REPORT
ON
GENERAL EDUCATION

UNIVERSITY GRANTS COMMISSION
NEW DELHI

Contents

Preface

The University Education Commission appointed by the Government of India in 1948 pointed out that among the suggestions for improving higher education which they had received during the course of their visits to the universities scarcely any was more frequently or more vigorously presented than the need for providing a proper general education at the under-graduate stage.

The University Education Commission envisaged general education as an attempt "to make available to the student, and to inspire him to master, wisely selected information as to facts and principles, so that he will have representative and useful data on which to base his thought, judgment and action, and will be aware of fields of interest and importance."

Since then the whole idea of general education has been under constant discussion. From 1948 to 1954 the Government of India addressed several circulars to the universities asking them to consider the feasibility of experimenting with general education courses. A conference of Vice-Chancellors was convened by the Government in 1955 to examine the matter further. Teams of university teachers were also sent to the U.S.A. to study general education arrangements in some of the universities there. The reports submitted by these teams were circulated to the universities.

The University Grants Commission appointed a committee of experts in 1958 to go into the whole question of general education in Indian universities. The present report outlines the deliberations of this committee. It describes a number of different principles on which general education could be introduced in Indian higher education and after taking into account various views on the subject suggests ways in which general education can be made an ally of good education. The present report advocates no rigid or orthodox approach to the problem; the recommendations and suggestions offered are flexible, experimental and pragmatic. Every university or,

for that matter, every college, could choose its own course consistent with its resources and philosophy of education.

I should like to take this opportunity to thank the members of the Committee on General Education who put in so much time and effort to bring out this report which, I am sure, will stimulate fresh thinking and serious consideration of the issues involved in this important field.

SAMUEL MATHAI

New Delhi,
October 6, 1961

Introduction

In December 1958, while considering requests from Aligarh and Baroda Universities for financial assistance to their programmes of general education, the University Grants Commission suggested that some principles should be evolved in order to assess their needs for additional staff and other facilities. Since several other universities had also decided to introduce general education courses, the Commission desired that a committee consisting mainly of persons who had first hand knowledge of the principles and practice of general education be appointed for considering requirements in this behalf in the universities. Accordingly the Commission appointed a committee consisting of the following:

i)	Shri S. Govindarajulu, Vice-Chancellor, Sri Venkateswara University	... Chairman
ii)	Shri G. C. Bannerjee, Principal, Elphinstone College, Bombay.	... Member
iii)	Shri S. V. Kogekar, Principal, Fergusson College, Poona.	... Member
iv)	Shri R. Enoch, Professor of Zoology , Presidency College, Madras University.	... Member
v)	Dr. P. J. Philip, Development Officer, University Grants Commission.	... Member-Secretary

2. In October 1960, Prof. Hans Simons, formerly President, New School of Social Research, New York, whose services as a Consultant

on general education have been made available to the University Grants Commission by the Ford Foundation, was added to the committee. He participated in the deliberations of the committee when they met at Bangalore in November 1960 to finalize the report.

3. The committee visited the M.S. University of Baroda and the Aligarh Muslim University in April 1960. In order to acquaint themselves with the problems of general education in affiliating universities they also visited the universities of Madras and Mysore in November, 1960. The report of the committee was submitted to the University Grants Commission in December, 1960.

4. Some people think that general education is a foreign export and not quite suited to the needs of higher education in India. The committee have noted in this connection that the basic idea behind general education—the inter-dependence or unity of knowledge and the equal importance of the Humanities, Social Sciences and Natural Sciences for training of the mind—is not a new concept, but is actually as old as the university itself. The university is an institution where intensive as well as extensive and comprehensive studies can be undertaken because different disciplines co-exist and the narrowing of academic areas for the purpose of specialisation need not result in intellectual isolation or estrangement among disciplines. General education has translated this idea into academic terms capable of application to under-graduate education.

5. By and large, in Indian universities specialisation is confined to the post-graduate stage. Under-graduate courses are largely of a general nature, though some emphasis may be laid on a particular area of study. Considerable latitude is, however, permitted with regard to the choice of a subject for post-graduate specialisation, though in the Natural Sciences, admissions are limited to those who have had some previous training in the field. While the need for certain areas of concentration may be admitted at the under-graduate stage, there does not seem to be any compelling reason why subjects have to be combined only in certain ways. If the proper role of under-graduate education is conceived as preparing students for selective specialisation, it will be desirable to strengthen the general education already provided by making it more broad-based and balanced.

6. Quite apart from all this, the committee have taken note of the fact that for a very large number of students in India, the under-graduate stage represents a terminal point of higher education. It is

therefore a matter for serious concern whether the young men and young women who come out of our universities year after year are really "educated persons"—persons with a capacity to take an intelligent interest in the world around them and to live and act as enlightened and responsible individuals.

7. The committee have argued that, interpreted imaginatively and in a flexible way, the idea of general education may well serve as a principle of rational organisation of under-graduate education. It is noteworthy that the committee's approach to general education is free from any doctrinaire orthodoxy. Their advocacy of general education does not proceed from any 'theory of education' but is based on the conviction that in Indian universities reform of under-graduate teaching is overdue. Courses of study which have been handed down from year to year without much change have both to be rationalised and made more modern. While introduction of the three-year degree course has altered the structure of under-graduate education, very little appears to have been done so far to improve its curricular content. The committee have suggested that the concept of general education may prove to be a fruitful idea on the basis of which this much needed reform may be effected.

8. The committee have laid considerable stress on the necessity of experienced senior teachers of all departments participating in the general education scheme. Only thus can general education become the common concern of a university or college, thereby reflecting also its cosmopolitan character and receiving sustenance from the different areas of knowledge.

9. The committee do not favour standardisation of general education courses and have stressed the importance of experimentation in this field. Each university and even college will have to work out its own programme of general education keeping in view its traditions and culture as well as its personnel and material resources. It will, however, be necessary to avoid the error of 'grafting' general education courses on the existing courses of study and thus adding to the burden of the student who has already a heavy curricular load to bear. General education courses should be so integrated with the existing courses that the former do not stand apart as a separate discipline. In fact the real purpose of general education is to make under-graduate courses in science and arts more meaningful and significant.

I

Background of General Education in India

The idea of general education was stressed in India by the Report of the University Education Commission (1949). The Commission recommended that "without unnecessary delay the principles and practice of general education be introduced, so as to correct the extreme specialisation which now is common in our intermediate and degree programmes". It was further recommended that the relations of general and special education be worked out for each field, keeping in mind the general interests of the student as a personality and a citizen and his special occupational interest. These recommendations (summarised in appendix I) however, did not secure any high priority. In view of other vital and more immediate problems discussed in the Commission's report, a chapter on general education seemed academic. Those who gave any thought to the subject also wondered if it was true to say that the curriculum at collegiate level was actually tending to "extreme specialisation".

The Ministry of Education of the Government of India, however, pursued the idea. From 1948 to 1954 several circular letters were addressed to the universities in India asking them to consider the feasibility of experimenting with the idea and practice of general education. The only university to respond enthusiastically was the M.S. University of Baroda which took steps to institute certain lecture courses for this purpose and tried to organise a general education syllabus on a systematic basis. In 1955 the Government of India convened a conference of Vice-Chancellors at Srinagar to discuss the problem of general education. The conference set up a Consultative Committee to examine the ways and means for the introduction of general education courses in Indian Universities. This committee

met in propitious circumstances. Several Indian Universities had accepted the proposals of the Secondary Education Commission with regard to the Three Year Degree Course. It was felt that courses of general education could perhaps be easily incorporated in and integrated with the revised syllabi of the Three Year Degree Course. The committee had also the advantage of a report by S. R. Dongerkery (*Some Experiments in General Education*) who had been earlier deputed by the Bombay University to study the problems and practice of general education in the United States. The committee had the further advantage of the advice of Dr. F. C. Ward, Ford Foundation Consultant on Education, who suggested an Indo-American Curricular Project in General Education involving an exchange of university teachers between Indian and American universities for the better understanding and practice of general education in India.

Dr. Ward's proposal for the exchange of teachers between Indian and American universities was given a practical shape by the Ministry of Education when it selected a team of eight university teachers in India to study the general education programme in some selected universities in the U.S.A. and U.K. This team, headed by Dr. Bhagwantam, was required to ascertain the most effective and practical approach to the problem of general education in India after examining the various types of general education programmes in these two countries. The report of the team submitted in June 1956 was published by the Government of India in 1957. The report (important recommendations of which are set forth in appendix II) provoked considerable discussion, as testified by the proceedings of several regional conferences which followed it.

Another study team, consisting of 24 university teachers of India, headed by Shri S. Govindarajulu, visited some institutions of higher education in the U.S.A. to study the organisation and working of general education courses in some of the leading American universities. This team, instead of preparing a common report, preferred to state the findings of eight different groups of teachers (summarised in appendix III) with a general introduction by the Chairman. A conference of the 24 members of the study team, some special invitees from the universities and eight American educators who had reciprocated the visit of the Indian team was next held at Hyderabad. The deliberations of the conference (whose main recommendations are

stated in appendix VII*) were inevitably limited to the theoretical aspects of general education because the members did not have much experimental or empirical knowledge or evidence of the Indian situation. The third Study Team led by Prof. B. Kuppuswamy of Mysore University, visited the U.S.A. in 1958. (A summary of the findings of this team is given in appendix IV).

Exchange of study teams, conferences and seminars and all the material that has been published on the subject should not lead one to the belief that general education has been unanimously accepted by university circles in India. During the early fifties except perhaps for a few universities, the initiative for introducing general education courses generally came from outside. It has to be admitted that the idea of general education has not yet influenced in any vital measure the intellectual climate of universities. Nor does there seem to be any great appreciation of the issues even in academic circles. Some universities seem to be, if not actually inhospitable, rather sceptical about any advantages that might accrue by imparting general education to their students.

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* As part of the several sample course outlines shown in this appendix.

2

Present Position of General Education in India

The information available with the University Grants Commission (a summary of which is given in appendix V) indicates that general education courses are in operation in one form or another in only 15 of the 43 universities in India, viz., Aligarh, Andhra, Banaras, Baroda, Jadavpur, Karnatak, Kerala, Mysore, Poona, Rajasthan, Saugar, S.N.D.T., Sri Venkateswara, Utkal and Visva-Bharati. The general pattern seems to be to provide composite courses in the Natural Sciences, the Social Sciences and the Humanities with a slight variation in Mysore where Arts students have to study General Science and Science students have to study a course in the Social Sciences. While Sri Venkateswara University has not prescribed any syllabus, it has instead a list of prescribed books. Attendance at lectures in general education is compulsory in all the 15 universities. Besides the lecture method, seminars, tutorials, discussion and "practicals" are sometimes employed to cover the course. General education is a subject for the final examination in twelve universities; in Saugar and Jadavpur, it is a non-examination course; and in the University of Karnatak, a student qualifies to sit for the examination(s) of the Three Year Degree Course if he attends 75% of the lectures in general education.

General education could not be introduced in the Agra University because the "State Government did not approve of the proposal". The University of Madras did not introduce general education courses as such. The revised scheme of studies for pre-university and the first and second years of the Three Year Degree Course, however, provided a balanced course embracing Natural Sciences, Humanities and Social Sciences which, according to the University, might be treated as a course in general education.

3

Place of General Education in Indian Higher Education

Half a century ago an astute observer of the Indian educational scene found in some of the then affiliated colleges "a low standard of teaching and a lower of learning, ill-paid and insufficient teachers, pupils crowded together in insanitary buildings, the cutting down of fees in the interest of an evil commercial competition, and management on unsound principles". And, coming to the universities, he found "courses of study and a system of tests which were lowering the quality, while steadily increasing the volume of the human output; students driven like sheep from lecture-room to lecture-room and examination to examination, text books badly chosen and degrees pursued for their commercial value—a huge system of active but often misdirected effort, over which some evil phantom seemed to hover, the monstrous and maleficient spirit of cram." He doubted if European education, as it was conducted then in institutions of higher learning, could be described as a preparation for living at all except in the purely materialistic sense. But of the real living, the life of the intellect, the character, the soul, he feared that the glimpses that were obtainable were rare and dim.

This rather dismal picture of Indian higher education has been drawn and re-drawn by successive committees and commissions right upto the University Education Commission of 1948-49. The idea here is not to record yet another denunciation of our university and collegiate education but to emphasize that, inspite of some bright flashes, higher education in India has remained for over fifty years largely geared to the utilitarian objective of securing degrees.

After Independence in 1947, some of the inadequacies of our higher

education became more and more accentuated and some changed their character. With Independence came the conception and reality of democratic government and of planning for a better life for our people. The University Education Commission (1948-49) rightly called for a "radical change of spirit" in our universities to enable the nation to meet the challenges and opportunities involved in her efforts to develop herself materially and spiritually.

The Commission re-examined the aims of university education and emphasized the role of universities as organs of civilization and intellectual adventure and as centres of leadership in pohtics and administration, the professions, industry and commerce. And, above all, the Commission advocated an integrated way of life as the purpose of all education, especially at the higher level. In the Commission's words:

> "The purpose of all education, it is admitted by thinkers of East and West, is to provide a coherent picture of the universe and an integrated way of life. We must obtain through it a sense of perspective, *Samanyaya* of the different items of knowledge. Man cannot live by a mass of disconnected knowledge. He has a passion for an ordered intellectual vision of the connection of things. Life is one in all its varied manifestations. We may study the factual relations of the different manifestations but we must have knowledge of life as a whole. It cannot be a collection of distracting scraps but should be a harmony of patterns. The subjects we study must be taught as parts of a connected curriculum".

Among the main objectives of higher education, the Commission gave high priority to general education whose business it was to foster an integrated way of life and "to make available to the student, and to inspire him to master wisely selected information as to facts and principles, so that he will have representative and useful data on which to base his thought, judgment and action".

The need for sound thought, judgment and action has become all the more imperative since India became a sovereign republic. In the social and political sphere of our national life our infant democracy is battered by fissiparious tendencies, provincial, linguistic and parochial loyalties, student indiscipline, caste dissension and by a conspicuous lack of understanding of our cultural heritage. Such expressions as "crisis of character", "schizophrenia of culture," which are current

coin in India, indicate the widespread anxiety over the efficiency of education as a liberating influence on the minds of our young men and women. The working of democratic institutions in India cannot be taken for granted merely because they have survived the testing period of an eventful decade. John Dewey said, "Democracy has to be born anew every generation and education is the midwife". Leadership for defending India's freedom, her integrity and democracy has to come from her institutions of higher learning. But, whether these institutions are able to discharge that responsibility is another question.

