3 inches and height 8 inches :
 (a) 200, 300. (b) 216, 250. (c) 230, 280. (d) 200, 220.
- Q. 66.** Match the formulae under **B** with the appropriate quantities under **A** :—
- | A | B |
|-----------------------------------|---|
| (a) Volume of a cylinder | (a) $\pi r^2 h$ |
| (b) Compound interest | (b) $\pi r l$ |
| (c) Area of a trapezium | (c) $\frac{pnr}{100}$ |
| (d) The lateral surface of a cone | (d) $p(1+r/100)^n$ |
| (e) Area of a circle | (e) $2h(l+b)$ |
| (f) Area of a triangle | (f) $(a+b)h_2$ |
| (g) Area of the 4 walls of a room | (g) $\sqrt{s(s-a)(s-b)(s-c)}$ where a, b, c are sides of a triangle and $s = \frac{a+b+c}{2}$ |
| | (h) $2abh$ |
| | (i) πr^2 |

Question 67

4	5	6
11	14	17

Q. 67.

Underline the correct equation from among the following, that gives the relationship between R and S mentioned in the above table.

- (a) $S=2R$ (b) $S=R^2+1$ (c) $S=R^2-1$ (d) $S=3R-1$ (e) $S=2R+5$.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(b) The student uses mathematical relations in estimating costs, distances and other quantities.

and

(g) The student recognizes the various formulae involving quantitative relationships.

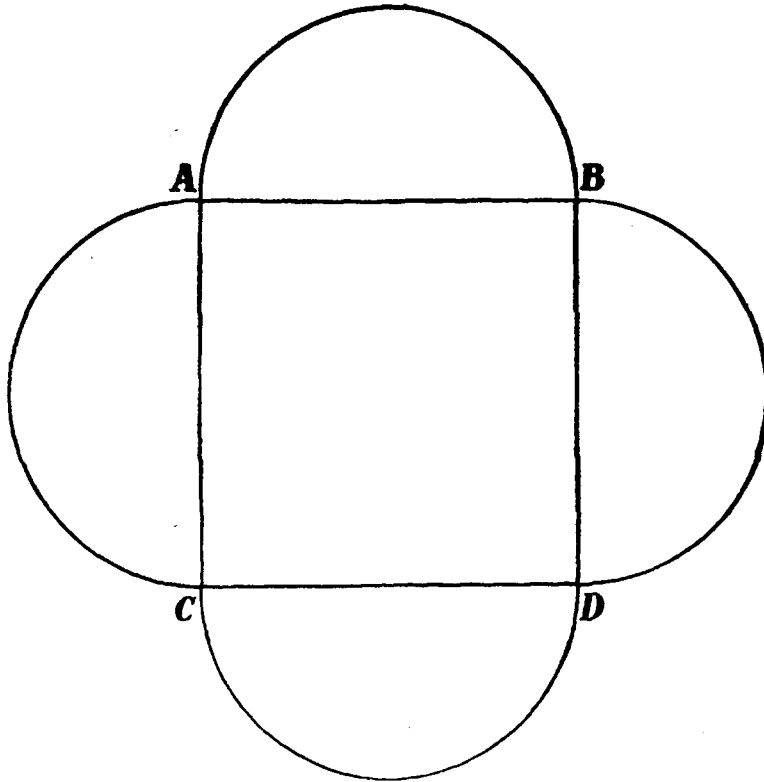
do

Q. 68. Four semi-circles are drawn on the four sides of a square as shown in the figure. How can you express the area of the whole figure ?

Q. 69. What is the formula for calculating simple interest on a certain sum of money at a given rate for a given period ?

TOOLS

Recognition Form



Q. 68. In the given figure ABCD is a square. $AB=2''$. Semicircles are constructed on each side of the square. The area of the whole figure in square inches is (Underline the right answer).

(a) $2+4\pi$

(d) $4+4\pi$

(b) 8π

(e) $4+2\pi$

(c) 4π

Q. 69. The simple interest on a sum of rupees 400 at 5% for 3 years is Rs. 60. The correct formula from among the following to be used to calculate the simple interest, where P represents the principal, n the number of years and r the rate per cent is (Underline the right answer)

(a) $\frac{Pnr}{100}$

(c) $\frac{100P}{nr}$

(b) $\frac{nr}{P \times 100}$

(d) $\frac{100Pr}{n}$

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|---|---|
| (g) The student recognizes the various formulae involving quantitative relationships. | Q. 70. Give a general formula for finding out profit per cent where S.P. is the selling price and C.P. is the cost price. |
| (h) The student understands the trends represented by given data. | Q. 71. Study the data given under Q. 71 on the opposite page and write the probable number of visitors in 1960. |
| -do- | Q. 72. From the data given on the opposite page under Q. 72, what can be said about the probable income in the year 1956 ? |

TOOLS

Recognition Form

- Q. 70.** A merchant buys 50 bags of rice @ Rs. 48 per bag and spends Rs. 2 per bag for transport expenses. He sells them at Rs. 55 per bag and gets a profit. Underline the formula from among the following that can give the profits per cent, where S.P.=selling price and C.P.=cost price

$$(a) \frac{S.P. - (C.P. + \text{Expenses})}{C.P.} \times 100$$

$$(c) \frac{(S. + P. \text{Expenses}) - C.P.}{C.P.} \times 100$$

$$(b) \frac{S.P. - (C.P. + \text{Expenses})}{S.P.} \times 100$$

$$(d) \frac{(S.P. - C.P.) \times 100 - \text{Expenses}}{C.P.}$$

- Q. 71.** The following table gives the number of visitors in thousands attending an industrial exhibition for 10 years from 1946—1955.

1946	18	1951	55
1947	19	1952	60
1948	21	1953	67
1949	26	1954	63
1950	30	1955	74

From the data above, the number of visitors in the year 1960 will probably be (a) less (b) more (c) the same as that of 1955 (d) impossible to say. Tick off the right answer.

- Q. 72.** The following table gives the income of a country in crores of rupees for 6 years.

Year	1949	1950	1951	1952	1953	1954
Income	95	94.5	94	95.2	98.4	96

Tick off the right answer.

The income in the year 1956 will probably be (a) less (b) more (c) the same as that of 1954 (d) impossible to say.

OBJECTIVE XI : To develop in the student the ability to attack mathematical problems in different ways.

BEHAVIOURS : The student

(a) tackles his problems by different methods.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (c) The student translates problems and situations into mathematical terms. **Q. 73.** Your house is under construction. There has to be a sloping roof on the verandah outside the room. If the height of the room is 16 feet and that of the verandah 12 feet and the width of the verandah 3 feet, what would be the least length of the wooden plank for the roof of the verandah ?
- (c) The student translates problems and situations into mathematical terms. **Q. 74.** The playground of your school measures 100 yds. by 50 yds. There is a path 6 ft. wide around it. The school committee decides to have the path gravelled. The rate quoted by the contractor is Rs. $\frac{1}{8}$ per sq. yd. How can you express in mathematical form, the cost of gravelling it ?
- (a) The student tackles his problems by different methods. **Q. 75.** If a straight line be drawn through the mid-point of one side of a triangle and parallel to the base, it will bisect the third side. What different methods can you suggest for proving the above ?

- (b) in the discussion of the solution, suggests alternative procedures.
 (c) translates problems and situations into mathematical terms.
 (d) critically judges the assumptions.

TOOLS

Recognition Form

Q. 73. Your house is under construction. There has to be a sloping roof on the verandah outside the room. You have to buy wooden planks for the roof of the verandah. The height of the ceiling of the room is 16 ft. and that of the lowest point of the sloping roof of the verandah is 12 ft. and the width of the verandah 3 ft. Underline the mathematical relationships from among the following that will help you in finding the least length of the wooden plank, where x denotes the length of the plank, a the width of the verandah, b the height of the room and c the height of the verandah :—

(i) $x^2 = (b-c)^2 + a^2$

(iv) $x^2 = b^2 + c^2 - a^2$

(ii) $x^2 = (b-a)^2 + c^2$

(v) None of these.

(iii) $x^2 = b^2 - c^2 + a^2$

Q. 74. The playground of your school measures 100 yds. by 50 yds. There is a path 2 yds. wide around it. The school committee decides to have the path gravelled and wants to know the estimated cost. (a) If the rate quoted by the contractor is Rs. 1/8 per sq. yd., underline the mathematical relationships from among the following that will help you in the solution of the above problem :—

(i) $2w(b+l+2w)$

(ii) $w(bl+2w)$

(iii) $w(2b+lw)$

where l = the length, b = the breadth and w = the width of the playground.

(b) In connection with the above problem, underline the correct cost in rupees :—

(i) 924

(ii) 920

(iii) 634.

Q. 75. If through the mid-point of one side of a triangle a straight line be drawn parallel to the base, it will bisect the other side.

In solving the above problem a student suggested that through E mid-point of the side AC of a triangle ABC, he would draw a st. line EF parallel to AB to meet BC at F and complete the parallelogram ADFB and then prove $BF=FC$ by proving triangles ADE and EFC congruent. Another student suggested that he would draw a line parallel to AB through C. Put Yes or No, as you agree or do not, against the following statements :—

(a) Only the first student is correct.

(d) The first student's method is better than that of the second.

(b) Only the second student is correct.

(c) Both the students are correct.

(e) The second student's method is better than that of the first.

ENGLISH

OBJECTIVES with reference to which Test Materials on English have been prepared.

To develop in the student :—

1. the ability to understand written and spoken English, to read with comprehension and express ideas correctly in speech and in writing. (Questions 1 to 19)
2. speed in silent reading with comprehension, in organisation of ideas and expression in his own words. (Questions 20 to 27)
3. skill in locating information in reference books. (Questions 28 to 34)
4. speed in understanding English speech. (Questions 35 to 36)
5. ability to write private, business and official letters. (Questions 37 to 43)
6. precision and fluency in the use of words as well as a rich vocabulary. (Questions 44 to 60)
7. capacity to appreciate good literature especially poetry. (Questions 61 to 78)
8. capacity for independent study of literature. (Questions 79 to 84)

OBJECTIVE I: To develop in the student the ability to understand written and spoken English, to read with comprehension and express ideas correctly in speech and writing.

BEHAVIOURS: The student

- (a) identifies words and phrases.
- (b) recognizes correct spellings.
- (c) reads with correct pronunciation, intonation, accent etc.
- (d) recognizes correct structures.
- (e) uses words in correct order.
- (f) answers questions.
- (g) chooses appropriate words and expressions.
- (h) uses words and phrases correctly.
- (i) gathers the central ideas of a passage.
- (j) learns meanings of new words.
- (k) makes special study of beautiful turns of expression.
- (l) correctly uses sentence structures.
- (m) compares and contrasts structures in English with those in the mother tongue.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (c) The student reads with correct pronunciation, intonation, accent etc. **Q. 1.** No essay form possible.
- (a) The student identifies words and phrases.
- (e) The student uses words in correct order.
- (g) The student chooses appropriate words and expressions. **Q. 2.** Fill in the blanks in the following sentences using only one word in each blank.
- (i) Every student must do ——— best.
- (ii) Ted is ——— industrious man.
- (iii) I borrowed a pen ——— my brother.
- (b) The student recognizes correct spellings. **Q. 3.** No essay form possible.
- (g) The student chooses appropriate words and expressions. **Q. 4.** -do-
- (d) The student recognizes correct structures. **Q. 5.** -do-
- (e) The student uses words in correct order. **Q. 6.** (a) Translate the following sentences into English :—
- (i) मेरा सर चकरा रहा है ।
- (ii) उसी समय उसने वहां जाने का इरादा कर लिया ।

TOOLS

Recognition Form

Q. 1. Procedure for an Oral Test.

The student is asked to speak on some topics, *e.g.*, (i) to describe a picture. (ii) to introduce a visitor to his school giving a brief description of the person. (iii) to describe the Republic Day celebrations in his school.

The observer (teacher) will observe the student and mark him separately in the following :—

- (a) Pronunciation : The observer will see that the student learns to pronounce words correctly. He will specially observe the distinction between open vowels and closed vowels, *v* and *w*, *a* and *o*, *o* and *i*, etc.
- (b) Emphasis : The observer will see that the student lays emphasis upon words according to the context.
- (c) Word Order : Word order in English has a special significance. The common pattern is Subject-Verb-Object. The observer will see that the student follows the correct word order.

Q. 2. Underline the right word given within brackets in each sentence :—

1. Every student must do (his, your, their) best.
2. Ted is (an, a) industrious man.
3. I borrowed a pen (of, off) my brother.

Q. 3. Underline the correctly spelt word in the following :—

(Separately, seprately, separately, separatly).

Q. 4. Fill in the blank with the most appropriate word from the brackets :—

He—the document (uttered, read, recited).

Q. 5. Tick off the sentence which expresses the idea most effectively :

- (1) As the chief was away from home we were welcomed by his deputy, a handsome young man, with an infectious grin.
- (2) The chief's deputy was a handsome young man with an infectious grin, who welcomed us because the chief was away from home.
- (3) The chief's deputy welcomed us, a handsome young man with an infectious grin, because he was away from home.
- (4) The chief was away from home and his deputy welcomed us and he was a handsome young man with an infectious grin.

Q. 6. Fill in each blank with the serial number of the sentence which correctly expresses the idea given in Hindi :—

—मेरा सर चकरा रहा है ।

—उसी समय उसने वहाँ जाने के लिये इरादा कर लिया ।

- (i) My head is going in circles.
- (ii) I am feeling giddy.
- (iii) There and then he made up his mind to go there.
- (iv) At that time he decided to go there.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(d) The student recognizes correct structures.

(b) What changes would take place in the following speech when reported ?—

“I have read this story but cannot believe that he will get a passing grade on it for it is not well written and has not a clear-cut plot. The characters are not at all interesting. They are not even human.”

Passage for

Read the following passage carefully

It is interesting to *imagine* how the early men were afraid of everything and how they thought in the jungle, in the mountains, in the rivers and in the clouds. Their idea of god was not of a good, kind were trying to bribe him with something or other, but chiefly food. Sometimes if a *disaster* befell them, angry with them. To please them they were ready to sacrifice men, women and even to kill their own

(f) The student answers questions.

Q. 7. By whom, according to early men, was every misfortune caused ?

do

Q. 8. Where did the imaginary gods live ?

do

Q. 9. What did the early men do when disaster befell them ?

(h) The student uses words and phrases correctly.

Q. 10. Explain the expressions given in the above passage in italics.

(i) The student gathers the central idea of a passage.

Q. 11. In the light of your answers to Questions 7 to 9, give in your own words the central idea of the above passage.

do

Q. 12. Suggest a suitable heading for the above passage.

(c) The student reads with correct pronunciation, intonation, accent etc.

Q. 13. (a) Oral Form :—

Read the above passage aloud.

(The examiner will observe the accent, pronunciation of words and the emphasis that the student lays on the various places during his reading, and note the errors he makes at different places).

TOOLS

Recognition Form

(b) Write in the blanks, the contractions (i.e., shortened forms) of the seven groups of words in italics in the passage on the right. For instance for *do not* you would write *don't*. You need not copy the sentences but only write the seven contractions :—

<i>I have</i> read this story	—
but <i>cannot</i> believe that	—
<i>he will</i> get a passing	—
grade on it, for <i>it is</i>	—
not well written and	—
<i>has not</i> a clear-cut plot.	—
The characters <i>are not</i>	—
at all interesting. They	—
<i>are not</i> even human.	—

Questions 7 to 13

and answer questions 7 to 13 :—

that every misfortune was caused by angry and jealous gods. They saw these imaginary gods everywhere person but of one of *touchy* nature who was always losing his temper. As they were afraid of him, they which took a *heavy toll* of their lives, they would become very frightened and think that the gods were children and offer them to the gods.

Q. 7. Underline the appropriate expression :—

According to early men every misfortune was caused by (i) men themselves (ii) beasts (iii) angry gods.