In actual fact our universities and colleges are faced with unprecedented problems. Admittedly, our progress in the expansion of educational facilities is modest; but in terms of sheer numbers the enrolment in various types of educational institutions has registered a big leap upward. Whereas in 1950-51, there were only 12 lakhs (5.4%) of the age-group 14-17 in various types of high schools the enrolment increased through 20 lakhs (8.1%) in 1955-56 to 30 lakhs (12.0%) in 1960-61; the target for 1965-66 is 44 lakhs i.e. 15% of this age-group. Similarly enrolment in colleges has increased about threefold during the past ten years; from 3.73 lakhs in 1950-51, it increased to 6.34 lakhs in 1955-56 and to about 9 lakhs in 1960-61. By the end of the third five year plan, 13 lakhs of students are estimated to be enrolled in colleges in India.

The challenge here is not merely physical or financial—or providing more space and equipment and more money. The challenge is really to provide an appropriate curriculum-experience to a heterogeneous mass of young men and women who have individual and group differences in ability, aptitude, socio-economic status, and ambition. The growth of an educational system, as the Harvard Report on General Education says, "is like a mathematical problem in which new unknowns are being constantly introduced or like a house under construction for which the specifications are for ever changing".

For an overwhelming majority of students the first degree examination will mark the terminal period of their formal education. In the absence of any wide spread facilities or incentives for continuing further education, it may be assumed that the majority of graduates rarely come again into contact with the academic and intellectual stimulus of universities. It seems, therefore, all the more imperative

that without sacrificing the interests of those few who go to the post-graduate stages, universities should re-orient their programmes to suit the needs and abilities of those who will not continue their formal education beyond the first degree.

It is obvious that all the young men and women who go through or complete college education in India or elsewhere do not take up post-graduate studies nor do a majority of them find a place in the "learned" professions. That is partly because there is only limited room in the learned professions and also because the intellectual discipline required for these is beyond the attainment of many. It is true that the under-graduate programmes of our universities have steadily grown in number and variety but this, we feel, is not enough to meet the challenge of the problem. Partly because of the pressure of increasing enrolment and partly because of the specialised requirements of our expanding industry, colleges and university departments are trying to increase the number of courses. Advertisements of the Union and State Public Service Commissions amply illustrate the change that has taken place in the man-power requirements of our country. Our institutions of higher learning are responding to these changes either by adding fresh courses or by splitting the exisiting specialities into further sub-specialities at the post-graduate stage. This is only natural and inevitable in a country which has undertaken vast schemes of development in almost every area of its life. We need to have specialisation and more specialisation as we proceed with our plans. These developments, however, involve a growing estrangement between the Arts and the Sciences as also between various branches of the same discipline in our colleges and universities. It is, therefore, desirable that at the under-graduate stage steps are taken at the same time to correct the isolation of courses and emphasise the unity of knowledge.

The notion, however, persists in some of our universities that a certain combination of subjects at the under-graduate level is either inevitable or sacrosanct. While such combinations are necessary for the proper study of certain fields, even justifiable variations are not permitted or availed of. It is customary for a large number of our Arts under-graduates to offer English with History, Economics and Politics and for Science students to take Physics, Chemistry and Mathematics or Chemistry, Botany and Zoology. It could be shown that the majority of our under-graduate students offer permutations

and combinations of a limited range of subject-areas. Probably this practice could be justified when

(1) the range of knowledge was rather limited,

(2) the student-population was a select group with opportunities of contact with a stimulating environment, and

(3) the educated citizen was called upon to make but few choices and judgments on social and political issues of the day.

It might be worthwhile at this stage to refer briefly to some experiments in the U.K. and the U.S.A. where an attempt has been made to devise a curriculum-programme of under-graduate studies which cuts across various fields of knowledge. At Keele College in the U.K. the first year which is known as the Foundation Year provides a common course to all students. The scope of the course is the heritage of Western Civilisation, of modern society and of the nature, methods and influence of the experimental sciences. During the three years succeeding the Foundation Year, the under-graduate studies four subjects. Two of these are read at principal level and two at subsidiary level. The four subjects are so chosen that at least one is from the Humanities, one from the Social Sciences and one from the experimental sciences. (The experiment of Keele College is described in detail in appendix VI, 2b.)

Equally interesting and illuminating is the proposal of the General Board of Cambridge University to provide a course that is specially planned for those under-graduates who know at the outset of their university career that they do not wish to specialise in science but who nevertheless wish to gain a measure of insight into the aims and methods of science. It was felt that a large number of graduates did not make direct use, after they left the university, of the specialised knowledge they had acquired during their under-graduate days. For many such students it was the nature of the education they received at the university rather than the content of their courses that mattered. The Board felt that a large number of students would benefit greatly from an opportunity to study both an arts subject and a science subject at the university. That a conservative university like that of Cambridge felt called upon to respond in some measure to the needs

of its students is rather significant. (These are reproduced in appendix VI, 2a.)

The general education movement in the U.S.A. is also related to such developments as the expansion of knowledge, multiplication of courses, rise of the elective system, development of new occupations and the vast increase in college enrolment. The movement really developed in the U.S.A. as "an effort to restore a measure of unity around the objective of preparing students for a democratic society". Most of the important universities in the U.S.A. offer now some form of general education. (The influences that promoted them to do so are elaborated in appendix VI, 1.) The rationale and the current patterns of general education courses are adequately described in the reports of the three study teams of Indian educators who visited the U.S.A. in 1956, 1957 and 1958.

In an "ideal" educational set-up, there should probably be no need for general education, for each discipline properly conceived and taught is potentially a medium of general education. As it is, there is a growing exclusiveness amongst the various disciplines in our university life. Again most of our universities have such large numbers of students and, except in the case of residential universities, cover such wide areas that possibilities of contact and conversation among them are limited.

The controversial and contradictory claims of scientists and humanists, of pragmatists and classicists and of specialists and non-specialists are perhaps irrelevant to the real issues which general education attempts to deal with. Suffice it to say that we conceive of general education in India chiefly as an ally of good education. Even the most hard-boiled specialist would not want his student to be ignorant about the live issues of the day nor unaware of his cultural heritage. The crux of the problem here is to help the specialist so that he may teach his speciality better and to help the student so that he may absorb, consciously and unconsciously, the intellectual and spiritual atmosphere that ought to permeate college and university life.

We do not think that there is one "ideal" pattern of general education. Every university and probably every college will devise its own pattern consistent with its special requirements and genius. If, for

example, a certain university is successful in imparting general education through its ordinary curriculum prescribed for the three year degree course, there is no reason to find fault with it. However, we feel that in most of our universities a conscious effort will have to be made in the direction of introducing courses in general education.

There is no single general education programme which alone can achieve the purpose although all programmes aimed at achieving balance without sacrificing standards must share certain common aims and methods. It is conceivable, though not very probable that some universities may fulfil the objectives of general education through existing course requirements in each field and with improved and specially oriented methods of instruction. Other universities may do so by prescribing a common compulsory requirement for all students, though this approach will remain exposed to the charge of neglecting individual differences in ability, aptitude and interest of students. Some universities may implement general education through distributive requirements which may give some latitude of option to students or through prescribed separate courses (or books) for science and arts students. Here is a field in which experimentation should be encouraged to have free play. Whatever the approach adopted by a university, programmes of general education should give breadth of knowledge without sacrificing depth, widen the intellectual horizon, and provide the stimulus to a self-educating process.

It is also possible that any subject may be so taught and so studied that it becomes a general education in itself. Every subject has a history, it is related in an infinite number of ways to practically every other subject and it has some bearing, more or less, on the "work, wealth and happiness of mankind". As J. R. Macphail observes, the teacher, if he has a broad interest and high purpose in his work, may be sure that even while he keeps his nose to the grindstone and his eyes fixed on the next examination, his students will be learning much more than how to scrape through without necessarily failing to learn that also.

It may even be said that the very intellectual and spiritual tone of a college or university ought to obviate any need for a formal type of general education. The formal and informal education which was associated with such universities as Oxford and Cambridge was a type of general education imparted intangibly and unobtrusively

through the normal curriculum and through the intellectual challenge inherent in every curricular and extra-curricular activity of these universities. The tutorial system ensured breadth and depth of discussion, activation of inert ideas and organization and reorganization of concepts. The system of residential colleges provided an extension of the tutorials in a more informal atmosphere with the additional advantage that students of different disciplines would widen the dimensions of discussion in which one had to take a position and defend it. However, even in the U.K. conditions have changed, as is evidenced by the proposals for introducing general education in Cambridge University. In our own country during the last several decades we have been trying to secure the benefits of residential institutions. However, we have to reckon with the following conditions: increasing number of the affiliating type of universities whose affiliated and constituent colleges are separated from one another and from the university headquarters by many physical barriers; increasing number of students with constantly diminishing teacher-pupil ratio; creation of independent and far-flung teaching units covering such distant areas of the same campus that possibilities of contact and conversation are limited.

For a variety of reasons, it is not possible to convert the present forty-two universities in India to 200 and odd residential universities with a student population between 4,000 and 5,000 in each. Therefore, ways and means of imparting general education will have to be found within the framework of present university organization in India. The committee believes that the first and the focal attack on the problem should be by way of improved standards of teaching and better methods of learning the present curricula. Otherwise the idea underlying general education might degenerate into yet another subject, taught and studied as badly as the rest "transferred from the lecturer's note book to the student's without passing through the mind of either". The first necessary condition of the success of any programme of general education is, therefore, that each college attempts to make its prescribed curriculum and its extra-curricular activities a potential means of imparting general education.

Fortunately, as a result of serious thinking, most universities in India are engaged in an attempt to improve their standards. Fortunately also, all the resources of the University Grants Commission are directed to the improvement of standards in the universities and to that

extent, the Commission may be said to be actively concerned with the promotion of general education in India. Schemes such as the three year degree course, residential accommodation in the campus for students and staff, expansion of libraries and laboratories, facilities for tutorials and provision of scholarships are all calculated to strengthen liberal traditions in Indian universities. But this process of the gradual improvement of standards implicit in all that the Commission is engaged in doing at the present moment will need to be accelerated by a deliberate and conscious effort on the part of the colleges and universities.

4

Observations and Recommendations

1. General Objectives

One of our assumptions is that general education, as an ally of good education, should be thought of in terms of appropriate educational experiences and development of rational skills and outlook rather than in terms of courses, prescriptions and examinations. Two extreme positions can be taken with regard to this assumption. One view is that general education ought to concentrate on contemporary and the personal problems of students. Another view is that the programme of general education will drift to inconsequential chatter about trivialities without some basic requirements and prescribed courses. The committee believes that it should be possible to achieve the objectives of general education without subscribing to either of the two extremes. Prescribing basic requirements and courses does not necessarily vitiate the aims of general education; what matters ultimately is how the prescribed courses are taught and by whom.

Most discussions on the philosophy and principles of general education are based on the assumption that integration of the personality of students is possible by integrating the three broad areas of knowledge, viz., the Humanities, the Physical and Natural Sciences and the Social Sciences. This assumption has been challenged on the ground that integration imposed from above or outside may not be meaningful to a student because it may be irrelevant to his present problems and not tuned with his mental equipment. The committee, while in agreement with the substance of this argument, nevertheless believes that a certain measure of integration of thought, emotions and loyalties is possible if the learner is helped to organise and reorganise

his experiences not only around his need to be a socially effective individual but also around his individual and personal needs. All educational effort is based on the postulate that modification of behaviour is possible through education. The snag here is not that integration of personality is impossible through integration of knowledge but that the teacher who is imparting integrated knowledge may not always be an integrated personality.

Again it does not seem necessary to wait till "integration" of knowledge takes place in an individual. All the three broad areas of knowledge have a distinctive contribution to make to the growth of human personality. Study of sciences should help the students to understand and use the scientific method, to cultivate an active interest in the whole of the physical and biological world and to understand the impact of science on human thoughts and activities. Study of the Humanities should transmit the achievements of the human spirit and enable a student to discover their relevance to contemporary life. Study of the social sciences should promote an understanding of society and of the forces which have brought about its present complexity; it should also produce an awareness of the social "facts" which are too often loaded with prejudice and emotional overtones. As the Radhakrishnan Commission Report suggests, in each field the student should get his bearings, learn the basic vocabulary, become acquainted with the central concepts and with illustrations of cases and should be on the way to life-long interest and self-education in each field. Integration or synthesis of knowledge may be the ultimate ideal; a more practical aim, however, seems to be an honest and intelligent pursuit of the disciplines that underlie each area of knowledge.

Sometimes fears are expressed that imposition of general education on the three-year degree course may result in superficiality, dissipation of interests, lack of standards and insufficient illumination. The committee realize that it is obviously impossible for a student who has spent three years on a study of, say, Physics and general education courses to have covered as much ground as intensively in Physics as a student who has spent three years on a study of Physics alone. But it is also to be realized that mere length of time spent on the study of a subject is not a guarantee of intellectual attainment, and judgment has to be made on the quality of work of the student and the teacher. Actually in the hands of competent teachers, general

education may prove an ally to specialisation. The kind of discipline inherent in a given area of knowledge may act as a catalyst in the study of another area of knowledge. For instance, it has been observed that science cannot be at its best without a critical understanding of language. We think largely with the use of words and unless the scientist learns to use and organize words effectively, thinking of the scientists may lack precision and accuracy. Again, an engineer may be a better engineer if besides building a bridge of technical perfection, he also understands the social change likely to be brought about by the bridge between two communities on either side of a river. As the American Society for Engineering Education observed in its Report on Evaluation of Engineering Education (1952-55) "Engineering education must contribute to the development of men who can face new and difficult engineering situations with imagination and competence. Meeting such situations invariably involves both professional and social responsibilities".