Q. 8. Underline the appropriate answers :

The imaginary gods lived (i) in caves (ii) in palaces (iii) nowhere (iv) everywhere.

Q. 9. Underline the appropriate statement :

The early men, when misfortune befell them (ii) did nothing at all (iii) sacrificed men and women (iv) offered things to gods.

Q. 10. Underline the word that correctly conveys the sense of the word *imagine* used in this passage :—

(i) think (ii) bring before the mind's eye (iii) suppose (Similar questions can be framed with regard to the other words in italics).

Q. 11. Underline the best expression of the central idea of the above passage.

(i) The early men believed in angry Gods and tried to please them through offerings.

(ii) The Gods of old could be bribed with food and human beings.

(iii) The Gods of old sent misfortunes and death to people in order to compel them to worship them.

Q. 12. Underline the most suitable heading for the above passage :—

(i) Early Men (ii) Sacrifices of Early Men (iii) Satisfying Angry Gods. (iv) Cruel Gods.

Q. 13. (a) Does the accent on the following words fall on the first, the second or the third syllable ?

Write in the blanks provided, I if it is on the first; II if it is on the second; III if it is on the third:—

—imagine,—misfortune,—jealous,—imaginary, —disaster, —sacrifice,—temper, —women, —nature.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (c) The student reads with correct pronunciation, intonation, accent etc.
- (b) The teacher will pronounce the following words with accent on the last syllable :—
 (i) temper (ii) disaster (iii) women
 (iv) nature etc.
 He will then ask the student to say whether he has pronounced the words correctly or not.
- (c) The teacher will read different sentences with emphasis at the wrong places and ask the students to comment on his reading.

-do-

Passage for

It matters very little where you go, or when you go. It matters little what you do. The thing earning a living. To get away to be free for a brief spell, to feel that you have not to get up at the will depart without you, to look upon new scenes and strange faces, to breathe fresh air, to hear different matter what place, anywhere ; put a few things into a leaf, the fewer the better, and go. The change, I carries all the beauty of the world in his own mind and all the joy of life in his own heart, he will not find peace within us. We shall not find it elsewhere. We have joy and sorrow, and the world about is but

I doubt whether there are any sound rules for holiday-making save that one which I have called change. The health of the human mind is stimulated by the change of scene just as the change of air is a become inferior. More than half the pleasure we have in contemplating a holiday is born of the instinct another. Far too many people court disappointment by that interpretation every year. To go away with know nothing more depressing, with the possible exception of a debate in the House of Commons, than the murmuring. These well-intentioned people are suffering from social starvation.

- (i) The student gathers the central idea of a passage.
- Q. 14.** Summarise the above passage in about forty words.
- (j) The student learns meanings of new words.
- Q. 15.** What is meant by *change* according to the author ?
- (k) The student makes special study of beautiful turns of expression.
- Q. 16.** Point out the significance of the following figurative expressions in your own words :—
 (a) babble about
 (b) a good physic
 (c) court disappointment.

TOOLS

Recognition Forms

(b) Does *g* sound soft or hard in the following words ? :—

Imagine, angry, gods.

How is *ch* pronounced in “touchy” and “children” ?—like ‘*ch*’ in “chair” or like *ch* in “monarch”?

Questions 14 to 16

itself matters, and that thing is a holiday—the break from the monotony of routine and the discipline of appointed hour, to know that you can linger over your breakfast, to realize that the usual business train sounds, to do different things or, better still, to do nothing at all, that is holiday. Fix upon a place, no repeat, is the thing. A scenery or amusement is hardly concerned in the great business, for unless man them elsewhere. I have showed sympathy with those wide-eyed enthusiasts who babble about the spirit or material for their expression.

change ; and this, after all, is not arbitrary, it is fundamental. A holiday is no holiday unless you have tonic for the body, Change is a good physic for all social pursuits. To be without it is to lose caste, to for change. But change is not merely the transference of oneself or one’s family from one place to your family is, in a great many instances, nothing but an elaborate contrivance for staying at home. I sight of so many family groups at the sea-side during the holiday season, who are obviously bored past

Q. 14. After reading the passage, say which of the statements is correct by putting a tick mark against it :—
A holiday will mean

- | | |
|--|---|
| (a) changing from the usual things you do. | (d) spending the seasons at the sea-side. |
| (b) changing one job for another. | (e) staying at home after breakfast. |
| (c) taking your family to another place. | |

Q. 15. Mark out the sentences that carry the idea of change according to the views of the author :—

- | | |
|----------------------|-------------------------|
| (a) change of place. | (c) change of activity. |
| (b) change of scene. | |

Q. 16. Write in the blanks provided in Column A the serial number of the expressions from Column B which give the meaning of those in Column A.

<i>Column A</i>	<i>Column B</i>
—(a) babble about	(i) to talk uselessly
—(b) a good physic	(ii) to talk seriously
—(c) to court disappointment.	(iii) better art of healing
	(iv) a good health
	(v) to invite dejection
	(vi) failure in the court.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

(j) The student learns meanings of new words.

do

Q. 17. Give the meaning of the following words :—

- (a) arbitrary
- (b) stimulating
- (c) contemplating.

Q. 18. Give alternative phrases, having the same meaning, for each of the following :

- (a) monotony of routine
- (b) social pursuit
- (c) elaborate contrivance
- (d) obviously bored.

(i) The student gathers the central idea of a passage.

Q. 19. Give a suitable heading to the above passage.

T O O L S

Recognition Form

- Q. 17.** Underline the right synonyms in each of the following groups :—
- (a) arbitrary, deposite, cruel. (b) stimulated, excited, intoxicated.
(c) contemplating, thinking, writing.
- Q. 18.** Recast the following list, pairing off expressions of the same meaning :—
- (1) monotony of routine, dullness of daily work. (3) elaborate continuance, aims of society.
(2) social pursuit, having good aims. (4) well-intentioned, clearly tired.
(5) obviously bored, well thought-out plan.
- Q. 19.** Underline the most suitable title for the above passage :—
- (a) How to enjoy your holiday. (d) What is a holiday.
(b) Holiday at the beach. (e) Holiday is change.
(c) Holiday with the family.

OBJECTIVE II : To develop in the student speed in silent reading with comprehension, in organisation of ideas and expression in his own words.

BEHAVIOURS : The student

- (a) finds out the ideas of a passage.
- (b) determines the sequence of these ideas.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

Passage for

All is well that ends well, and people throughout the country will be relieved to learn that despite a could have led to disaster. The pilot showed great presence of mind in making an emergency landing on It is to be assumed that there always is a thorough check-up of the engines prior to every flight. It will be this particular case, the people will want to be reassured that the scrutiny of the engine before every flight of the excessive strain which incessant travel puts on Mr. Nehru's health. There is need to lessen this strain.

(a) The student finds out the idea of a passage.

Q. 20. What is the main idea of the passage ?

-do-

Q. 21. Why was Mr. Nehru forced to land at Raichur ?

-do-

Q. 22. What steps are taken to trace the cause of the disaster ?

(b) The student senses the feeling of the author.

Q. 23. How does the mishap react upon the mind of the author ?

- (c) traces through them the development of the main idea.
- (d) rewrites, summarizes, or otherwise rephrases the ideas and communicates them in his own words to others.
- (e) keeps up reading habits.
- (f) the student senses the feeling of the author.

T O O L S

Recognition Form

Questions 20 to 23

mishap, the Prime Minister's plane was able to force-land safely at Raichur. The fire in one of the engines the nearest air-strip. Most people, however, will wonder what led to the "technical failure" in the engines rash to anticipate the findings of the full enquiry that has been ordered. But whatever the findings in is stringent enough to leave no room for technical failures. Tuesday's mishap is also a painful reminder He must be helped to conserve his energies and serve the country in the years to come.

Q. 20. Tick off the correct answer :—

The main idea of the passage is that

- (i) the pilot showed great presence of mind.
- (ii) people are relieved to learn about Mr. Nehru's safety.
- (iii) scrutiny of the engines just before flight is very necessary.

Q. 21. Tick off the right answer :—

Mr. Nehru was forced to land because

- (i) he was tired of travelling.
- (ii) his pilot had great presence of mind.
- (iii) his plane caught fire.
- (iv) there was technical failure of one engine.