General education would not be worth having if it undermined in any way specialisation of a high order. We envisage general education to create a milieu in which the speciality can develop its fullest possibilities, and to create that balance and background which can improve the specialist's pursuit of creative activity. As the *Journal of General Education* (Oct. 1947) put it, "Even the success of the most competent specialist depends upon general capacities. The man of deep understanding, of rich culture, of flexible mind will not long be at a disadvantage in competition with those who have merely acquired a vast amount of technical information. The dramatically swift success of the narrowly trained practitioner is ultimately overshadowed by the achievement of the person of philosophic grounding." If the programme of general education is properly conceived and imaginatively executed by skilful and experienced teachers, it may generate an intellectual climate in which the creative genius of Indian specialists of all kinds will have a chance to grow and flourish.

2. Methods of Implementing Specific Objectives

Both the lecture and discussion methods can be used with advantage for imparting general education. Discussion may, as it too often does, degenerate into a series of brief uninformed lectures and the lecture may turn into an uninterrupted monologue. It is well to

remember here that even the best method will not avail much in the hands of a bad teacher. The real aim of education, it will be admitted, is to enliven the imagination of the student, to help him discriminate between valid and invalid conclusions and to put him on the path of discovering and integrating knowledge for himself. A skilful teacher can do so either by the lecture method, or by the discussion method or by both in combination. In fact and indeed a really inspired teacher could use all the tools that modern developments in science and education have placed at his disposal.

The Committee therefore feel that the pivotal problem of general education, as indeed of all education, is the teacher on whom will depend the success or the failure of the scheme. Relegating the programme of general education exclusively to junior members of the staff or to new recruits is to work a process whose failure can easily be foreseen. It is just not enough to have an expert committee at the top and entrust the execution of the programme to junior or new teachers. To the question who should teach courses in general education we have no ready answer. But, it should not be difficult to visualise a happy situation in which the really top-men in a university find time to make the programme a success. The committee would cite the instance of Dr. S. Radhakrishnan who when he was the Vice-Chancellor of Banaras Hindu University, used to give weekly discourses on the Gita.

3. Development of Language Skills

Curricular requirements in our universities have undergone marked changes during the last fifty years or so. Till about the appearance of the Saddler Commission Report, the general pattern of course in the school and the first two years of the colleges in India was one of compulsory core subjects almost without any provision for electives. Even in the last two years of the college course, two languages, viz., English and an Indian classical or modern language which together accounted for half of the lecturing time, were obligatory for most of the students, the other half being available for the subjects chosen by the student. The two obligatory languages for the B.A. degree were largely intended to serve the purpose of liberal or general education. But as the reports of numerous expert committees and commissions point out, the teaching of languages has ceased to cultivate

the mental attitude needed for great literature and thought. In some universities not only are languages taught merely for the purpose of passing the examination but an increasing number of science students do not have any familiarity with any language except perhaps the rudiments of English. We endorse the view of the *Govindarajulu Report* that here is the one place where general education can repair a neglect and also revive some of the attitudes usually associated with liberal education.

The committee is aware of the fact that even the best general education programmes will be useless, if the students have not developed adequate language skills by the time they enter the university. Enough attention is probably not given to this in schools. We recommend therefore that the pre-university class should be used for improving language skill in English and in the regional language. While the importance of English is on the whole recognized, it is doubtful, whether it is taught well at the present time. In view of the increasing importance of the regional language as a medium of communication at the local and regional levels, the student should also have a greater experience of the regional language. We think that it is appropriate to combine at the pre-university level a programme of general education with the development of language skills. For example, the prescribed books in languages could include books dealing with ethical, aesthetic and spiritual values. In view of the poor standard of English of the average pre-university student, it may be desirable to have a majority of these books in the regional language while attempts are made to improve their knowledge of English through special courses.

Another reason why we recommend combined programme of languages and general education is that the work-load of the pre-university class in many universities is already quite heavy. For example, besides the usual subjects the pre-university student at Aligarh has to study Muslim Theology or Islamic Civilisation. Again, apart from English, Aligarh has also to do both Hindi and Urdu. In fact, faced by such a situation, the university has decided to give up general education courses for pre-university students from the next year. While we appreciate the special difficulty of this university, and other universities similarly placed, we still think that the experiment of imparting general education through the compulsory languages is possible and feasible.

4. General Education in the Three Year Degree Course

We recommend that science students may be given the regular science course and a general education course in the Social Sciences and the Humanities. Similarly non-science students may be given the regular course of their departments with a general education course in science. Inter-alia, such a course for arts students should bring out the relation between man and his physical environment and the role that experimental and scientific methods have played in advancing the boundaries of human knowledge and man's conquest of nature. Among other things, the Social Science course for science students should attempt to emphasize the relationship between man and his social environment and cultural heritage. As another alternative, if requirements for further education do not stand in the way, science students may be given instead of the normal science course a specially devised general education course in science *of equal weight.* Similarly in the place of the normal course in Arts, a specially devised general education course in the social sciences *of equal weight* may be provided. Welding general education with normal arts and science courses should, however, not result in bringing down the standards of the first degree examination.

As a third alternative, some universities may find it possible to devise a common general education programme for all students. In view of the fact that General Science and the Social Studies form an integral part of the scheme of higher secondary examination courses all over the country, an experiment in this direction seems attractive. However this possibility seems to be circumscribed by the poor standard of students at the higher secondary level.

5. Reading Material

The problem of selection of reading material is not easy. The present range of human knowledge is so vast that any attempt to give even a bird's eye view of it would seem to be impracticable. Selection has, therefore, to be made judiciously. Here, we would like to recommend the criterion suggested by Whitehead, "A student should not be taught more than he can think about. Selection is the essence of teaching. Even the most compendious survey is only the rudest outline from reality. Since the problem of choice can under no cir-

cumstances be avoided, the problem becomes what, rather than how much, to teach: or better, what principles and methods to illustrate by the use of information". It should however be remembered that general education is not about a subject but of a subject based on definite knowledge.

Production of reading materials for general education courses will reflect in many ways the philosophy and the intellectual climate of a university. For this reason, if for none other, the committee recommends that the utmost care and thought should be given to this matter.

Further, appropriate and adequate reading material for general education courses is important for two reasons. First, if colleges can ensure that this material is actually read by the students, we shall have achieved some revival of the reading habit and more than justified the introduction of these courses. Secondly, if the reading material is chosen suitably to provide for more than one point of view on the same question, it will help students to form judgments of their own.

The committee had an opportunity of noting the effort made by the M.S. University of Baroda to produce some reading material. This was intended by them for use in their own university. Aligarh Muslim University has, however, a much bigger scheme and has been engaged for sometime in producing material which, it was hoped, would be useful to many universities in India. It would, undoubtedly, be advantageous if the reading material produced by one university could be used by other universities wholly or in part. But, the probability is that each university or the universities in a particular region will want to produce reading material to suit their own syllabi and requirements. More important, this reading material, once produced, should not become sacrosanct and unalterable.

In Baroda and Aligarh Universities we found two matters for comment. The small treatises which are produced for the purpose of covering a part or the whole of the syllabus in a given area do not always encourage an original and independent approach to the problems and issues in those treatises. Books of this type may also generate the feeling that the views expressed through them are the views of the university. Further, there is always the possibility of using

those 'text-books' as vehicles for propagating particular views and attitudes rather than the thoughts of great men on great issues. Secondly, as experience in Baroda has shown, such treatises are open to the danger of being memorized for the purpose of the examination. And, it may not be too long before cheap bazar notes are written on these books.

These observations do not, however, constitute a disapproval of lectures being written out by persons delivering them for the benefit of their colleagues.

Assistance will have to be given to universities for producing suitable reading material for general education courses. Persons entrusted with the responsibility of selecting the reading material may be given suitable remuneration. In some cases universities might find it desirable to get the reading material translated into the regional languages; translators may have to be paid while ordinary printing and publishing cost may be recovered from the students.

6. Library and Equipment

We feel that for proper implementation of the scheme of general education it will be necessary to strengthen the libraries of the colleges as well as to provide equipment for the teaching courses in science and fine arts. We envisage a sum of Rs. 10,000 (NR) and Rs. 2,000 (R) per annum for the addition of books concerned with general education and an equal amount for equipment and audio-visual aids. These items of expenditure may be met by outright grants by the University Grants Commission and suited to the content of general education. A number of sets of the books may be provided. They should be of the kind and in the language that could be easily understood by the students. The position with regard to the science equipment already available may have to be reviewed and additional grant given, if necessary.

7. Accommodation

In most colleges rooms are not available at present for holding discussion groups. We think it may be necessary to provide for four to six discussion rooms, one lecture hall, one office room and a store

room for the purposes of general education. The following areas are suggested:

Discussion Rooms (4 to 6 rooms)	1,600 sq. ft.
Large Hall (to accommodate 200 students)	2,000 " "
Store Room	400 " "
Office Room	400 " "
Total	4,400 " "

Assistance to colleges for providing accommodation as specified above may be made available by the University Grants Commission on the usual basis. The committee is of the view that the above mentioned facilities will be necessary for the proper implementation of the scheme of general education. We have noted that in many of the colleges additional space has already been provided under the three year degree course scheme. This has, no doubt, improved conditions in various colleges but may not be quite adequate for meeting the additional needs of the courses of general education. We noted that buildings are being put up in the universities of Aligarh and Baroda with generous assistance from the Ford Foundation for the accommodation of general education courses. These buildings will, no doubt, facilitate the working of general education programmes in these two universities. We do not, however, envisage the construction of such large buildings in other universities for the purpose.

8. Seminars, Workshops

The committee feel that for implementing the programme of general education it will be necessary to hold seminars in general education which would function as workshops for providing orientation and training in the technique of these courses. Responsibility for this will have to be taken by the university to which colleges are affiliated. It is understood that some universities are getting assistance for this purpose from the Ministry of Education.

9. Additional Teachers

To the extent to which the introduction of general education courses contributes a net increase in the teaching load of the university or college departments, it will be necessary to provide for addi-

tional staff. For determining the requirements in this regard we may take into account the size of the class, the size of the discussion group and the number of periods devoted to this work.

We envisage the following methods of teaching and discussion at the pre-university stage:

In the area in which a student has offered a general education course, he will have two lectures and one discussion class and he will have also one lecture and one discussion class in the area which is or is to be his speciality. The size of the dicussion class will be 25: each class of 100 students will be divided into four sections for the purposes of discussion. Thus an arts student will have three periods of general education in science and two periods of general education in arts. The maximum addition for a class of 100 students under this arrangement will be 11 additional periods per week (three periods for three lectures plus two periods of discussion class for each of the four discussion groups of a class of 100 students). The net addition may actually be less as a result of any reduction in the number of subjects consequent on the introduction of general education courses. For a college with 300 students in the pre-university class the net additional requirement of staff would be two or three teachers. In view of the large number of optional subjects and the consequent difficulty in getting together all students at the same time in degree colleges, the addition to the staff may be worked out on the basis of one teacher for every hundred students of the first and second year of the degree class. Thus the total additional staff requirement of a degree college of 1,000 students would be 2 teachers for the pre-university class with 300 students, 2 teachers each for first year and second year classes with 250 students in each, i.e. 7 teachers in all of whom 4 may be senior and 3 junior teachers. One of the three senior teachers may co-ordinate the programme of general education. In addition, one lecturer who will be arranging demonstration classes, etc., may be provided, if required by the college.

We agree that for the purpose of co-ordination, it may be necessary to appoint a special staff of at least 3 persons of whom one should be given the responsibility for co-ordination. In addition, it may be necessary to have a technical assistant to take care of the audio-visual and other material aids. We believe that the bulk of teachers should be drawn from the various teaching departments. As already stressed

earlier, courses in general education should be given as far as possible by the senior teachers. We are not in favour of the establishment of an independent department of general education, but though for purposes of co-ordination and guidance a general education centre may be created. We envisage general education as a bridge between departments, if it is so, an independent faculty or a separate department of general education, cannot serve the purpose.

10. Evaluation

Serious thought has been given in recent times to improve our system of examination but the difficulties involved are very great for any radical change to be brought about quickly. In the case of general education, however, a change in the system of evaluation is intimately connected with the achievement of the objectives of general education. If the subject matter of general education courses is tested annually by a comprehensive examination based on papers set by external examiner we shall have to contend with an additional but unnecessary load on the students and such evils as cramming and bazar notes during the final examinations. It is therefore necessary that without waiting for a change in the examination system for all the courses, we should immediately put into operation the many practical improvements that have been suggested. The first of these is that the teacher in-charge of the discussion group should carefully ascertain the reading done by the students from week to week. This may be done by making each student participate in the discussion on the weekly assignment. Secondly, a short quiz of five or seven minutes could be arranged any day without advance notice. The objective of both the discussion and the quiz will be to gauge the depth of understanding a student has reached in a given course.

It is not suggested that the final test in general education courses should invariably be given by the internal examiners. What is suggested is that due weight, say 50% of the credit in a given course, should be given to the assessment by the teacher in the class-room. This scheme may first be tried in the university colleges which are situated within the university campus or are very near to the university headquarters so that, if necessary, the university can supervise the methods of evaluation with case and at short intervals.

We believe that it is neither feasible nor practicable to give 50%

weightage to the evaluation of class-room teachers in far-flung affiliated colleges. A beginning might be made with 25% in the first instance on the stipulation that an officer of the university, not below the rank of a Reader, will go round the affiliated colleges to check the reliability and validity of their methods of assessment. Madras and Rajasthan Universities have similar procedures for checking the internal awards of their affiliated teachers' training colleges.

11. General Education in Affiliating Universities

The special problems which confront the affiliating type of universities in introducing general education or, for that matter, any reform, were brought to the notice of the committee at Madras and Bangalore. Because of the varying quality and quantity of personnel and physical resources available in affiliated colleges, the pace of reform is usually set by those affiliated colleges which are not advantageously placed in relation to the better ones. In order to ensure that at least a minimum of standard is reached by most colleges, the affiliating university is forced to prescribe courses and standards which, in the interest of uniformity, have to be followed. This leaves, naturally, little room for experimentation with new methods and courses. It is not always possible to see, for example, that the library facilities are adequate in all the colleges. The success of general education, as indeed of any system of education, will be determined by the teachers of competence who are not always plentiful in the affiliated colleges. It is therefore necessary to be cautious in regard to developing courses of general education and in devising appropriate techniques of assessment.

While the committee agreed that the problems peculiar to the affiliating type of universities do not lend themselves to easy and quick solution, nevertheless it is felt that these universities could improve their supervisory role in relation to prescribed requirements. At least some of the better colleges could be entrusted with making experiments both in the development of courses and appropriate test materials for general education. Alternatively, a few affiliated colleges in a limited neighbourhood could pool their physical and personnel resources and introduce whatever reforms were possible. The university could also encourage the experiment by providing (a) visiting teachers, (b) books and reference materials and (c) guidance from experts appointed for the purpose. With such supervision from the

headquarters colleges or groups of colleges could be helped to create the necessary conditions for a successful implementation of the general education programme.

Affiliating universities with a university college need not feel obliged in our opinion to have the same pattern of general education as in the affiliated colleges. In fact, we think that the university college may adopt a different system which may include experimentation in the same way in which a unitary university can do it. The experience gained by the university college and the persons who have that experience will be helpful to the affiliated colleges to improve their own methods. The trained personnel from the university college can also help in holding periodical tests to minimise the disadvantages of a cumulative external examination. We also suggest that the university may first organise periodical seminars for the mutual exchange of ideas and experiences etc., between teachers of the univeristy college and teachers of the affiliated colleges.

5

Summary and Resulting Recommendations

1. Objectives of General Education

General education concerns itself with a concept of education rather than with the content of courses; it is a different method of teaching and to some extent of learning; it is an approach to knowledge rather than the imparting of knowledge itself; it emphasises the generic rather than the particular. It is a complimentary, not a self-sufficient part of university education, meant to prepare the modern citizen. It emphasises the active more than the contemplative part which the student has to play in it.

Intellectually, general education should evoke curiosity and develop it into a searching interest; it should arouse questions that lead to knowledge, and only eventually to the forming of opinion; it should sharpen reason for controlling emotions and where possible develop controlled emotion into creativity.

General education should lead the student to an awareness of himself and of the place which through his profession he will occupy in relation to his society. It should help him to acquire what may be called an "outlook on life" or a "philosophy of life".

General education should make students understand that learning is a continuous process which does not stop with the earning of a degree. It should also prepare students to develop a spirit of enquiry and intelligent formulation of their doubts and quests and to acquire sufficient information about where to look for answers. It should

instil in students a respect for facts, data and available sources as well as an awareness of problems of human existence which may not be solved through the ordinary processes of reasoning.

2. General Education as an Integral Part of the Required Curriculum

It is essential that the so-called general education courses are made a regular part of the curriculum. This implies that they take the place of either compulsory or selective courses and that at least a passing mark earned through appropriate tests will be a pre-requisite for admission to the final B.A. or B.Sc. examination.

It is preferable to develop general education courses out of courses that are at present part of the prescribed curriculum for the B.A. or B.Sc. programme. This necessitates some reorganization of the curriculum, so that general education is imparted through regular course-work in each particular area and also through additional course-work in those areas which are not read at principal level. There is ample opportunity for such changes in the programme for the pre-university year as well as the first and second year of the courses for the first degree examination.

3. Pilot Projects in General Education

After general education courses have been introduced as a required and regular part of the curriculum for the first degree examination, an attempt should be made to select a few well-established colleges which would be given the freedom to develop courses of general education and to devise a system of reliable and valid internal assessment. Such projects could be initiated in unitary universities where senior members of all faculties are easily available for consultation and guidance. The affiliating universities could start such pilot projects in some selected colleges in a limited neighbourhood where all their resources could be pooled and help could also be secured from the university headquarters in the form of (i) reference materials, (ii) audio-visual aids, (iii) visiting teachers from various faculties and (iv) advice from experts in the field. Courses and methods of assessment of general education would be open to review in the light of experience gained from these pilot projects.

4. Organisation of a General Education Centre

General education will not amount to much unless somebody is fully responsible for its development. Therefore it is essential that universities and colleges which introduce general education establish a general education "centre" (or whatever it is named) with a limited number of members who give their major attention to this work and who undertake the co-ordination of the total programme in consultation with the representatives of the different departments of study who, in turn, should be willing to form a reservoir of participants for it.

Nobody in this "centre" should be concerned exclusively with general education. On the contrary all teachers in general education should remain members of their respective departments, participate in their departmental work, offer courses within the regular curriculum and use departmental research facilities. But in the case of those teachers who devote a major part of their time to general education, the head of the general education centre has to judge their performance and propose their advancement within the university.

The head of the general education set-up does not have to devote himself exclusively to this task. However, unless there is a responsible co-ordinator authorized to call on all faculty members for co-operation, general education cannot make much headway. Unless the senior faculty members are encouraged or if need be persuaded to participate, general education will not have its proper academic status and those participating in it will not have the prestige and security without which they cannot make a success of it.

Even a small college can designate a representative for each of the three major areas (Science, Social Sciences, Humanities) who will form a general education "centre" and design a programme that the college can carry out. In the universities (unitary universities or headquarters of affiliating universities) this "department" may have a larger number of teachers depending on actual needs.

5. Reading Material for General Education Courses

Judging from experience in India and elsewhere it is unlikely that general education can be taught with the help of text-books. Even if they can be written and made available they would very soon be

out of date, because for a number of years general education in the Indian setting will have to be experimental, flexible and open to revision. Some of the expected results are attainable only by the method of trial and error. This does not mean that there is no need for reading, listening and viewing material (audio-visual aids) all of which is not readily available, but has to be assembled or freshly prepared for the purpose.

Unless it is possible to whet the intellectual appetite of the students for inquiries into the different fields of human knowledge and their interdependence, they will not start reading original sources. Furthermore, unless tests and quizzes cover a broader field than is dealt with in lectures and cyclostyled material, students will not realize the difference between the traditional course circumscribed by the traditional examinations, and the type of knowledge and understanding which tests in general education are meant to foster.

6. The Teacher of General Education

Even more than in any other area of the academic enterprise, in general education the teacher is all important. Therefore it is essential that all ranks participate in this new effort and that it be regarded as a valuable and deserving activity for an academic teacher. The relative isolation of the several departments has to be pierced for this purpose. Flexibility in planning and tolerance in evaluation, mutual visits of teachers to each others classrooms, regular consultation on teaching methods and results, and discussion of student problems in general education have to be part of the duties which the participants must be willing to assume.

Since the general education programme will involve re-examination of the syllabi as well as a completely new working out of lectures and seminars, all teachers in general education should for at least the first year be relieved of two hours for each hour they are engaged in general education, so that they can devote more time to the careful preparation of their new task.

Equally important is the recognition the teacher gets for his efforts in general education. Even though he remains with his department he cannot give it as much time and attention as those who do not participate in general education work. Therefore he has to be assured

that good teaching will be rated equally with publication and research as qualifying him for academic promotion.

7. Seminars and Workshops

The faculty members who will participate in the general education programme should meet for a seminar during the long vacation. Experienced general education teachers from institutions already engaged in this activity may be invited as advisers. The purpose of such seminars and workshops will be inter-alia (a) to discuss the aims and objectives of general education in the changing social order of India, (b) to spell out these objectives in terms of behavioral changes in respect of social, intellectual and academic issues, (c) to discuss the problems arising out of the actual execution of current programmes, (d) to review the materials prescribed or recommended for general education courses, (e) to discuss new experiments in the field, (f) to devise methods of evaluating reaction of students and (g) to evaluate the success of the programme in relation to accepted aims and objectives.

8. Assistance by the University Grants Commission Towards General Education Programmes

The Commission may assist colleges and universities in a suitable manner or as indicated in this report in some or all of the following areas:

(a) Cost of conferences and seminars;

(b) Cost of additional teachers;

(c) Cost of translation of reading material needed for general education courses;

(d) Cost of printing or cyclostyling such material (which may be later recovered if students pay for such material);

(e) Mechanical equipment like projector, tape-recorder, phonographs etc., and material like slides, records etc., needed for it;

(f) Additions to the library, selected strictly for general education

purposes and kept separate and easily accessible for students working in general education;

(g) Minimum office equipment and small secretarial staff for general education centres at universities and colleges;

(h) Cost of additional rooms and a hall for discussion and general sessions.

9. Standing Advisory Committee on General Education

The committee venture to suggest the establishment by the University Grants Commission of a permanent advisory committee on general education which among other functions might:

(a) Review applications for support in general education with regard to basic principles of educational policy;

(b) Encourage experimentation by universities and even individual colleges, whether constituent or affiliated, within the broad limits proposed in this report;

(c) Review regularly the progress of significant general education experiments and suggest changes in academic and educational policy;

(d) Participate in regional or central conferences.

In conclusion we wish to express our sincere thanks to the University Grants Commission for the help given by its secretariat, particularly by Dr. J. N. Kaul, Education Officer, towards the successful completion of our work. We are also grateful to the universities of Aligarh, Baroda, Madras and Mysore for affording us the opportunity of meeting members of their staff and discussing with them problems relating to the teaching of general education.

Sd/- S. Govindarajulu (*Chairman*)
" G. C. Bannerjee
" S. V. Kogekar
" H. Enoch
" P. J. Philip
(*Member-Secretary*)

APPENDIX I

EXTRACTS FROM THE OBSERVATIONS OF THE UNIVERSITY EDUCATION COMMISSION (1948-49). GENERAL EDUCATION

1. The Functions of General Education

Higher education should not be looked upon as the acquiring of certain conventional accomplishments which mark one as a member of the educated class. It should be well-proportioned preparation for effective living in varied circumstances and relationships. The interests and opportunities and demands of life are not limited to any few subjects one may elect to study. They cover the entire range of nature and of society. That is the best liberal education which best enables one to live a full life, usually including an experience of mastery in some specialized field.

The person with a narrowly specialized education is like a man who lives in a house with only one window, so that he can look out in only one direction. A general education should open windows in many directions, so that most of the varied experiences of his life, and most elements of his environment, shall have meaning and interest to him.

2. The Effects of Over-Specialisation

Unless a person's elementary and secondary education has been unusually fortunate, and except as he has active curiosity which leads him to educate himself in varied fields, the typical college graduate is largely ignorant outside of his own subject. So far as higher education is concerned, narrow specialisation is frequently compelled by rigidly fixed curricula.

3. The Value of Well-Balanced Education

The various elements of education should be pursued in vital relation to each other, so that for any person the result will be the best

practical all-round development, together with effective training in his own field of work.

4. Increasing Interest in General Education

Among the suggestions for improving higher education which we have received during the course of our visits to the universities scarcely any has been more frequently or more vigorously presented than the need to escape from the extreme specialisation which now prevails. From our own observations and study of the situation, we are impressed with the need for general change in accord with these suggestions.

5. The Content of General Education

The ways by which a person can get a general acquaintance with his world are fairly well known. Understanding of the physical environment is enlarged and deepened by the science of physics and chemistry, and by study of geography, geology, meteorology (the science of weather) and astronomy. The world of living things is given clearer and greater meaning by the study of biology, physiology and psychology. The affairs of humanity come to be more intelligible and interesting through study of man's make-up and background (anthropology), the records of his actions (history), his social behaviour and unofficial relations (sociology), his methods of meeting his material needs (economics), and his ways of controlling and organizing human relations (politics and government). The achievements of men in thought and feeling are preserved and disclosed in literature and the fine arts. Ability to deal with things and affairs with definiteness, and to observe and think with exactness, is aided by mathematics. Finally, intelligent interests in human purpose, motive and direction may be assisted by a study of ethics, philosophy and religion. No one of these kinds of experience can be understood as an isolated subject, but each must be understood in its relation to others.

6. The Approach to General Education

The aim of general education should be to select from the vast total of human knowledge elements which are most significant and representative, and to present them in such a way as to lead to an understanding of controlling principles and chief classes of phenomena,

with typical illustrations and cases; to the habit of applying one's knowledge to the solving of his own problems; to an attitude of interest and curiosity which will be expressed in awareness and continued growth; and to current enjoyment of living.

General education and specialised or vocational education should proceed together. Specialised or vocational education may well begin even below the intermediate school, as soon as a boy or a girl shows a live interest in some field. On the other hand, some elements of general education should continue to the end of the period of college or university training.

7. Importance of Selection of Material for General Education Courses

In view of the limitless ranges of human knowledge, any effort to get a general view may seem utopian. To quote Whitehead, "A student should not be taught more than he can think about. Selection is the essence of teaching. Even the most compendious survey is only the rudest culling from reality. Since the problem of choice can under no circumstances be avoided, the problem becomes what, rather than how much, to teach; or better, what principles and methods to illustrate by the use of information...." To the extent that a student becomes aware of the methods he is using, and critically conscious of his presuppositions, he learns to transcend his speciality and generates a liberal outlook in himself.

8. Science in General Education

As a part of general education for living, every step of education from primary school to the completion of undergraduate university work should include teaching of science. The place of science in general education should be to help the student to understand and to use the scientific method, and to have an active and intelligent interest in the whole of the physical and biological world, and to achieve those results without taking so much time as to crowd out other equally vital interests.

In each of the major fields of science the student should become acquainted with the basic vocabulary in that field, with the major concepts, and with typical cases or illustrations which will make the

concepts real to him. The aim in science for non-science students in general education should not be to make the student a qualified scientist in each field, but to give him such introduction to each that his general reading and experience in that field will be interesting and intelligent, and that his self education in each field shall be facilitated.

For students making some science their chief field an initial course in that science should commonly have a different treatment than that included in the general education of the non-scientific student. It may be more detailed, more rigorous, more in the nature of a foundation for later specialisation in that field. The aim of all-round unified general education cannot be well achieved without loss of time unless this need is recognized for different kinds of science courses for science and non-science students.

9. The Humanities in General Education

It is the business of the Humanities to conserve and to transmit the achievements of the human spirit and to discover their applications to the life of today. General education in the Humanities should aim to give each student a substantial introduction to each of the major disciplines included in the liberation tradition. It is not enough that the student be introduced to literature or history or philosophy or the fine arts. In each field he should get his bearings, learn the basic vocabulary, become acquainted with the central concepts and with illustrations or cases, and should be on the way to life long interest and self-education in each field. Just as the scientific temper disciplines and informs any study in the Humanities, so history, language and philosophy discipline and inform science. For instance, science cannot be at its best without the critical study of language. We think largely with the use of words, which are symbols for ideas. Unless we learn to use and to organize words clearly and effectively our thinking will lack precision and accuracy. Effective use of language is a powerful help to good scientific thinking, and especially to communication in science, as well as a necessary in the Humanities.

APPENDIX II

SUMMARY OF THE RECOMMENDATIONS MADE BY THE FIRST (BHAGWANTAM) TEAM WHICH VISITED THE UNITED STATES OF AMERICA IN 1956

We recommend that courses in general education be introduced in all Indian universities.