Q. 22. Tick off the right answer :—

The step taken to trace the cause of the disaster is that

- (i) an enquiry into the matter has been ordered.
- (ii) every engine should be checked before flight in the future.

Q. 23. Tick off the right answer :—

The author feels that

- (i) Mr. Nehru should not travel by plane.
- (ii) all engines should be inspected before flight.
- (iii) Mr. Nehru should not travel much.

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form****Passage for**

Read the following story as fast as you can only once. Return the passage to the examiner as answer at least four of them correctly. Your speed of reading is to be found out from this test.

The

Once there was a man who had two sons. Since the younger son wanted to get his share, his land and squandered his wealth leading an extravagant life. When a famine arose in that country, he had to offered him food. He realized his mistake and went back to his father and requested him to take him as clothes and held a feast in celebration of his return. But his elder brother, who had all along been in his house. When he enquired about this, one of his servants replied that his brother had come and the He complained that his father was partial and favoured only the second son. But the father replied that he lost for ever,

(a) The student finds out the idea of a passage.

Q. 24. Why did the father divide his property ?

-do-

Q. 25. What made the younger brother take the food that was meant for pigs ?

-do-

Q. 26. Why was the elder brother furious ?

(c) The student traces through them the development of the main idea.

Q. 27. Give in your own words the central theme of the story.

T O O L S**Recognition Form****Questions 24 to 27**

soon as you have finished reading. You will be given five questions on the passage and you should

Prodigal Son

father divided up his property between the two. Before very long the younger son went off to a foreign land to earn his livelihood by working in the fields. He had to eat only the food given to the pigs, since none of his hired men. On the other hand, his father was very happy to see him and got him the best of the land. The younger son, who was obedient to his father and who was just then working in the fields, was surprised to hear music and dancing. Festivities were in honour of his return. The elder brother was furious and refused to go inside the house. The father celebrated that day not out of partiality but because he had got back his son who, he had thought, was

Q. 24. Underline the correct statement :—

The father divided up his property because

- | | |
|---|--|
| (a) he became old. | (d) the elder brother wanted to send his brother away. |
| (b) the elder brother would go to work on the land. | (e) the younger brother wanted to spend his money. |
| (c) the younger brother wanted his share. | |

Q. 25. Underline the correct statement :—

The younger brother took the food that was meant for pigs because

- | | |
|-----------------------------------|----------------------------------|
| (a) there was famine. | (d) he had spent all his wealth. |
| (b) he was in charge of pigs. | (e) none offered him food. |
| (c) he was working in the fields. | |

Q. 26. Underline the correct answer :—

The elder brother was furious because

- | | |
|--|--|
| (a) his younger brother had come home. | (d) his father spent money unnecessarily on festivities. |
| (b) he had not been invited to dinner. | (e) his servant's reply was in strong language. |
| (c) he did not like dancing and music. | |

Q. 27. Underline the correct statement :—

The central theme of the story is

- | | |
|--|--|
| (a) the elder son's obedience to the father. | (d) the father's attachment to the elder son. |
| (b) the younger son's extravagant life in a foreign country. | (e) the father's affection for the second son after his arrival. |
| (c) the younger son's home-return. | |

OBJECTIVE III : To develop in the student skill in locating information in reference books.

BEHAVIOUR : The student

- (a) finds out the meaning of words from a dictionary.
- (b) finds out the correct usage of expressions from a dictionary.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | |
|--|---|
| (a) The student finds out the meaning of words from a dictionary. | Q. 28. Refer to a dictionary and find out the meaning of 'fabricate'. |
| (b) The student finds out the correct usage of expressions from a dictionary. | Q. 29. Refer to a dictionary, and use the word "meet" to complete the following sentence correctly :—
With a view—my friend, I went to the railway station. |
| (c) The student finds out the pronunciation of new words from a dictionary. | Q. 30 Write a word whose first syllable sounds the same as that of "gauze". |
| do | Q. 31. Write a word whose last syllable sounds the same as the last syllable of 'etiology'. |
| (d) The student differentiates between reference books and books dealing with particular subjects or topics. | Q. 32. Give two examples of each of the following:—
(a) a reference book. (b) a book on a particular topic or subject. |
| do | Q. 33. No essay form possible. |
| (f) The student knows which type of reference book to turn to in order to get particular information. | Q. 34. No essay form possible. |

- (c) finds out the pronunciation of new words from a dictionary.
- (d) differentiates between reference books and books dealing with particular subjects or topics.
- (e) gathers information from books on any required topic.
- (f) knows which type of reference book to turn to in order to get particular information.

T O O L S

Recognition Form

- Q. 28.** We could think of no explanation, so we *fabricated* a story.
The dictionary gives the following meanings for the word 'fabricate.' Put a tick against the word or words that mean the same as fabricate in the sentence given above.
- Q. 29.** Refer to a dictionary and tick off the correct usage from among the four given within brackets :—
With a view [(a) to meet (b) to meeting (c) for meeting (d) of meeting] my friend, I went to the railway station.
- Q. 30.** In the list of words given below, underline the word whose first syllable sounds the same as that of *gauze* :—
- gamble game jay jar gauze
- Q. 31.** In the list of words given below, underline the word whose last syllable sounds the same as the last syllable of *etiology* :—
- effigy biology rage.
- Q. 32.** Tick off the name of the reference book in the following list :—
- | | |
|------------------|---------------------|
| —Treasure Island | —A History of India |
| —General Science | —Book of Knowledge. |
- Q. 33.** Put a mark before the book which may be called a reference book in the following list :—
- | | |
|--------------------------------|--------------------------------|
| —Climbing Mount Everest | —India in 1956 |
| —An Anthology of English Poems | —A Tale of Two Cities |
| —Ivanhoe | —A Dictionary of English Verse |
| —Encyclopaedia Britannica | —Life of Madame Curie. |
- Q. 34.** If you wish to know about Sarojini Naidu which of the following will you turn to :—
- | | |
|----------------------------|------------------------|
| (a) An Anthology of Poems. | (c) Poets of India. |
| (b) India 1958. | (d) Book of Knowledge. |

OBJECTIVE IV : To develop in the student speed in understanding English speech.

BEHAVIOURS : The student

- (a) recognizes the major ideas embodied in spoken material.
- (b) recognizes the mood emotions and feelings of the speaker.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

Passage for

A Speech

The worker puts the dirty bottles into a hot water reservoir, soaks them for about half an hour, outside and with a brush on the inside, washes it with a solution of soda or hydrochloric acid if bottles are remember 800 bottles daily. He has to work continuously for ten hours with only half an hour's break capacity to work for long hours, and he should have strength of hands and arms and a keen vision. He

He is specially trained for this job ; the training period lasts a week. In spite of the hard work have to make both ends meet. During the training period he gets no salary. If unfortunately a bottle

Although in my opinion his is the worst job, but, what a pity !—in the absence of anything more

(a) The student recognizes the major ideas embodied in spoken material . **Q. 35.** What are the main things discussed in the speech ?

(b) The student recognizes the mood, emotions and feelings of the speaker. **Q. 36.**

- (a) What do you think are the feelings of the speaker about the bottle-washer ?
- (b) Compare and contrast the bottle-washer with a labourer working in a sugar factory which you visited.
- (c) How far do you agree with the speaker when he says "The job of the bottle-washer is the worst job" ?
- (d) What does the repetition of '800 bottles daily' signify ?

- (c) relates the spoken material to his own experiences.
- (d) appraises critically the ideas of the speaker.
- (e) compares and contrasts the comparable items in the spoken material.

TOOLS

Recognition Form

Questions 35 to 36

to Students

takes out the cork skilfully (if it is inside) by a specially made rod, washes the bottle with his hand on the very greasy and finally washes the same with running tap water. He washes at least 800 bottles daily—for his lunch. When others take rest after meals, he is in a hurry washing bottles. He should possess should be accurate in observing dust particles in the bottles.

that he does, he is paid only one rupee eight annas per day. It is within this amount that he and his family slips away from his hands and breaks, he is to pay the cost thereof.

suitable—most of the people take this job gladly.