We have drawn up two schemes of general education, a main scheme that we ardently hope will be adopted sooner or later in all universities, and an alternative scheme with which a beginning may be made almost immediately.

In the main scheme, we recommend that general education covering basic studies in the field of (a) Natural Sciences, (b) Social Sciences and (c) Humanities, together with training in communication skills be made compulsory for all under-graduates preparing for a degree in a non-professional faculty. Out of the total time available for all studies in the three years, one-third should be devoted to general education courses. While the bulk of this programme should come in the first year, the rest may be distributed in the second and third years or may all come in the second year.

In the alternative scheme, we recommend that six periods per week in the first year and six periods per week in the second year of the degree course be devoted to general education courses.

Illustrative syllabuses are furnished in each of these areas. A certain quantum of general education, with suitable modifications where necessary, should be given to all students for preparing for their first professional degrees also. Passing an examination in the prescribed general education courses should be made a required condition in the case of all students, before graduation.

Instruction in general education courses should be so organised that

for every two lectures delivered, at least one discussion in small groups should be arranged.

Suitable reading material should be prepared by drawing freely upon source writings and the classics. Such projects should be adequately financed by the University Grants Commission and the Government.

Steps should be taken by which interest amongst a large number of teachers in the general education programmes is promoted as a result of which participation therein will be widely encouraged.

Expansion of libraries, laboratories and other teaching aids needed for the implementation of the programmes outlined should be provided for on a generous scale.

We envisage that in addition to the present expenditure, an approximate annual average recurring expenditure of Rs. 70 per student per year will be required for putting the scheme of general education into operation and we recommend that financial aid on this scale be given to as many colleges and universities as are willing to adopt the measures suggested in our report.

APPENDIX III

SUMMARY OF THE DECISIONS ARRIVED AT BY THE SECOND (GOVINDARAJULU) TEAM WHICH VISITED THE UNITED STATES OF AMERICA IN 1957.

Resolved:

1. (a) that it was not expedient for the team to write a single report with agreed objectives and methods of general education for adoption by every university in India,

   (b) that the groups from different universities should revise their reports after return to India and send them to the Chairman by the first week of September in a form suitable for publication,

   (c) that the Chairman should write a consolidated introduction to the reports of the group,

2. that general education should be incorporated in courses of studies of universities,

3. that it should continue to be open for under-graduates to specialise in a subject of their choice,

4. that any scheme of general education in a university should apply to all the students in the university though provision might be made for more than one type of general education,

5. (a) that there should be courses specially designed for general education in each of three areas of knowledge—namely, Humanities, Social Sciences and Sciences,

   (b) that an under-graduate specialising in a subject in one of these three areas, should take at least one course in each of the other two areas.

(c) that devising special courses for general education would take time and each university should take steps to encourage teachers to devise these courses and publish books relating to them,

(d) that pending devising such courses it would be desirable to make a beginning immediately by requiring students specialising in one area to take whatever courses are readily available in other areas,

6. that if on account of the language load it was difficult to find time for courses in areas other than that of specialisation, the possibility of utilizing part of the time set apart for languages to serve the double purpose of improvement of the use of the language and study of one of the general education courses, might be explored,

7. that in a programme of general education in science laboratory experience for the students would be a desirable ideal but that if facilities for laboratory work are not immediately available, a satisfactory programme in science general education could be arranged with lecture room demonstration, for which also colleges would need suitable accommodation and equipment including audio-visual aids,

8. that there should be general education courses in the pre-university or preliminary year and the first two years of the three-year degree course, the third year being wholly available for the area of specialisation,

9. that in the pre-university year there should be courses covering all the three areas besides teaching language as a language (that is, what is known in American universities as communication),

10. that in the first two years of the three-year degree there should be courses covering all the three areas,

11. that universities continuing for the time-being the four-year course, could adopt a pattern similar to that recommended for the three year course,

12. that professional courses also should find room for general education,

13. that it was assumed that general education would be in the secondary school stage and that any specialisation permitted at that stage should not make it possible for a student to give up courses in any of the three areas,

14. that while the need for changing the present system of examinations was recognized long ago, general education required a pattern of evaluation different from the prevailing external examination specially because of the objectives of general education,

15. that the prevailing method of instruction of lectures should be supplemented by small discussion classes and seminars at least for general education courses, and that the necessary audio-visual aids and library facilities should be available.

APPENDIX IV

SUMMARY OF THE RECOMMENDATIONS MADE BY THE THIRD (KUPPUSWAMY) TEAM WHICH VISITED THE UNITED STATES OF AMERICA IN 1958

1. Often general education is looked upon as an additional load on the student. There was consensus of opinion that our concept of general education should be something integral and should consequently involve a reshaping of the under-graduate courses so that every student will have reasonable acquaintance with the three broad areas of knowledge, (a) Humanities, (b) Social Sciences and (c) Physical and Biological Sciences and Mathematics, while he may specialise in one branch.

2. The committee feels that the under-graduate course should comprise the following three parts:

   (a) Part I – Required of all students – Communication, Indian literature, English literature and India after independence.

   (b) Part II – General education – One or two courses from each of the following:

      (a) Humanities, (b) Social Sciences and (c) Physical Sciences etc.

   (c) Part III – Field of concentration – In any one of the following: (a) Humanities, (b) Social Sciences and (c) Physical Sciences etc.

3. (a) The courses designed as 'composition' have not been able to improve the skills in communication. The committee strongly feels that the universities should work out a good course in communication so that students are able to get regular training in speaking, reading and writing.

(b) It is felt that if this course in communication is separated from literature course, it will be necessary in the interests of literature as well as in the development of the necessary skills.

(c) Every student must have courses in literature in an Indian language as well as in English.

(d) Besides training in language and literature the committee feels very strongly that every student should have a course in 'India after Independence' dealing with the Constitution, its amendments as well as with the current economic, social and cultural problems and institutions.

4. (a) There should be a large number of courses designed under each of the more broad areas of knowledge.

(b) Every student must be required to elect at least one, preferably two courses from each of the three areas.

(c) The courses here may be of the ordinary introductory type, or of the survey type or of the superior integrated type.

(d) The committee strongly feels that each university and college should take steps to have courses in arts and architecture and in music, aspects of Humanities sadly neglected so far.

(e) The aim of these courses should be to familiarise the students with the richness of arts and music and their value in the human development.

(f) These courses may be first started under part II for general education and may later on be developed as courses in part III for specialisation.

5. (a) Students must be given full opportunities to get a thorough training in one of the three branches of knowledge to ensure depth in learning.

(b) While the aim of part I and part II should be to give a

breadth as well as training in some essential skills and that aim of part III should be to give training in depth of learning.

6. (a) Steps should be taken to avoid the examination – oriented approach in the teacher as well as in the student.

(b) The exclusive emphasis on the lecture method of teaching in the undergraduate classes should be avoided.

(c) The teaching techniques should be individual-oriented rather than mass-oriented as they are today.

(d) Discussion technique should be an integral part of teaching.

(e) There should be a distribution of time so that for two hours there should be lectures and for two hours discussion by splitting up the class into small groups of about 20 students.

(f) Small group technique will (a) enable the teacher to know his students intimately, (b) decrease the sense of anonymity in the student, (c) increase the sense of participation on the part of the student.

(g) It is realised that the introduction of discussion method will increase the cost. There is also the problem of selecting teachers capable of using this technique. It is possible that training may improve the skills of many teachers.

(h) The present practice of teaching one course over two or more years must be abandoned. The teacher should complete a course in one year.

(i) If the examinations are held more frequently there may be an avoidance of this defect.

7. (a) Workshops must be organised frequently so that the teachers of general education can meet and discuss the problems connected with teaching techniques, etc.

(b) Specialists may be invited to participate in the workshop.

8. (a) The team is not in favour of starting a special department for general education.

   (b) It recommends that one person or a small committee may be appointed to organise and co-ordinate the programme.

9. (a) There should be periodical assessment of the attainment of students. The present system of one examination at the end of two or three years must be abandoned.

   (b) Teachers' evaluation based on the assessment of the day to-day work of each student should be given due weightage in the final evaluation of the students' work.

10. Counselling techniques should be used. Trained counsellors should be appointed to help the students in the choice of courses as well as in meeting their other problems.

APPENDIX V

STATEMENT SHOWING THE REPLIES RECEIVED FROM THE UNIVERSITIES REGARDING INTRODUCTION OF GENERAL EDUCATION COURSE IN INDIAN UNIVERSITIES

1. Aligarh Muslim University

General education was introduced at this university as a compulsory subject in the pre-university class in the session 1957-58 and was extended to the under-graduate classes in the faculties of Arts and Science from the beginning of the session 1958-59. The candidates for the part II examination of the first degree course took their examination in general education in 1960.

The duration of the course at present is two years. General education is a compulsory subject for the part I and part II university examinations of the new three year courses for the degrees of B.A., B.Sc., and B.Com. Its teaching at the pre-university level has been discontinued with effect from the current session as the work load on the pre-university students was considered to be excessive.

There is one paper carrying 50 marks for the part I examination and two papers carrying 50 marks for the part II examination.

The scheme of examination has been indicated above, i.e., one written paper for part I examination which is a university examination and (2) two written papers for the part II examination which is also a university examination. Multiple choice and short-answer questions have been combined with the essay type questions in order to test both the breadth of information and depth of understanding acquired by the students.

The results have justified the continuation of this new pattern of examination in general education.

2. Andhra University

The university has a general education course for the first two years of the three-year degree course and the four years honours degree course. For the three-year degree course examination, the general education course is given separately for arts and science students. The arts students are given a course in "Elements of Physical and Biological Sciences" and the science students are given a course in "Planning and Economic Development, Indian History and Constitution". For the honours students there is one common integrated course on "History and Philosophy of Science". General education course are compulsory for all students.

It is reported that, by and large, general education is serving a useful purpose but there are said to be certain organizational difficulties and inadequacies of personnel.

The general education programme is still in an experimental stage and it is felt a periodic gathering of teachers interested in general education is necessary to discuss various issues of a practical nature.

3. Banaras Hindu University

(1) General education courses were introduced in this university from July, 1959 for the pre-university courses in arts and science and from July, 1960 for the three-year degree course and for the integrated and professional courses.

(2) General education is a compulsory course for the pre-university examination and for all the three parts of the examination of the three-year degree course which in effect means that a course in general education is compulsory for all the three years of the three-year degree course.

(3) General education papers for all the three parts of the three-year degree are common. The teaching in general education is compulsory.

(4) Candidates have to pass the university examination in general education paper. At the end of each year, examination is held in this

compulsory subject and the marks are added to the marks secured by the candidates in other optional and compulsory papers.

(5) General education courses are reported to have been so framed as to broaden the outlook of the students.

4. Baroda University

The main features of the programme of general education at Baroda appear to be the following:

(1) The department of general education works under the academic control of an Advisory Committee which "gives direction on all matters pertaining to the working of the general education programme such as preparation of the syllabus, preparation of reading material, tests, grades and also considers plans for future development of the general education programme."

(2) The programme is implemented by two groups of teachers, first, by lecturers, including the co-ordinator and his assistants, who work exclusively for the department and, second, by teachers belonging to other departments on a part-time basis.

(3) The general education programme is said to be an "undergraduate programme" extending over three years through the pre-university year and two years of the degree classes.

(4) The syllabus for the first and second years of the three-year degree course consists of topics which are recommended by the general education committee, and approved by the syndicate. For example "Modern trends in Gujarati, Marathi and Hindi Literature", "How our democracy works" and "Chemistry in everyday life" are some of the topics in the areas of the Humanities, the Social Sciences and the Natural Sciences respectively. The programme for the pre-university class is dovetailed with other requirements of the course prescribed by the university. The syllabus for the first two years of degree course is given in appendix VIII.

(5) The time allowed for general education shows two periods per week for the first two years of the three-year degree course. It is

reported that from June, 1959 four periods were set apart (allowed) for the purpose.

(6) Lectures are sometimes followed by group discussion.

(7) General education is a compulsory part of the curriculum and a satisfactory grade is necessary in order to pass the final degree examination.

(8) The general education programme is still in an experimental stage; it is not possible to deal with more than a few topics in each field each year. It is not so integrated as to make it a continuous and progressive process leading to co-ordination of syllabus content, reading material, methods of instruction and system of examination.

5. Gujarat University

The university introduced an optional course in general education in the first year class of arts, science and commerce faculties. It is expected that the university will introduce general education when the scheme of three-year degree course is finalised.

6. Jadavpur University

General education was introduced at Jadavpur University in the session 1956-57. It has been included in the curricula of the under-graduate courses of study of arts and science. The course is of two years' duration and is taught in the first two years of the under-graduate courses. For the arts students the course is divided into two parts.

General Education I	Everyday Science
General Education II	(a) Social Science
	(b) Humanities.

Every day science comprises of a brief history of science and its development and elements of physics and chemistry. The Social Science course comprises of a composite course of Economics, History

and International Affairs which is meant for students who have not taken any of these as their honours of main subject of study. The Humanities course comprises of a composite course of literature and Philosophy meant for students who have taken Economics or History or International Affairs as their honours subjects. The general education course for science students comprises of the Social Sciences course which is taught in 2nd year of the 3-year degree course and consists of History, Economics and Politics.

The course of general education is compulsory for all arts and science students. The syllabus is put through during the first and second years of the under-graduate courses and forms a part of the B.A. and B.Sc. part I examination of the universiy. There are two papers of general education for arts students—Everyday Science; Humanities or Social Science—which form part of the B.A. part I examination. There is one paper of Social Science for science students which forms a part of the B.Sc. part I examination. Part I examinations are held at the end of the second year. It is reported that the course is tending to serve the purpose for which it was conceived. It is tending to round off the character of education imparted to both arts and science students by making it somewhat comprehensive. No particular difficutly has been experienced.

7. Karnatak University

The three year B.A. and B.Sc. degree course which are based on the pattern of general education courses, have been introduced from June, 1959 for three years. The general pattern of the arts and science courses is the same. But the courses prescribed for arts and science students are different.

The three-year degree courses are divided into two parts for purposes of examination. Part one of the degree examination is held at the end of the first year and part II-A examination is held at the end of the second year. But failure at the B.A. part I and B.Sc. part I examinations will not prevent a student from continuing his next course of instruction, provided that he has passed in at least four full courses at the examination. Until he has passed in the remaining subjects of the part I examination at the end of the second year and at least in 4 full courses of the part II-A examination, he will not be

allowed to enter upon the 3rd year course. Only those who pass in all the papers of the part II-A and part II-B examinations will be deemed to have passed the bachelor's degree examination.

In the implementation of the three year B.A. and B.Sc. degree courses, some practical difficulties have been noticed. To obviate these difficulties, the university was considering the question of revision of the courses to the extent necessary. Meanwhile, the Government of Mysore suggested to the two universities in the State that since there is a great disparity between the various courses existing in the two universities, they should work out together, how best these courses be co-ordinated and integrated in the interest of the students in the Mysore State. A committee was constituted for the purpose and it has evolved a new general pattern of the three-year B.A. and B.Sc. degree courses, which differs slightly from the pattern in force in this university.

(a) According to the existing pattern of the three-year B.A. and B.Sc. degree courses, the quantum of work for science course is considerably greater than that prescribed for arts course.

In the revised pattern, the quantum of work for science course has been slightly reduced and that in the arts course increased, with the result that there is no considerable difference in the quantum of work for the two courses.

(b) The three-year degree course will be properly graded and co-ordinated, when the same are framed by the university authorities.

8. Kerala University

From the beginning of the academic year 1957-58 courses are provided in all branches – Natural Sciences, Social Sciences and Humanities.

Under the original scheme arts students were to take science subjects and science students were to take arts subjects. This has been replaced by a unified scheme from the beginning of the current academic year 1959-60, and under this scheme all students are required to undergo one and the same course.

9. Madras University

The main features of the programme of general education at the University of Madras appear to be the following:

(1) General education is not included as such either in the pre-university course or in the regular three-year degree course. The scheme of studies both at the pre-university level and through the first two years of the three-year degree course, however, are said to provide for a course embracing certain elements of general education.

(2) At the undergraduate level, students take two compulsory languages, a major and an ancillary subject and a course in general education which is called the minor. The purpose of the minor course is to introduce to those taking the Humanities as major some knowledge of science particularly relating to modern science, and to those taking the sciences some knowledge of the Humanities. It is compulsory for every student taking the B.A. degree course to take two subjects in the sciences, and for every student taking the B.Sc. degree course to take two subjects in the Humanities under part IV minor. In the examination for the minors, no grades are given, only a pass is indicated, and it is compulsory for every one to pass in the examinations for the minor to earn his degree. General education is, therefore, imparted both through the regular curricula and through the minors.

10. Mysore University

General education course has been introduced in this university for the pre-university and three-year degree courses. Duration of the course is as follows:

Pre-University Course	One year
Three-Year Degree Course	Two years

There are separate courses for arts and science students. Arts students are required to study general science and science students are required to study Social Science. The course is compulsory.

The general education science introduced is tending to serve the purpose in the improvement of general knowledge of students.

11. Osmania University

The general education course has been introduced in the following faculties of the university, from the academic year 1960-61.

1. The Faculty of Arts,
2. The Faculty of Commerce, and
3. The Faculty of Science.

The course is spread over the first two years of the three-year degree courses. Examination in general education will be taken at the end of the 2nd year which is a university examination.

12. Patna University

The Academic Council has approved a scheme for general education. Regulations and courses of studies have to be framed.

13. Poona University

General education has not been introduced in this university as a separate course leading to a degree examination. However, one paper in 'Civilization-Science' and one paper in 'Civilization-Humanities' have been provided in the courses for the three year B.A. and B.Sc. examinations respectively. These papers are to be taught during the first year of the B.A. or B.Sc. examinations. This paper is compulsory at B.A. while optional at B.Sc.

14. Rajasthan University

General education has been introduced as a compulsory subject of study for the pre-university examination and the three-year degree course examination of the university.

The paper on general education at the pre-university examination is of 100 marks just as other compulsory papers are, and it consists of two parts: part I—Social Sciences and part II—General Science.

There is one compulsory paper on general education carrying 100 marks at each of the first year examination, the second year examina-

tion and the final year examination of three-year degree course (Arts Faculty).

There is one compulsory paper on 'general education' carrying 100 marks at each of the first year examination and the second year examination of three-year degree course (Science Faculty). There is no paper on general education prescribed for the final year B.Sc. examination.

The university requires that each college should make adequate arrangements for teaching of the subject of general education. The teachers of general education are required to possess at least second class post-graduate degree.

15. Saugar University

The university has not yet commenced teaching the course. However, regulations and syllabus for instruction and examination have been drawn up.

16. S.N.D.T. University

The university has introduced general education in the pre-university course in arts and the first year of the three-year degree course in arts.

This university has at present the Faculty of Arts only, and as such the general education course is only for the arts students. It is a compulsory subject.

There are said to be no special difficulties in implementing the course.

17. Utkal University

The university has prepared a scheme for introducing a course in general education which will be implemented from such date as the Academic Council may determine. This is envisaged to be an integrated course both for science and arts students without any examination at the end of the course.

18. Visva-Bharati

The general education course comprising of the following papers was introduced from the session 1957-58 as an integral part of the three-year degree course in arts of this university:

(a) History of Science	50 marks.
(b) History of Philosophy (General & Social)	50 marks.
(c) Economic and Political thought ..	50 marks.
(d) History of Indian Civilization ..	50 marks.
(e) Special period of European Literature (Classical).	50 marks.
(f) Special period of Indian Literature (Classical)	50 marks.

The course has been modified from the session 1959-60 with the discontinuance of all sections except 'History of Science' which has been retained as a compulsory paper of 100 marks in the three-year degree course of studies in Humanities.

19. Sri Venkateswara University

The university has introduced general education courses but the programme at the university college is different from that at the affiliated colleges.

At the university college, the university, on an experimental basis, is following a lecture scheme. This course runs for two years i.e. in the first two years of the three-year degree course. Specially devised courses are given to arts and science students separately. Arts students take Physical Sciences and Biological Science, spread over 2 years with 40 lecture hours and 10 discussion hours every year for each section. Science students take Humanities and Social Sciences spread over two years with 40 lecture hours and 10 discussion hours every year for each section. Discussion groups do not exeed 30 students. These courses are compulsory. A student has to take several tests from time to time and the sum total of marks decide his grade. There is no one single university examination or evaluation by external examiners. The courses as planned will, it is hoped, introduce the student to a broad based knowledge and create in him the necessary curiosity to know more about the various branches of learning. This will stimulate further reading and thinking.

There are several difficulties in running a course of this type (a) each section of the course, to be an integrated whole, will have to be done by one teacher alone. The co-operative method of a group of teachers delivering lectures in their particular fields of specialisation will not be very helpful or useful. (b) Accommodation for conducting the discussion classes is another major problem.

In the affiliated colleges there is a separate scheme in regard to general education programme pending assessment of the above experiment in the university college. All the pre-university students have to study a prescribed book and have to take a compulsory paper of three hours duration. Similarly for the B.A., B.Sc., and B.Com. (three year) degree examination, under part I (C)—general education, all the students have to study for two years two prescribed books and answer a question paper of 3 hours duration at the end of the 2nd year of the three-year course.

20. Marathwada University

The question of introducing the general education course is under the active consideration of the university which has appointed a special committee to draft out the syllabuses.

The Universities of Calcutta, Punjab, Roorkee and Vikram did not supply any information regarding the introduction of general education course.

The following universities have informed that the general education courses have not yet been introduced by them. (1) Agra (2) Annamalai (3) Allahabad (4) Bihar (5) Bombay (6) Delhi (7) Gauhati (8) Gorakhpur (9) Jabalpur (10) Jammu & Kashmir (11) Lucknow (12) Nagpur (13) S. V. Vidyapeeth.

APPENDIX VI

GENERAL EDUCATION ABROAD

1. Background of General Education in United States of America

Though the main ideas underlying general education are not new but in a way as old as the modern university itself, the present movement in favour of general education has its origin in the U.S.A. This movement is a product of some unique factors in the American social order and its educational system.

As early as 1933, the President's Research Committee on Social Trends observed that "modern life is everywhere complicated but especially so in the United States where immigration from many lands, rapid mobility within the country itself, the lack of established classes or castes to act as a brake on social change, the tendency to seize upon new types of machines, rich natural resources and vast driving power, have hurried us dizzily away from the days of the frontier into a world of modernism which almost passes belief". The influences of changing conditions of employment, population trends, the rise of labour unions, rapid industrialisation and the development of new and extensive media of communication and transportation created some new social realities, a changed climate of ideas, and an awareness of the loss of some "core-values" in American life. America grew powerful and prosperous but this did not prevent the Great Depression which, according to Laski, created a wider disillusionment with democracy, a greater scepticism about popular institutions than at any other period in its history.

It was against the background of the disorganisation and loss of core-values referred to above that the American system of collegiate education which had to cater to a growing variety and level of interests, abilities and aptitudes of students had to be viewed. The

increase in college enrolment in America was phenomenal. While in 1900 fewer than 2,50,000 students, only 4% of the population between 18 and 21 years, were enrolled in institutions of higher learning, in 1940 the enrolment had risen to 15,00,000 equal to about 16% of the population in the age-range of 18-21 years. The college population in America multiplied 30 times during 1870-1940 while the total population increased only three times.

Increase in college enrolment did not necessitate merely the multiplication of educational facilities. A question of greater consequence was the need to provide the new entrants with an educational fare that would suit their varying interests and equipment. The American college responded by increasing the number of course. The process, once started, gathered momentum. It was found that "between 1900 and 1930 the number of courses in Havard College increased from 543 to 1119, in Stanford University from 373 to 1095 and in the University of Wisconsin from 434 to 1134".

Again, an American college student was provided a bewildering choice of electives. Although there were "majors" or "fields of concentration" in a given area of knowledge, an American student could choose half of his course work from optional subjects. The development of electives went so far that two arts students might graduate from the same college in the same year without having had a single course in common. This led some educators to prescribe a moratorium on the opening of new courses. It was feared that the extreme degree of specialisation offered by large universities would preclude any chance of general education being imparted to university students.

Industrial technology and a fast developing economy necessitated concentration on specific skills and extreme specialisation. The need for intensive specialisation in new subjects created specialists who know little beyond the fragment of a fragment of their speciality; splintering of the curriculum so brought about led, in turn, to the eclipse of the classical studies and a certain disorganization in the educational pattern. An awareness of the development outlined above caused considerable concern to American educators. Growing specialism and professionalism was striking at the roots of the great tradition of liberal education. The merging educational pattern—if at all it was a pattern—did not show any unity in the curriculum nor any unity in the common educational experiences.

Various remedies were suggested and adopted to correct this situation. Hutchins advocated a programme, particularly the development of intellectual power through a reading of great books, language and mathematical study and cultivated discussion. Broad survey courses were organized to break away from narrow specialisation and rigid departmentalisation. The Harvard Report on *General education in a free society* recommended broad courses in the Natural Sciences, the Social Sciences and the Humanities besides additional general education courses in certain departments. Another variant looked not to the cultural heritage but to individual needs which formed the core of general education; in this programme, for example at Antioch College, an attempt was made to relate the individual's educational experience more intimately to the democratic and industrial character of American life.

It was, however, James B. Conant who reached the heart of the problem of general education in the United States. In his view the problem of a general education was essentially one of continuance of the liberal and human tradition. Neither the mere acquisition of information nor the development of special skills and talents could give the broad basis of understanding which was essential if our civilization was to be preserved. No one wished to disparage the importance of being "well informed". But even a good grounding in Mathematics and the Physical and Biological Sciences, combined with an ability to read and write several foreign languages, did not provide a sufficient educational background for citizens of a free nation. For such a programme lacked contact with man's emotional experience as an individual and his practical experience as a gregarious animal. It included no History, no Arts, no Literature, no Philosophy. Unless the educational process had some continuing contact with those fields in which value judgments were of prime importance, it fell far short of the ideal. The student in high school, in college and in graduate school must be concerned, in part at least, with the word 'right' or 'wrong' in both the ethical and the mathematical sense. Unless he felt the import of those general ideas and aspirations which have been a deep moving force in the lives of men, he ran the risk of partial blindness.

2. General Education in the United Kingdom

In recent years a great deal of discussion has been focussed on the problems attending the specialised education which is characteristic of the sixth form of grammar schools, technical colleges and universities in England. There is a widespread concern in the country that the division which undoubtedly exists between scientists and humanists may widen and become a permanent gulf. The problem faced by many educational institutions in U.K. is how to combine general education with a high level of attainment in specialised studies.

(a) *Science as a part of General Education at Cambridge University**

The General Board of Cambridge University proposed to provide a course that was specially planned for those undergraduates who knew at the outset of their university career that they did not wish to specialise in science but who nevertheless wished to gain a measure of insight into the aims and methods of science. It was felt that a large number of graduates did not make direct use, after they left the university, of the specialised knowledge they had acquired during their undergraduate days. For many such students it was the nature of the education they received at the university, rather than the content of their courses, which was important. The Board considered that although the majority of such non-specialist students would continue to profit from the existing courses either in the arts or in the sciences, there were others who would benefit greatly from an opportunity to study both an arts subject and science subject at the university.

The Board did not wish to overstress the differences of mentality between the scientist and the "arts" man; they were aware that both kinds of study involved imagination as well as accuracy. But they had in mind one broad distinction: arts men are trained not only to collect accurate data and to use them systematically, but also to exercise critical judgments upon matters of opinion where scholars may reach quite different conclusions. On the other hand, the conclusions of the scientist are based on precise observations and measurements, involve

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* Adapted from *The Report of the General Board on Science as a part of General Education, Cambridge University,* 1957.

exact calculations and must be tested by experiment or controlled observations; agreement on essential issues can therefore ultimately be reached. With this distinction in mind, the Board thought the time was opportune for a new scheme within the Cambridge Tripos system, designed to give undergraduates an opportunity of undergoing both types of discipline and learning to appreciate the advantages and limitations of both.

Although the Board's recommendations were based primarily on the scholarly and intellectual merits of the proposed combination of arts and science subjects, they considered that such a combination of arts and science subjects, would have other secondary advantages. Those who studied it as a preparation for an administrative career in a position where they would most probably have to deal with specialist scientists and to make judgments on scientific matters would be better equipped for their work through having made some study both of the Humanities and of scientific method and thought. The Board also considered that there was a growing belief that the study of both types of discipline would be of advantage to some of those in the sixth forms at schools, but that schools find it difficult to provide for the study because there was no corresponding course at the universities.