Q. 35. Put a check mark against the correct answers :—

The main things discussed in the speech are

- | | |
|------------------------------------|--|
| —(i) the duties of bottle-washers. | —(v) their pitiable condition. |
| —(ii) their qualities. | —(vi) their wages. |
| —(iii) their education. | —(vii) the steps being taken to improve their lot. |
| —(iv) their friends. | |

Q. 36. Tick off the correct statement :—

The bottle washer works for ten hours because

- | | |
|---|-------------------------------------|
| —(i) he enjoys this work | —(iii) it is his condition or work. |
| —(ii) his companions work the same hours. | |

OBJECTIVE V : To develop in the student the ability to write private business and official letters.

BEHAVIOURS : The student

- (a) writes the correct form of salutation.
- (b) writes the correct form of subscription (leave-taking)
- (c) makes an appropriate beginning.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | BEHAVIOUR CHANGES EXPECTED | EVALUATION |
|---|--|
| (a) The student recognizes the major ideas embodied in spoken material. | Q. 37. _____ |
| (a) The student writes the correct form of salutation. | Q. 38. What will be the correct form of salutation if you have to make an application to the post-master, Satara City post office ? |
| (b) The student writes the correct form of subscription (leave-taking). | Q. 39. What is the correct form of leave-taking to be used when writing to a friend of yours ? |
| (c) The student makes an appropriate beginning. | Q. 40. How will you begin a letter to a book-seller if you want to place an order with him for books ? |
| (d) The student writes an address correctly and in proper manner on the envelope. | Q. 41. What is the correct address to be given on the envelope when writing to the Headmaster of your High School ? |

- (d) writes an address correctly and in proper manner on the envelope.
- (e) uses the particular phraseology or form of expression appropriate to the particular type of letter.
- (f) writes to the point.
- (g) writes with correct spelling, construction and punctuation.

TOOLS

Recognition Form

- Q. 37.** In the following, put in the brackets before each item (a) to (m), (i) the letter A, if it is something the speaker definitely said ; (ii) the letter B, if it is something you might have inferred from the way in which the speaker has said ; (iii) the letter C, if it is something the speaker definitely denied in the course of his speech and (iv) the letter D, if it is something not relevant to his speech—
- | | |
|--|--|
| () (a) The bottle-washer enjoys his meals in the lunch hour. | () (h) Only very strong men can do the work of washing bottles. |
| () (b) The job of the bottle-washer is very hard. | () (i) The bottle-washer is paid while he is under training. |
| () (c) The bottle-washer washes the bottle with a piece of cloth. | () (j) The bottle-washer is fined if he breaks any bottles. |
| () (d) The speaker has his sympathies for the bottle-washer. | () (k) The bottle-washer does not like his job. |
| () (e) The bottle-washer washes a very great number of bottles. | () (l) The bottle-washer should be accurate in observing dust particles in the bottles. |
| () (f) The bottle-washer does not get any rest after his lunch. | () (m) Hydrochloric acid or soda cleans the grease. |
| () (g) The bottle-washer is satisfied with his salary. | |
- Q. 38.** Tick off from the following, the correct form of salutation in a letter to the post master, Satara City post office :—
- | | |
|---------------------|-----------------------------|
| —(a) Dear Sir, | —(c) Sir, |
| —(b) Respected Sir, | —(d) Dear Postmaster Sahib. |
- Q. 39.** Tick off from the following the correct form of leave-taking when writing to a friend of yours :—
- | | | |
|---------------------|------------------------|-------------------|
| —(a) Your lovingly. | —(b) Yours faithfully. | —(c) Yours truly. |
|---------------------|------------------------|-------------------|
- Q. 40.** Tick off from the following the appropriate opening sentence in writing to a book-seller to send you some books :—
- | | |
|---|---|
| —(a) I learn that your shop is famous for supplying all kinds of books. | —(c) Will you be so good as to supply me with the following books ? |
| —(b) I am sure you have the following books in your shop. | —(d) I am very much in need of the following books. |
- Q. 41.** Put a mark against the right way of writing on the envelope the address of the Headmaster of your High School.
- | | |
|---|--|
| —(a) Shri S.B. Deshpande, Esqr. M.A., B.T., Headmaster, Model High School, Poona-2. | —(c) This letter should be given to the Headmaster of the Model High School in Poona, Poona-2. |
| —(b) The Head Master, Model High School, Poona-2. | —(d) To the respected Headmaster of the Model High School, Poona-2. |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form****Passage for**

do

Q. 42. _____

Ramesh wants leave of absence from school for a few days on grounds of illness. He has written
My esteemed Sir,

I came to Bombay by the afternoon train on Saturday. I think it would have been better if I had
tomorrow. As, however, I have caught fever since 8 A.M. today all my hopes to go back in time have
Everything else is all right. It rained heavily here this morning, but now it is bright sunshine.

(f) The student writes to the point.

Q. 43. Rewrite the letter so that it may be to the point.

TOOLS

Recognition Form

Questions 42 to 43

Q. 42. Put a mark against the best way of writing to your brother on the occasion of his birthday :—

- | | |
|--|---|
| <p>—(a) The undersigned is very happy to send to you his best wishes on the occasion of your birthday.</p> <p>—(b) Please accept my hearty congratulations on your birthday.</p> | <p>—(c) A birthday is an occasion for great joy as well as one for taking account of what one has been able to do in the preceding year of one's precious life.</p> <p>—(d) Let me wish you many happy returns of the day to you.</p> |
|--|---|

the following letter to his class-teacher :—

not come here at all. I came here and was sure that I would be returning to Poona and attending school been in vain. I shall not now be able to attend school for the next few days. Kindly grant me leave. Kindly remember me to my class-mates.

Yours obediently,
× × ×

Q. 43. Tick off the correct statement in order that the accompanying letter written by Ramesh may be to the point :—

- | | |
|--|--|
| <p>(i) The salutation should be rewritten as</p> <p>—(a) Respected Sir,</p> <p>—(b) Sir,</p> <p>—(c) Dear Shree Deshpande.</p> | <p>(ii) The following sentence should be deleted as it is unnecessary :—</p> <p>—(a) I think it would have been better if I had not come here at all.</p> <p>—(b) Kindly grant me leave.</p> <p>—(c) I shall not now be able to attend school for the next few days.</p> |
|--|--|

OBJECTIVE VI To develop in the student precision and fluency in the use of words as well as a rich vocabulary.

BEHAVIOURS : The student

- (a) understands the meanings of words.
- (b) uses words correctly.
- (c) recognizes synonyms and differences in their shades of meaning.
- (d) recognizes antonyms and differences in their shades of meaning.
- (e) recognizes differences in the meanings of the same word used in different contexts.
- (f) identifies similarly pronounced words.
- (g) tries to make use of a large vocabulary.
- (h) distinguishes different shades of meaning of words and uses them in sentences illustrative of each meaning.
- (i) acquaints himself with the derivatives of words and their inflexions.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(g) The student tries to make use of a large vocabulary. **Q. 44.**

- (a) Write five words ending in 'ly'.
- (b) Write the names of as many things as you see in the library.
- (c) Write the names of as many things as you see in the class-room.
- (d) Write the names of as many things as you see on the playground.
- (e) Give five adjectives descriptive of the sea.

do

Q. 45. _____

do

Q. 46. _____

- (j) makes good use of the dictionary and the guidance of the teacher or other source to expand his working vocabulary.
- (k) seeks out English expressions for common ideas and English equivalents of expressions in the mother tongue.
- (l) uses new words in his own sentences and thus through increasing familiarity, gains gradual command of them.
- (m) maintains a word-and-phrase book in which are recorded the new expressions studied and sentences illustrating their correct use.
- (n) tries to improve his powers of expression by substituting a better or more expressive word, if possible, for the very first word that comes to mind.
- (o) attempts persistently to improve his powers of expression by
 - (i) getting his teacher's help.
 - (ii) recasting his sentences in various ways, using different words and studying the effect.
 - (iii) studying the verbal, structural and other literary devices of accredited masters of good English.