The specific proposals of the General Board were:

(i) The university should institute for an experimental period, a course of honours standard designed specially to enable students to undertake study of a science subject as well as of an arts subject;

(ii) The course should consist of two years' work for a part of an existing Tripos in an arts subject and a new course in science designed specially for the purpose and extending over three terms and the preceding long vacation. The proposed course should not in any way be regarded as a training for qualified scientists.

(iii) The science course should deal with a comparatively narrow branch of science in considerable depth, in such a way as to emphasise in particular the aims and methods of science;

(iv) Ultimately alternative one-year courses of this kind should

be available in more than one science. As a beginning a course in Physics, dealing with the subject "radio activity and the atomic nucleus" should be instituted for an experimental period;

(v) The teaching for the new science courses should be given by teaching officers from the appropriate department actively engaged in work in their own subject, and these officers should be relieved of some of their normal teaching by one or more university demonstrators specially appointed for the purpose;

(vi) The course should lead to a Tripos examination.

Since the aim of the course would be to teach science as part of a general education the emphasis was on those aspects of science which were of importance to students who did not intend ever to become practising scientists. In the scheme suggested in this report the student would normally study an arts subject for two years at the university, and the parts of science to be particularly stressed would be the methods of thought which are, as far as possible, different from those used in the Humanities. In particular stress would be given to the fact that in science hypotheses must be framed so that they are capable of being tested by experiments, and whenever possible the quantitative precision possible in science should be emphasised.

The course would be planned to study a comparatively narrow branch of science in considerable depth in such a way as to bring out the intellectual content of the subject. The acquisition of some detailed scientific knowledge would be second in importance to learning about the methods of investigations and the methods of thought employed in science. The subject selected for study should, if possible, have the following characteristics. If it is to appear important and live, both to the teacher and the learner, it should be a branch of science which is advancing at the present day and which has wide applications. Researches in it should have been in progress long enough for interesting lessons to be drawn from studying its advances. It should involve some exacting processes of thought, if possible with wider philosophical implications. It should be capable of being discussed through arguments conducted in words and through graphical methods, rather than through mathematical symbols, and mathematics should be used little in its presentation suitable books, and college supervisors, should be available.

(b) *Keele College*

The University College of North Staffordshire was created as a University College (popularly known as Keele College) by grant of a Charter of Incorporation on 11th August, 1949. The specific objective of this college is to explore in a practical way the possibility of a new approach to a liberal education at university level. The college is co-educational and is also wholly residential for students and staff alike.

Keele College has some features which distinguish it from other colleges and universities in United Kingdom. The first is that no student is expected to make any decision as to what he will read for his principal subjects until he has been in the university for nearly a year. The first year which is known as Foundation Year, about 50% of the students change their decision about the principal subjects which they have to pursue during the next three years. It also affords an occasion during which they all have some experience in fields of learning which are quite new to them. The students' choice of subjects for a degree is, therefore, more likely to be related to their ability and interests as it is made after a year of university life. The structure of the Foundation Year is as follows:

(a) The Foundation Year lecture course consists of two lectures each day, throughout the session. The scope of the course is the heritage of Western Civilization, of modern society and of the nature, methods and influence of the experimental sciences. The autum term is concerned with the background and heritage of modern western society, the spring and summer terms concerned with man the artist, man the scientist, and man the moral agent. Such a scheme includes contributions not only from the domains of all principal subjects, not only from fields of study such as Historical Theology and Psychology, but necessarily a contribution from realms of activity that are in fact outside the prescribed list of study in the university, e.g. Fine Art and Music. Every attempt is made to integrate and correlate lectures so that the development can be seen as having an order of thought and a pattern of attach. The team of lecturers includes the Head of every department, one or two other members of the academic staff, and guest lecturers from other universities. Such a course means that not only has an under-graduate seen how each of the various disciplines of academic study can contribute to a fuller appreciation of

the world in which he lives and the world of past generations from which his own has arisen, but he has also had some experience of disciplines which, while not being his own major interest, are those of his neighbours and companions. For the information of those who are interested, Appendix VII gives a list of Foundation Year lectures for the year 1957-58. The list is under constant revision, however, and is only given as an illustration of the coverage.

(b) Besides the Foundation Year lecture course an undergraduate attends terminal and sessional tutorials in specific subjects. This section of work embraces a wide range of choice and is so organised that it serves two purposes: it enables a student to continue work in what were his major subjects at school as well as demand from him work in a subject which is intellectually strange to him because it is either a non-school subject or is chosen from the group of studies other than the one in which his principal subjects are to be found.

(c) FOUNDATION YEAR DISCUSSION GROUPS. Here the work, as the name indicates, is that of small seminar groups. The groups consist of six or seven undergraduates and three members of the staff—one from each Board of Studies (Humanities, Social Sciences, Experimental Sciences). This group work is run on individual lines, the Foundation Year lecture in most cases forming the basis of discussion, but in fact, each group works as an independent unit having in common with others only its aim: exercise in the art of critical argument orally or in writing. Nearly all members of the staff and all Foundation Year students are involved in this kind of work.

The second distinguishing feature of Keele College relates to the system of turotials and seminars which is more than usually developed. As far as possible the listen-and-be-lectured-to approach is supplemented by group work in which students are required to take an active and vocal part. It can be seen that this is an essential part of a scheme for training in critical assessment. However, it would be wrong to think that such training is confined to the formal tutorial period. There is also the part that is played by informal staff-student contact. In fact in some ways it would be difficult to draw a line of demarcation between formal tutorials and informal discussions. To some extent this is due to the large part discussion in tutorial groups plays in academic work, but to a larger extent it is due to what is, again, peculiar to the Keele scheme: total residence for staff and undergraduates.

The third way in which Keele College is different in its pursuit is in the spread of subjects. Not only is there a wide spread study during the Foundation Year, but there are three Boards of Studies—the Humanities, the Social Sciences, and the Experimental Sciences—and during the three years succeeding the Foundation Year, the under-graduate studies four subjects. Two of these are read at principal level and two at subsidiary level. The four subjects must be so chosen that at least one is from the Humanities—one from the Social Sciences group and at least one from the Experimental Sciences. For example an under-graduate might read Physics and Geology at principal level with Economics and Philosophy as subsidiary subjects. Further, the principal subjects need not be in the same group of studies and the combinations of Chemistry and Economics, or of History and Moral Philosophy have obvious value. The distinguishing feature, however, is not so much in the spread of subjects as in their treatment. For example, an attempt is made to work out a new course in Chemistry for Foundation Year students who are not only intending to read subjects chosen from Humanities or Social Sciences but who have either deliberately turned their backs on Experimental Sciences or are quite innocent of them. An attempt is made to ensure that every student has a commitment of work that is *for him* meaningful in its content and stimulating in its treatment.

APPENDIX VII

SOME SAMPLES OF COURSE OUTLINES FOR GENERAL EDUCATION

1. University College of North Staffordshire Foundation Year Lecture Course (1957-58)

A. Background and Heritage of Modern Western Society

I. BACKGROUND

Introduction by the Principal – Physical Laws and Measurements in Astronomy – The Sky – The Solar System – The Stars – Universes – The Earth's Crust – The Interior of the Earth – Volcanoes and Igeaous Activity – Sediments: their deposition and subsequent history – The Deformation of Rocks – Fossils: their origin and value – The dating of Rocks – The Procession of Organisms – Geological Time and the Age of the Earth – The Changing Earth-I The Geological History of Britain – The Changing Earth-II Ice Ages – The Whole Geographical Environment – The Significance of Climate I – The Significance of Climate II – The Significance of Water – Geographical Control or Influence? – What is a living thing? – Conditions necessary for life – Reproduction – The Physical Basis of Inheritance – Elements of Change – Natural Selection – The origin and evolution of man – The Reproductive Cycle in Man.

II. HERITAGE

The 6th and 5th Centuries B.C. – Development of Democracy – The Beginnings of Recorded History-Herodotus and Thucydides. – The Creation of Drama – Greek Art – The Collapse of Athens – The Beginnings of Moral Enquiry – Socrates – Plato's Moral Theory – Plato's Political Theory – Aristotle. The Historical Background of Judaism – The Distinctive Religious Ideas of Judaism – The Histori-

cal Background of the rise of the Christian Church – Beliefs of the Christian Church – The Roman Republic – Problems of Imperial Expansion – The Augustan Age – The Roman Empire and the Theory of Imperial Government – Roman Britain – Constantine and the Conversion of the Roman Empire – The Decline and Fall of the Roman Empire – The Heritage of Greece, of Palestine and of Rome – The Material and Economic Basis of Civilization from the Greeks to the Renaissance-I – The Materials and Economic Basis of Civilization from the Greeks to the Renaissance-II. – Medieval Civilizations: Classical or Germanic? – Feudal Society – The University in the High Middle Ages – The Renaissance – The Religious Crisis in the 16th and 17th Centuries – The Age of Absolutism and Aristocracy: 1648-1789 – Scholastic Philosophy-I – Scholastic Philosophy-II – Descarles and Systematic Doubt – Locke and the Limits of Understanding.

B. *Western Society in the Industrial Age*

Pilot Lecture-Democracy and the Dissolution of the Ancient Regime – The Agricultural and Industrial Revolutions – The Expansion of Europe up to 1870 – The French Revolution and its aftermath – The Impact of Industrialisation on World Society – From Congress System to European Anarchy – Industrialism: The increase in scale and in pace of change – The Changed Nature of the workplace and its effect on socio-industrial relations – Social political forms and Industrialism – The Growth and Impact of Industrial Research and Development – The Age of Imperialism – The Rise of Russia and the U.S.A. – Germany and Europe, 1870-1939 – The Russian Revolution – The Between Wars World-I – The Between Wars World-II – The Second World War and its aftermath – The Notion of Sociology-Types of Societies – Social Differentiation – Social Integration – Associations, Classes and Institutions. The Problem of Change in Society – The Interaction of Cultures – Education in Primitive and Advanced Societies – The Institution of Education – Educating the many and Educating the few – Religious concern, Philanthropy, and the Schools – Education in an agrarian society and in an industrial order – The Individual and the State – Compulsory Schooling – Philosophic Principle and Social Need – Ancient and Modern in the curriculum – The Politics of Education – Politics, Government and Power – The Nature of Political Power – The Institutions of Politics; Politics and Values – The Political Process – Democracy and

Bureaucracy – The Politics of Capital and Labour – The Political Party – its Role and Nature – The Strains and Stresses of Democratic Government – The Retreat to Authoritarianism – Politics and International Society – What Economics is about and its relation to Ethics and Politics – The Basic Economic Problems – Economising and growing – The Different Economic Systems – Forms of Economic Planning in Capitalism and Socialism – Differing growth rates – through time and between countries – Booms and Slumps – Britain's dependence on world trade – The Conditions of Economic Growth – Full employment and inflation? – Is inequality of wealth functional? – Can we plan the end of scarcity? – Rural Societies – Urban Societies – The Development of Town and Country Planning – Town and Country Planning since 1943 – Planning and the use of Mineral Resources.

C. *Creative Man*

Humanism-Scholarship and the Bible – Classicism in Europe – Romanticism – Naturalism and Realism – Reflection of Industrialisation – 20th Century Developments – Epic – Romance – Elizabethan Drama – Augustan Satire – Romantic Revival – The 18th and 19th Century Novel – Music and the Fine Arts (Historical Survey) I – Music and the Fine Arts (Historical Survey) II – Music & the Fine Arts (Historical Survey) III – Music and the Fine Arts (Historical Survey) IV.

II. MAN THE SCIENTIST

Mathematics and Science in the Ancient World – Science in the Middle Ages – The Re-birth of Science–the 17th Century – Alchemy to Chemistry-I – Alchemy to Chemistry-II – Alchemy to Chemistry-III – The 19th century outlook – Mechanical Models – The Scientific Revolution, 1895-1905-I – The Scientific Revolution, 1895-1905-II – The Upper Atmosphere – The Earth's Magnetism – Physics and Comfort – The Acoustics of Buildings –. Why Smash Atoms? – Availability and Efficiency of Sources of Power – Nuclear Weapons – Nuclear Power – The Classification of Elements and the Building of Molecules – Carbon, the Unique Element-I – Carbon, the Unique Element-II – Enzymes – Food and its uses – Diet and Nutrition – Sources of Food – Agriculture and Fishing – Pests and Diseases of Food crops – Causes of Human diseases – Biology of Disease Control – Vaccina-

tion and Immunisation – Chemistry and the Treatment of Disease-I – Chemistry and the Treatment of Disease-II – Our Aging Population and Social Biology – Association and Interaction of Organisms – The Emergence of Psychology – The Scientific Study of Human Behaviour – The Physiological view of Human Nature – The Dynamic view of Human Nature – Individual differences – Applications of Psychology – Mineral resources – Water supply. Petroleum – Geology and Engineering – The Modern Chemical Industry-I – The Modern Chemical Industry-II – The Modern Chemical Industry-III – The Nature of Mathematics-I – The Nature of Mathematics-II – Facts from Figures – Statistics – Scientific Method-I – Scientific Method-II – The Philosophy of Science – Explanations – Laws and Theories – The Philosophy of Science-II Mathematics and the World – The Philosophy of Science-III. Some alleged implications of Science – The University-I What should it be and do? – The University-II From Bologna to Keele – Education: Summary and Conclusions.

III. MAN THE ARTIST AND THINKER

Medieval Art and Architecture-I – Medieval Art and Architecture-II – Recent and Modern Architecture-I – Recent and Modern Architecture II – Recent and Modern Music I – Recent and Modern Music-II – The Problems of Characterisation-I Traditional – The Problem of Characterisation-II Modern – The Tragic Scene – Shakespeare and the Modern Theatre – 'Making, Knowing and Judging' -some modern criteria – Obscurity in Poetry-I Some earlier experiments. Obscurity in Poetry-II Some earlier experiments – The Nature of Language study – Language and the passage of time – Language and space – Language as a tool – Language and behaviour – The Rights of Man – Rights and Duties – Utilitarianism – The Concept of Obligation – Believed Right and Real Right – Right and Goal – Morals and Politics – Religious Belief-I The Language of Belief – Religious Belief – II Statement of Belief – some modern problems of restatement – Religious Belief – III The Implications of Belief – the idea of a Christian Society – Religious Belief – IV The Implications of Belief – the idea of a Christian Society – The Philosophy of Social Studies – I Some notions in the Philosophy of History – The Philosophy of Social Studies – II Social Theories and Pratical Politics – The Philosophy of Social Studies – III Crime or Disease? – What is Philosophy?