TOOLS

Recognition Form

- Q. 45.** Fill in the blanks with as many words as you can and indicate the most appropriate word in the context by underlining it :—
- | | |
|---|--|
| (a) When I saw the accident on the road
I was.. | (d) Everybody should work by himself in
order to be.... |
| (b) We should be kind to the poor because
they are.... | (e) Education of the masses is very
necessary in order to make the
country.... |
| (c) Co-operative work is good as it
engenders the quality of.. | |
- Q. 46.** Write an S against a word if it is similar in meaning to the word in italics ; and C if it is opposite in meaning to it.
- Example** *bright* :— ; dull (C), sad (), shining (S), joy ().
- | | |
|--|---|
| (i) <i>ugly</i> ; beautiful (), good (),
repulsive (), unkind (). | (iv) <i>pugnacious</i> ; sour (), friendly (),
pungent (), quarrelsome (). |
| (ii) <i>loyal</i> ; good (), faithful (),
treacherous (), bad (). | |
| (iii) <i>far</i> ; near (), distant (), easy
(), difficult (). | (v) <i>strong</i> ; giant (), dwarf (),
healthy (), weak (). |

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- | | | |
|--|--------|--|
| (g) The student tries to make use of a large vocabulary. | Q. 47. | (a) Give the synonyms and antonyms of :- ugly, loyal, far, pugnacious, strong. |
| | | (b) Give the feminine gender of :- drake, nephew, duke, uncle, dog. |
| do | Q. 48. | _____ |
| do | Q. 49. | _____ |
| do | Q. 50. | _____ |
| (j) The student makes good use of the dictionary and the guidance of the teacher or other source to expand his working vocabulary. | Q. 51. | _____ |
| (g) The student tries to make use of a large vocabulary. | Q. 52. | _____ |

TOOLS

Recognition Form

(b) Fill in each blank with the appropriate word :—

- | | | | |
|----------------------|---------------|-----------------------|--------------|
| (i) goose ; gander | : : duck :— | (iv) brother : sister | : : uncle :— |
| (ii) son : daughter | : : nephew :— | (v) bull : cow | : : dog :— |
| (iii) abbot : abbess | : : duke :— | | |

Q. 47. _____

Q. 48. Write the serial number of each animal named in Col. I against the sound appropriate to it in Col. II :—

<i>Column I</i>	<i>Column II</i>	
(i) cat	—bleats	—roars
(ii) horse	—neighs	—hisses
(iii) goat	—mews	—brays
(iv) lion	—lows	—barks
(v) serpent	—grunts	—crows

Q. 49. Write in the blank against the name of each animal the word for its appropriate sound :—

(Example : A dog barks).

a horse—— a cat—— a goat—— a lion—— a serpent——

Q. 50. Form as many new words as you can from the following words :—

(Example :—'come' : income, outcoming, etc.) do, danger, slave, prison, teach, joy, camp, able.

Q. 51. Re-arrange the following words alphabetically into six groups, numbering also the words in each group serially in the order in which they appear in the dictionary :—

art, act, aid, astride, amazed, astonished, cut, cute, cutlery, cushion, cat, chat, right, rut, run, rum, ritual, saturn, saturate, satiate, sand, sack, saunter, tut, tin, tug, tap, tough, tight.

Q. 52. Underline within each of the following pairs of brackets the word most appropriate to its context :—

- | | |
|---|---|
| <p>(a) It was a rainy day. At school time it started raining heavily. Boys were (moist/cold/drenched/wet) when they reached school.</p> <p>(b) There was an air crash. The plane caught fire when it fell on the ground. Everybody in the plane was completely (broken/destroyed/charred) and it was a (horrible/bad) sight.</p> <p>(c) The annual examinations were over. Every student of Class IX was declared to have passed. There was an atmosphere of (happiness/pleasure/joy) in the class, when the results were declared.</p> | <p>(d) One of our brothers had joined military service. He was imprisoned by the Japanese during the war. When we knew that he was to come home after the war was over, there was in every member of the family a mixed feeling of (hatred/disgust/aversion) towards the Japanese and (expectance/delight/pleasure) at the idea of my brother being in his country again.</p> |
|---|---|

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

(h) The student distinguishes different shades of meaning of words. **Q. 53.** _____

(i) The student acquaints himself with the derivatives of words and their inflexions. **Q. 54.** _____

Passage for

What is it that one gets when one is urged in the pursuit of knowledge by the real love of learning? like-minded with yourselves? One really gets a great deal. When one sits down to study anything, one ignorance and how little any man in the world can really know in the short span of his life. That is good value in learning. It makes him discontented with the second best. It makes a man keep on striving to remain like a clod or turnip.

- (a) The student understands the meanings of words. **Q. 55.** Do you suppose the word *urged* as used here is appropriate?
- (c) The student recognizes synonyms and differences in their shades of meaning.
- (a) The student understands the meanings of words. **Q. 56.** Can you suggest words that mean the opposite of *urge*?
- (d) The student recognizes antonyms and differences in their shades of meaning.
- (f) The student identifies similarly pronounced words. **Q. 57.** List some words that sound like *urge*.
- (f) The student understands the meanings of words. **Q. 58.** What do you think *knowledge* means in the passage?
- (c) The student recognizes synonyms and differences in their shades of meaning. **Q. 69.** What do you understand by *pursuit*?
- (f) The student identifies similarly pronounced words. **Q. 60.** What does *knowledge* rhyme with?

TOOLS

Recognition Form

Q. 53. Re-arrange each of the following sets of words in the ascending order of meaning or size :—

(Example—smile, grin, laugh.)

- | | |
|-------------------------------------|------------------------------------|
| (a) sorry, miserable, unhappy, sad. | (d) run, walk, sprint, stroll. |
| (b) happy, glad, joyous, delighted. | (e) youth, child, old man, infant. |
| (c) plant, tree, seed, sapling. | |

Q. 54. Write words which are derivatives from the following :—

- | | | | | |
|----------|----------|------------|-----------|-----------|
| (a) know | (b) long | (c) strong | (d) noble | (e) live. |
|----------|----------|------------|-----------|-----------|

Questions 55 to 60

What do you, as students, get from what you are taught in this school and from the companionship of boys learns how little one knows. One ceases to be positive about things, and one becomes aware of one's for a man. It keeps him humble, as he ought to be, and it enables him to have some kind of standard of get something which he may never get, but which it is far better he should strive for than that he should

Q. 55. Which word best expresses the meaning of *urge* as used in the passage ?

- | | | | | |
|---------|--------|-------|--------|-----------|
| entreat | incite | force | cajole | persuade. |
|---------|--------|-------|--------|-----------|

Q. 56. (a) Which do you think would be the nearly opposite of *urge* as used in the passage ?

- | | | | | |
|--------|----------|------------|----------------|----------|
| induce | dissuade | discourage | advise against | refrain. |
|--------|----------|------------|----------------|----------|

(b) Tick off the sentence in which *urge* is used in the same sense as in the passage :—

- | | |
|--|--|
| (i) "I urge you to strive for worth-while objectives." | (ii) "I have an urge to be done with the whole thing but I won't." |
|--|--|

(c) Tick off the words that would mean the same as *urge* in the second sentence (above) :—

- | | | | | |
|---------|-----------|--------|--------------------|----------|
| impulse | eagerness | desire | powerful incentive | anxiety. |
|---------|-----------|--------|--------------------|----------|

Q. 57. Tick off the words that sound the same as *urge* :—

- | | | | |
|-------|-------|---------|--------|
| dirge | merge | courage | surge. |
|-------|-------|---------|--------|

Q. 58. Tick off the expression which best explains *knowledge* in the passage :—

- | | | | | |
|---------------|-------------|----------|-----------|-------------|
| understanding | information | learning | awareness | perception. |
|---------------|-------------|----------|-----------|-------------|

Q. 59. Underline the correct answer :—

Pursuit is used in the passage to mean

- | | | | | |
|-------|----------|-------|-------|-------------|
| quest | activity | hobby | chase | profession. |
|-------|----------|-------|-------|-------------|

Q. 60. Tick off the word which sounds almost the same as *knowledge* :—

- | | | | |
|---------|---------|--------|----------|
| courage | upsurge | dotage | college. |
|---------|---------|--------|----------|

OBJECTIVE VII : To develop in the student the appreciation of good literature, especially poetry.

BEHAVIOURS : The student

- (a) grasps the general purport of a given poem.
- (b) follows the development of the central thought of the poem through the maze of imageries and ornaments of language used by the poet.
- (c) recognizes the appropriateness of the use of significant words and phrases in the poem.
- (d) interprets word groups in the poem.
- (e) appreciates the sound effects of word-groups in the poem.

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

**Passage for
A New Poem**

1. The glories of our blood and state
Are shadows, not substantial things :
There is no armour against fate ;
Death lays his icy hands on kings :
 Sceptre and crown
 Must tumble down,
And in the dust be equal made
With the poor crooked scythe and spade.
2. Some men with swords may reap the field,
And plant fresh laurels where they kill ;
But their strong nerves at last must yield ;
They tame but one another still :

- | | |
|--|---|
| (a) The student grasps the general purport of a given poem. | Q. 61. Suggest a title of three or four words summing up the main idea of the poem. |
| (b) The student follows the development of the central thought of the poem through the maze of imageries and ornaments of language used by the poet. | |
| (c) The student recognizes the appropriateness of the use of significant words and phrases in the poem. | Q. 62. What is meant by "The glories of our blood and state" ? Give one example of the glory of our blood and another of the glory of our state. |
| (f) The student visualises the images suggested by words and word-groups in the poem. | Q. 63. Where and how does the poet identify fate and death ? |

- (f) visualises the images suggested by words and word-groups in the poem.
- (g) catches the poet's mood and sentiments and identifies his own with them.
- (h) finds out the meaning and import of the words used in a new poem.
- (i) recognizes the careful choice of diction in a piece of good literature.
- (j) recognizes the relation between a given word and others like it.
- (k) recognizes the felicitous expressions in a good literary piece.
- (l) recognizes and appreciates the music (rhythm) in a poem.
- (m) responds to the emotion expressed in a piece of literature.
- (n) recognizes the author through the style of writing.

TOOLS

Recognition Form

Questions 61 to 63 for Class XII

Early or late
They stoop to fate
And must give up their murmuring breath
When they, pale captives, creep to death.

3. The garlands wither on your brow ;
Then boast no more your mighty deeds ;
Upon Death's purple altar now
See where the victor-victim bleeds :
Your heads must come
To the cold tomb ;
Only the actions of the just
Smell sweet, and blossom in their dust.

James Shirley

- Q. 61.** Which of the following titles will be suitable for the poem ? Put a tick mark against the item which is selected as correct and a cross against that which is rejected :—
- | | |
|----------------------------|---|
| (a) Man must bow to Death. | (c) Death the Ultimate End of Life. |
| (b) Death the Leveller. | (d) Man is a Puppet in the Hands of Fate. |
- Q. 62.** (i) Underline the expression that aptly explains "the glory of our blood" :—
- | | |
|------------------------------------|---|
| (a) distinguished ancestry. | (c) being a victor in the battle-field. |
| (b) belonging to a healthy family. | |
- (ii) Underline the expression that aptly explains "the glory of our state" :—
- | | |
|---|---|
| (a) enjoying superior and exalted position in life. | (b) belonging to a rich and powerful country. |
| | (c) a mighty government. |
- Q. 63.** Underline the correct statement :—
- The poet identifies fate with death
- | | |
|--|---|
| (a) in the seventh and eighth lines of the first stanza. | (c) in the third and fourth lines of the first stanza. |
| (b) in the first and second lines of the second stanza. | (d) in the sixth and eighth lines of the second stanza. |

BEHAVIOUR CHANGES EXPECTED**EVALUATION****Essay Form**

- | | |
|--|--|
| (c) The student recognizes the appropriateness of the use of significant words and phrases in the poem. | Q. 64. What figures of speech are used in the last five lines of the first stanza ? Comment upon their effectiveness. |
| (a) The student grasps the general purport of a given poem. | Q. 65. Why does the poet suggest that the reader should cease to boast of mighty deeds ? |
| (b) The student follows the development of the central thought of the poem through the maze of imageries and ornaments of language used by the poet. | |
| (d) The student interprets word-groups in the poem. | Q. 66. Express in simple and non-figurative language the meaning of the third and fourth lines of the last stanza. Let your answer be in the form of a statement. |
| (h) The student finds out the meaning and import of the words used in a new poem. | Q. 67. Give the antonyms of :—
shadow, early, victor, king. |
| (e) The student appreciates the sound effects of word-groups in the poem. | Q. 68. Pick out the alliterative words in the poem and comment on their effect. |
| do | Q. 69. Describe the rhyme-scheme of the first stanza of the poem. |
| do | Q. 70. Indicate with an oblique, each sound pause in the first four lines of the poem, as seems to be natural to you. |

BEHAVIOUR CHANGES EXPECTED

EVALUATION

Essay Form

- (g) The student catches the poet's mood and sentiments and identifies himself with them. **Q. 71.** Describe the picture of death that arises in your mind after reading the poem.

Passage for

Since there's no help, come let us kiss and part,
 Nay, I have done, you get no more of me,
 And I am glad, yea, glad with all my heart,
 That thus so cleanly I myself can free ;
 Shake hands for ever, cancel all over vows,
 And when we meet at any time again,
 Be it not seen in either of our brows,
 That we one jot of former love retain.

- (m) The student responds to the emotion expressed in a piece of literature. **Q. 72.** What is the emotion expressed in the poem ?

do

- Q. 73.** Why does the poem appeal to you ?

- (k) The student recognizes the felicitous expressions in a good literary piece. **Q. 74.** Why do the eleventh and the twelfth lines appeal to you most ?

- (l) The student recognizes and appreciates the music rhythm in a poem.

- (m) The student responds to the emotion expressed in a piece of literature.

- (i) The student recognizes the importance of the careful choice of diction in a piece of good literature. **Q. 75.** What does the poet imply by saying "Shake hands for ever" in the fifth line of the poem?

- (m) The student responds to the emotion expressed in a piece of literature.

do
and

- Q. 76.** What does the poet signify by *vows* in the fifth line of the poem ?

- (i) The student recognizes the importance of the careful choice of diction in a piece of good literature.

- (m) The student responds to the emotion expressed in a piece of literature. **Q. 77.** What philosophy of life does the poet express in the poem ?

- (n) The student recognizes the author through the style of writing. **Q. 78.** What is the type of this particular sonnet ?

TOOLS

Recognition Form

Q. 71. Tick off the correct answer :—

The picture of Death that is presented to your mind after reading the poem is of

- (a) Death as a king with sceptre and crown. (c) Death as a skeleton, clawing with his bony hands, the shoulders of kings and peasants.
- (b) Death as a demon, standing with his mighty hands stretched over kings and peasants lying bleeding at his feet.

Questions 72 to 78

Now at the last gasp of love's latest breath,
When, his pulse failing, Passion speechless lies,
When Faith is kneeling by his bed of death
And Innocence is closing up his eyes,
Now if thou wouldst, when all have given him over
From death to life thou mightest him yet recover !

Q. 72. Put a tick mark against the appropriate emotion :—

The emotion expressed in the poem is
—passion. —love. —grief.

Q. 73. Put a tick mark against the statement :—

The poem appeals to the reader because of
(i) the depth of feeling contained in its lines. (ii) its rhythm.
(iii) the outlook of the poet on love.

Q. 74. Put a tick mark against the appropriate statement :—

The eleventh and twelfth lines appeal because of
(i) personification. (ii) the choice of words. (iii) the music in these lines.

Q. 75. Put a tick mark against the appropriate statement :—

The poet implies by saying "Shake hands for ever"
—(i) friendship for ever. (iii) parting for ever.
—(ii) reunion.

Q. 76. Put a tick mark against the appropriate statement :—

The poet signifies by *vows*
—(i) contract with the lover. —(iii) marriage bond with the lover.
—(ii) promise made to the lover.