2. Recommendations and Resolutions of the Hyderabad Conference

I. *General Resolutions*

(i) General education should be made compulsory and should be common to all students at the three-year degree stage.

(ii) The course must run at least for two years of the three-year degree course, at the end of which there should be an examination.

(iii) Introduction of general education course will create a great demand for large number of teachers to teach these courses in affiliated colleges. This demand can be met by arranging workshops or seminars on national or regional basis for familiarising teachers with the objectives of general education courses.

(iv) It is desirable to have periodical meetings of teachers engaged in general education to review their work and exchange experiences.

II. *Social Sciences*

Having considered the main and alternative courses suggested in the report, this committee, keeping in view the age and background of the students taking these courses, make the following suggestions which may be considered for adoption with suitable modifications by individual universities:

(i) The scheme of Social Sciences may be so devised that the courses stimulate an awareness of factual and value material in contemporary society. Its institutions and its modes of organisation in the three fields – economic, political and cultural. The structure of the courses should, however, adhere to the principle of historical and social continuities.

(ii) The course may be spread over two years leading to a university examination at the end of the second year.

(iii) The course may consist of not less than two hours a week in each year. Adequate provision may be made for discussion.

(iv) The first year may be devoted to descriptive and factual study, and the second year to interpretative and ideological issues.

The concrete proposals made in the report may be considered and utilised in the light of these suggestions.

III. *Humanities*

The main scheme and the alternative schemes of the study group report were considered.

1. (a) As far as Humanities A is concerned it was felt that a book of about 400 pages with selections from Modern and Ancient literature (Not summaries or adaptations) in the field of epics, drama, poetry etc., for two years and one or two hours a week be devoted in order to bring the student in intimate contact with great works embodying the visions of masterminds.

(b) It was also felt that these selections should be printed by the universities and made available to the students at low price.

(c) It is suggested that selections from epics and fiction could be prescribed for the first year and from drama and modern poetry for the second year.

2. As regards Humanities B, we agree with the report. Here also the selections may be about 200 pages for the two years.

3. With respect to Humanities C, it was felt that there could be two parts in the course;

(i) The students should be exposed to works of art. So it is recommended that a committee of Art critics and Historians

of Art should be appointed in order to prepare a list of the reproductions of Art for use in this course.

It is also recommended that the Central Government should get coloured slides, colour films, gramaphone, records, tape records etc., prepared for distribution to each college. The college should also have books giving the reproductions of paintings in East and West, ancient and modern. The college should also have a library of music records.

It is further recommended that musical concerts should be arranged in each college so that the students could learn to appreciate music.

(ii) It is further recommended that a book with selections from Art critics may be prepared to enable the students to learn art appreciation.

(iii) There need not be an examination for this part, though adequate incentives to ensure large attendance should be provided.

IV. *Natural Sciences*

Considered the draft syllabi drawn by the Osmania University sub-committee for central education course and resolved to recommend that the general pattern of courses as finalised at this meeting be followed. (See page 73).

GENERAL EDUCATION COURSE

SYLLABUS FOR NATURAL SCIENCES

Course – 1	*No. of Lectures*
1. Evolution of the earth	2
2. The exterior and interior of the earth	3
3. Work, energy and power	3
4. Matter	4
5. Atomic nuclei and atomic energy	3
6. Building of molecules	2
7. Uniqueness of carbon	3
8. Characteristics of living organisms	2
9. Structure of the cell	3
10. Nutrition	3
11. Plant and animal metabolism	4
12. Reproduction	3
	35
	† 10 periods for group discussion.
13. Science in Antiquity	1
14. Contributions of ancient India to science	1
15. Copernious and the planets	2
16. Bacon and the experimental method	1
17. Galileo and Kepler	2
18. Harvey's discovery of the circulation of the blood	1
19. The development of scientific instruments in the 17th century: Microscope, Telescope, Air Pump, Thermometer, Barometer, Pendulum clock	3
20. Newton and his contributions	2
21. Concept of Evolution and Darwin's theory	2
22. (a) Mendel's concepts of Heredity (b) Birth of genetics	3

23. Discovery of Pasteur and Koch 2
24. Some important scientific discoveries of the 19th cenutry: Dynamo and motor wireless, Electron X-rays, synthetic dyes 6

Course – 2

25. Modern scientific developments; radio-activity, atomic energy, plastics and synthetic fibres, antibiotics, viruses 6
26. The impact of science on modern life 2

34

† 10 periods for group discussion.

3. General Education Syllabus of Aligarh Muslim University

Pre-university (to be discontinued from 1961)

There will be one paper carrying 75 marks.

The following syllabus is prescribed:

1. For Arts students:

    1. The Universe: Stars, Solar system and the Earth
    2. The Earth's surface: Land forms and atmosphere
    3. Matter and Energy:

        (a) The Nature of Matter
        (b) The conversion of matter into energy
        (c) Atomic energy and its uses

    4. The Living World:

        (a) The living cell and forms of life
        (b) Evolution of life
        (c) Human body
        (d) Health and disease: food and shelter

5. The meaning and method of science

6. Science and society

2. For Science students:

1. The meaning of science
2. The universe:

(a) The Greek concept
(b) The Newtonian revolution
(c) The modern concepts
(d) The earth and its neighbours

3. Matter and Energy:

(a) Matter and its structure
(b) Energy – its form and uses
(c) Conversion of matter into energy – Atomic Energy, its uses and abuses

4. Our Earth:

(a) Inside the earth – its age
(b) The surface of the earth
(c) The atmosphere

5. The Living World:

(a) Origin of life
(b) Structure of the living cell
(c) Forms of life
(d) Evolution of life
(e) Emergence of man
(f) Man as an organism – Health and disease; food and shelter.

6. The scientific methods

7. Science and society

B.A./B.Sc./B.Com. Part I Examination, 1960

Modern Indian Society.

A – The Indian Heritage:

(i) Cultural synthesis in Ancient India – Pre-Vedic, Aryan and Buddhist influences.
(ii) Cultural synthesis during the medieval period.
(iii) Impact of the West.
(iv) Movement for national freedom.

B – Political Problems:

(i) The concept and forms of democracy.
(ii) Fundamentals of Indian Constitution.

C – Problems of National Unity:

(i) Secularism.
(ii) Communalism, casteism and regionalism.
(iii) Emotional integration

D – Economic Problems:

(i) Socialism and Planning.
(ii) Our needs and resources.
(iii) The Five Year Plans.

E – India and the World:

(i) India and World Peace.
(ii) India's cultural and economic relations with other countries.
(iii) India and the United Nations Organization.

B.A./B.Sc./B.Com. Part II Examination, 1961.

Humanities.

1. Place of Art and Literature in life

2. Appreciation of Literature:

(a) Forms of literature
(b) Craft of literature
(c) Values of literature

3. Art appreciation:

either (a) Appreciation of Painting

(i) Main classification
(ii) The Land-marks in the development of painting as illustrated by the following:

Landscape (Wang Wei), Bhikshu (Ajanta Mural), Mona Lisa (Leonardo De Vinci), Falcon (Mansur), A Woman Bathing (Rem Brandit, Card Players (Cezanne), Cypresses (Von Gogh), Mother and Child (Picasso), Shahjehan's Dream (Tagore), Three Women (Jamini Roy) (Some paintings to be added to this list later)

or (b) Appreciation of Indian Architecture:

(i) Brief Historical Survey of the main styles
(ii) A study of the following:

The Great Stupas at Sanchi, Chaitya Hall (Cave 19, Ajanta), Parasuresvara Temple (Bhubaneswar), Minaskhi Temple (Madura), Qutab Minar, Red Fort, The Alai Darwaza (Delhi), Diwan-i-Khas (Delhi) Taj Mahal, Buland Darwaza (Fatehpur Sikri), Moti Masjid (Agra).

4. Draft Syllabus in General Education for the Three-Year Degree Course: 1959-60 at M.S. University of Baroda

I. HUMANITIES:

A. *Literature* (1) (60 periods)

First Year: 10

Readings from Modern Indian Literature: selected passages in Prose and Poetry from Hindi, Gujarati and

Marathi. (rendered in English): 3 periods each for Hindi, Gujarati and Marathi and one period for an introductory talk.

Second Year: 10

Mile stones in the development of Indian Literature in the post-mutiny period (1857-1957) with special reference to the study of Novel, Drama and Poetry: in Hindi (3 periods).

Gujarati (3 periods).
Marathi (3 periods).
One period for summing up

Literature (2)

First Year:

Readings from Drama: Sanskrit and English (Selected scenes rendered in English)

Second Year: 10

Comparative study of theatre and drama: with reference to Kalidas, Bhavabhuti, Shakespeare, Sophcloes and Ibsen.

B. Fine Arts:

First Year: 2

Development of Art Forms from the earliest times to the present day: How and for what purposes Music, Dance, Architecture, Sculpture and Painting and Drama developed in different countries and societies.

Second Year: 6

How to appreciate Music, Dance, Drama, Painting, Sculpture and Architecture. (one period each).

C. Philosophy:

First Year: 6

Readings from the Bhagwat Gita: Selected verses on a theme to be read and understood (rendered in English)

Second Year: 6

Readings from modern Philosophy:
Passages on a theme from the works of one modern philosopher – for reading and discussion.

II. WORLD HISTORY: (20 periods) (including discussions)

1. *Pre-History*: 1

Earth and Life before man and early man in Palaeolithic and Neolithic ages.

2. *Early Civilizations*: 2

Transition to agricultural stage – Egyptian and Sumerian civilization and the evolution of writing.
Early civilization of Asia – Jews, Persian and Zoroas, China and Lao Tse and Confucius.

3. *Early European Civilizations*: 2

Greek Civilization – Democracy, Philosophy and Science. The Romans–Law and the Concept of Empire.

4. *Religious Systems*: 2

Christ and the Rise and Spread of Christianity. Mohammad: Islam and Arab Civilization.

5. *Middle Ages*: 1

Middle ages in Asia and Europe: Civilization of Persia and China.

6. *Renaissance*: 2

Renaissance: Its meaning and importance in World History. Rise of new knowledge.
Voyages of Discovery and their effect on Europe, Asia and America

7. *Science and Industrial Revolution*: 2

Science and its evolution from Renaissance to the present day – main landmarks: its effect on society. Industrial Revolution: its causes and its nature–the changes brought about in society due to it.

8. *Modern History* 4

Nationalism and Imperialism in the 19th and 20th centuries: the First World War.
Russian Revolution and the Rise of Dictatorships in the Inter-War Period: World War II.
Post-War Perspective: Rise of New Asia and its role in the conflict between Communism and Democracy.

(40 periods)

III. SOCIAL SCIENCES:

1. Comparative study of the following:
Marriage, Family, Kinship. 3
2. Caste – the traditional, the process of its evolution and the contemporary pattern. 3
3. Social Institutions; the inter-relationship of institutions. 4
4. (i) Social advantages of behaviour – (ii) Behaviour traits – Attitudes.
5. (iii) Group Behaviour – (iv) The psychology of leadership and invention. 2
6. (v) Occupational groups – study of individual conflict. 2
7. (vi) Social conflicts – prejudices – International tensions (vii) Social control. 4
8. (i) Problems of Indian Democracy: 5 lectures. 5
9. (ii) Political Doctrines or International Politics since 1919: 5 lectures: 5
10. Our Five Year Plans: 5

(i) The need for planning in our country: One lecture.

(ii) The basic structure of the Second Five Year Plan. Review and lessons of its progress: Two lectures.

(iii) The basic structure of the Second Five Year Plan. Review and lessons of its progress: Two lectures.

11. Our Economic Problems:

(i) Our agricultural problems (two lectures) 2

(a) our land problem: the organisation of agricultural production.

(b) Problems of finance, marketing and pricing of agricultural products, and other allied problems.

(ii) Problems of our Industry: 3

(a) Industrial policy of the Government,

(b) Industrial management and Industrial Finance.

(c) Scope for and problems of small-scale and village and cottage industries.

IV. NATURAL SCIENCES: (60 periods)

This course deals with man as a living organism and the world in which he lives. It illustrates the methods, achievements and limitations of the biological and physical sciences. It deals with the nature and properties of our material environment, from the very large to the very small and indicates how far civilisations depend on this environment and its control.

Wherever possible the approach will be historical, e.g., in discussing the solar system the sequence will be the cosmology of the Babylonians and Egyptians, the Aristotelian – Ptolemic synthesis, the christian cosmology, the Copernican – Newtonian synthesis and finally Einsteinian universe.

This course, mainly on the physical environment, is offered in hope that it will form a part of the study of "Man and his – environment" and we trust that the student will get an idea of the social environment and the cultural environment from a study of the courses in Social Sciences and Humanities.

A: *The Nature and Evolution of Life:*

1. What is life?
2. The living cell.
3. The procession of life—the story of evolution.
4. Man as an organism.
5. Plants.
6. Food and nutrition.
7. Health and disease.
8. Reproduction (Animals and Plants).
9. Heredity.
10. Man in relation to other living organisms—Animals and Plants.

B: *The Nature of the Physical Universe:*

(i): 1. The solar system and the universe.
2. The earth – its origin and age.
3. The earth's crust-rocks and minerals.
4. Land forms. The waste of land—problem of erosion.
5. The atmosphere.
6. Air and water.

(ii): 7. Matter and energy.
8. Structure of matter—the elements and their classification.
9. The atom.
10. Forms of energy.
11. Atomic energy and atoms for peace.

C: *Man's Exploitation of the Natural Resources:*

1. Power resources.
2. Agricultural resources: Science in the service of agriculture.
3. Mineral resources; development of various industries; metals, old and new.
4. Conquest of air.

D: *Concluding topics:*

1. The scientific method.
2. Science and society.
3. Science and literature.

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* *As the grouping of titles indicates, this selection suggests but samples for further reading. Except for the first and the last group, only books dealing with aspects of general education as discussed in the preceding report have been included.*

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