Q. 77. Put a mark against the appropriate statement :—

The philosophy of love expressed in the poem is
—(i) love is a brief phase in life. —(iii) love is fickle.
—(ii) love is for eternity.

Q. 78. Put a tick mark against the appropriate statement :—

The type of the sonnet is
—(i) Miltonian. —(iii) Wordsworthian.
—(ii) Shakespearean.

OBJECTIVE VIII : To develop in the student interest in the independent study of literature.

BEHAVIOURS : The student

- (a) goes to the library to read books.
- (b) goes to the library to consult books.
- (c) becomes a member of different libraries.
- (d) reads extra books in his spare time.
- (e) buys extra books.

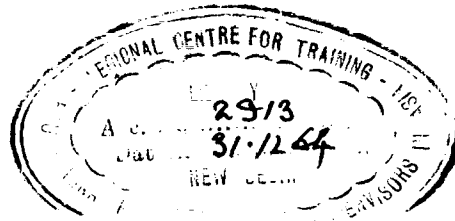
BEHAVIOUR CHANGES EXPECTED	EVALUATION
	Essay Form
(a) The student goes to the library to read books.	Q. 79. How often do you go to the library and why ?
(b) The student goes to the library to consult books.	Q. 80. How many libraries are there in your town ? Are you a member of any one of them ? If so, why ?
(d) The student reads extra books in his spare time.	Q. 81. What do you mostly do in your leisure time ?
(e) The student buys extra books.	Q. 82. How do you spend your pocket money ?
(g) The student studies with interest the lives of authors.	Q. 83. How far are you interested in the lives of authors ? Give examples in support of your statement. Q. 84. What are the main books of your choice ? How far do you praise and recommend them to others and why ?

- (f) enjoys reading books.
- (g) studies with interest the lives of authors.
- (h) likes certain authors.
- (i) commends books of his choice and recommends them in others.
- (j) keeps up reading habits.
- (k) gathers information on any desired topic.

TOOLS

Recognition Form

- Q. 79.** Underline the appropriate word or expression with brackets, as it applies to your case :—
I go to the library to read books (very often, sometimes, never).
- Q. 80.** Underline the right answer within brackets :—
- | | |
|--|--|
| (a) I go to the library to consult books (very often, sometimes, never), | (c) I use the dictionary (very often, sometimes, never). |
| (b) Do you like to become a member of a library ? (Yes/No.) | |
- Q. 81.** Tick off the right answer :—
- | | |
|--|--|
| (i) I like to spend my spare time at the
(a) school canteen (b) (library) (c) railway station (d) post office. | (iii) I spend my spare time in |
| (ii) I like to increase my knowledge and get the required information from
(a) books (b) teachers (c) friends and (d) excursions. | (a) painting (b) playing (c) gossiping
(d) reading. |
- Q. 82.** Tick off the right answer :—
I spend the major part of my pocket money on
(a) cosmetics (b) cinema (c) books (d) clothes.
- Q. 83.** Do you want to know about the lives of authors ? Yes/No.
Pick out from the list given below any five authors of your choice ranked in the order of your preference :—
- Q. 84.** (1) Stevenson (2) Sorabji (3) Elliot (4) Chambers (5) Swift (6) Lamb (7) Arnold (8) Bunyan (9) Yates (10) Webster (11) Beach (12) Wood (13) Skinnners (14) Nehru (15) Longfellow (16) Dickens (17) Gardiner (18) Strang (19) Dawson.



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APPENDIX A

REFORM OF EXAMINATIONS

Resolutions passed by the Conference (held in Vigyan Bhavan New Delhi, on April 5 and 6, 1957) of Chairmen and Secretaries of Boards of Secondary Education and of Representatives of Universities conducting the School Final Examination.

I. This Conference records its appreciation of the comprehensive and practical suggestions made by Dr. Bloom for the reform of examinations at the secondary education stage, and it records its general approval to the programme of action as outlined in the memorandum placed before the Conference.

II. The Conference requests Boards of Secondary Education to set up Research Units for scientifically studying the problems connected with the reform of examinations and to establish an effective co-ordination between the result of research and the actual conduct of the examination, including a study of the techniques at present used.

III. The Conference endorses the view that evaluation must be regarded as an integral part of the total educational process and that educational objectives, learning experiences and evaluating procedures are all linked up in this process. It recommends to the Ministry of Education, Government of India, to set up an Examination Unit at the All India Council for Secondary Education whose members may, in co-operation with State Boards of Education, work with training colleges and teachers in secondary schools in order to :

- (a) identify, clarify and gradually enlarge the objectives of teaching the various school subjects
- (b) suggest adequate learning experiences for the purpose and
- (c) improve valuation tools.

This work, we believe, will lead to improvement in curricula, methods of teaching and examination procedures. The evaluation tools should be made available to the State Boards of Education for use by their paper-setters and by the schools for internal assessment. Such a unit may also help in co-ordinating the work of the State Bureaus.

IV. The Conference agrees with the proposal that such a reform of examinations should be effected in gradual stages according to a well-planned programme to be implemented in a period of ten years.

V. The Conference recommends to the Boards of Secondary Education in India to take early steps to implement the recommendations of the Seminar on Examinations held at Bhopal in February, 1956 with special reference to :

- (a) the introduction of cumulative records in secondary schools.
- (b) making available to schools reliable achievement tests for use in internal assessment.
- (c) the weightage to be given to the result of the school assessment in the final grading of the certificate by allotting at least 20% of the marks with due regard to the need for co-ordination of standards of assessment.
- (d) the use of the objective type of tests and the short answer type of questions in the external examination at the end of the secondary school stage.

* * * *

APPENDIX B

Resolutions passed by the Conference (held at Delhi on the 8th & 9th of September, 58) of the Secretaries of the State Boards of Secondary Education.

I. This Conference of Secretaries and Representatives of State Boards of Secondary Education notes with satisfaction the establishment of an Examination Unit in the All India Council for Secondary Education and the phased programme of examination reform drawn up by the Council which underlines the intimate relationship between educational objectives, learning experiences, and evaluation procedures. This Conference is of the opinion that State Governments, State Boards of Secondary Education, Universities, Secondary Training Colleges and Secondary Schools should extend the maximum possible co-operation to the Council in the implementation of the programme.

II. This Conference recommends that for the implementation of the programme of examination reform, the following steps should be taken by State Governments or State Boards of Secondary Education as the case may be :

- (a) Provision should be made for competent teachers in the State to participate in the evaluation workshops organised by the Examination Unit for the production of test materials.
- (b) Steps should be taken for the incorporation of the new types of questions in the external examination with reference to selected objectives in different subjects in gradual stages.
- (c) The schools should be notified in advance about the proposed changes in the external examination.
- (d) A State Examination Unit should be set up as early as possible, preferably before 1961.
- (e) Steps should be taken for the organisation of suitable research on problems relating to evaluation and curricular construction.

III. This Conference recommends that the All

India Council for Secondary Education should :

- (a) Take necessary steps to produce a large pool of test materials.
- (b) Make available the test material to State Boards of Secondary Education for their use in the external examination and to the secondary schools for their internal assessment.
- (c) Co-ordinate the research on examination and curriculum undertaken by the various State Units.
Arrange for the training of additional evaluation personnel to augment the Central Unit and to provide personnel for the State Units.
- (e) Make available for use by teachers a guide on suggestive learning experiences worked out with the co-operation of the Training Colleges and the subject-committees of Boards of Secondary Education.

IV. This conference recommends that Universities and State Governments should take steps :—

1. To introduce the new concept of evaluation and curriculum construction in their B. Ed. or B. T. courses.
2. To organise short term courses on evaluation and testing procedures in accordance with the new objectives for the benefit of trained teachers.

V. This conference is of the opinion that, in view of the importance of the programmes of the examination reform, it is necessary that representatives of State Boards of Secondary Education and Universities should meet annually to review the progress made and consider the problems that may arise in the implementation of programmes in different States. This Conference, therefore recommends that the All India Council for Secondary Education should make arrangements for such meetings every year.

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