

Government of Karnataka

***SKILL INFUSED NEW LEARNING PATTERN
FOR***

UNDER-GRADUATE STUDIES

(B.A, B.Sc., B.Com, BBM, BCA, etc.)

IN

UNIVERSITIES OF KARNATAKA STATE

2014

A Report Submitted to the Department of Higher Education,

Govt. of Karnataka

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I. PREFACE

This Report is prepared by a Committee which was constituted by the Karnataka State Higher Education Council, Government of Karnataka during September 2013, Vide order **No.KSHEC/Expert Committee BA/B.Sc./2013-14/215 dated 19-09-2013.**

The committee was constituted with the objective to

- 1) Explore ways and means of making BA & BSc courses academically attractive as well as professionally compatible with national/global challenges of 21st century knowledge based society.
- 2) Look into possibility of packaging the arts/science/humanities subjects with IT subjects.
- 3) Possibly consider other alternatives or complementary measures to evolve a uniform and robust higher education policy for the state.

Therefore the terms of reference is to explore ways and means of making under-graduate BA/BSc. Courses academically attractive as well as professionally compatible with the national/global challenges of the 21st century knowledge based society.

Many reports indicate that good number of jobs are vacant in several private sectors due to non availability of graduate candidates with appropriate skills. Hence students of BA/BSc/BCom degree courses have to be provided with proper skills in order to make them employable. Generally the minimum skills desired by the job market are communication skills, mostly English language communication skills both oral and written in addition to proper professional aptitude and attitude.

Therefore in order to make our BA/BSc/BCom graduates find acceptability in the job market of the 21st century they have to be empowered with certain professional skills over and above the knowledge of the subject content they get during their study in the degree programme.

The Committee accordingly studied, compiled and synthesized information about the existing problems, difficulties, shortcomings and weak points in the present academic pattern that exists in all the conventional Universities in the State. Following this the Committee suggests the overhauling of the under-graduate academic pattern and make it modern by considering Theoretical and Practical aspects as well as the Skills needed in the 21st century along with Personal and Social Values to groom ideal citizenship so as to benefit all the stake holders and target groups, especially the students.

The committee held discussions with some renowned educationists, a few stakeholders and identified the problems in the existing system of academic pattern followed and issues faced by the stakeholders. The Committee had discussions with peers and educational facilitators. The members also compiled information from all relevant primary, secondary, and tertiary sources available in print and on the web.

The committee also noted the following highlighted goals of Higher Education for the 21st century made by Learned educationists: 1. Sharpen a student's awareness, 2. Fuel one's thirst for knowledge, 3. Teach students how to think and not what to think, 4. Develop one's creative thinking skills and imaginative power, 5. Make a good mix of Class-room Learning and Web-based learning, 6. Imbibe moral values in individuals, 7. Promote Fine Arts, Sports, Service, and Skills as part of educational process, 8. Impart skills and make a student employable and capable of earning a happy living, 9. Produce life-long learning individuals, 10. Produce individuals who are not mere resources, but assets for the society, 11. Teach individual life skills for internal harmony, 12. Expose a student to healthy competition and not cut-throat competition, 13. Promote entrepreneurship qualities in youngsters, 14. Build interpersonal skills of youngsters, 15. Make students acquire social skills, so that everyone blends well harmoniously with others in Society, and creates a cultured Society, 16. Develop individuals who can create wealth for the organization they work with and the country where they live. 17. Make everyone responsible citizens. 18. Make students to love, respect, and nurture nature,

Considering all the above, the Report was synthesized focussing mainly on the following relevant aspects:

1. The need for, and objectives of structural academic reforms
2. Lacuna in the current processes of teaching, learning and evaluation.
3. Limitations in the selection of subjects of choice for study in the existing system.
4. Offering 3 years Bachelor's Degree and 4 years Bachelor's Degree with Honors
5. Skill-based courses
6. Multiple Exits
7. Use of ICT
8. Directed by the Hon'ble Supreme Court of India, to include courses on Human Rights, Environmental education, and Indian Constitution
9. Promoting Entrepreneurship qualities
10. Inclusion of FC (FOUNDATION COURSES)
11. Inclusion of IMBHA (Integrated Mind, Body, Heart Activities)

The members of the committee will be very happy if academicians, educationists, intellectuals and administrators who peruse this report forward their suggestions for improvements that will lead all of us on to a more enlightened path towards the realization of a highly relevant Higher education System in the State of Karnataka.

II. COMPOSITION OF THE COMMITTEE

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III. EXECUTIVE SUMMARY

GENERAL PATTERN: The general structure of the education imparted by any university should include the Theoretical background, Practical components, Exposure to field work, Skills, Innovations, Entrepreneurship, and Ethics. The general pattern proposed here, is to offer a Four year under-graduate degree programme with any two subjects of equal depth in content for three years for Bachelor's Degree, with an option to the students to choose one of these subjects in the fourth year for Bachelor's Degree with Honors. In the first three years, students study different Allied Subjects along with the other two subjects of equal depth. The Allied subjects are mainly for imparting skills to the students so as to make them eligible for employment. The Allied Subjects are generally related to the skills pertaining to the two main subjects. The students should be given freedom to choose the first two subjects of their choice and also the Allied courses offered in the college. There should not be any fixed combination of subjects to be studied by the students.

ALLIED SUBJECTS: The Courses of Allied subjects are to be decided to help the students to acquire skills that are required to make them become eligible for employment. There should be freedom to the students to choose the Allied courses offered in the college. The list of Courses of Allied subjects should be prepared by the concerned Faculty in each university. A list of probable **Allied Subjects** that can be offered to the UG students is placed in the sequel.

ADVANTAGES OF THE NEW PATTERN: The proposed new pattern of UG programme generally provides the following: (a) flexibility to the students in the choice of their subjects of study, (b) opportunity to acquire proper skills that are essential for their employability, including development of entrepreneurship skills, (c) option to exit from the programme at different stages, getting a Diploma or an Advanced Diploma, or a Degree enabling the students to get employment, (d) opportunity to help the students to get good knowledge in the subject content to make them highly competitive and also (e) an opportunity for the students to pursue higher education in their chosen field of study, (f) help the students to develop their personalities with a balanced Intellectual, Emotional, Social, and Humanistic quotients, (g) opportunity to empower the youngsters with values of Character, Citizenship, Rights and Duty consciousness.

FOUNDATION COURSES(FC): The proposed new pattern of UG programme includes Foundation Courses (FC) of 4 Credits/week duration in all the first 6 semesters which provides the following: (a) undergoing the learning of three courses as directed by the Hon'ble Supreme Court of India, viz., courses on Human Rights, Environmental education,

and Indian Constitution, (b) Computer Literacy, (c) Customer Service, (d) Soft skills for Employability, (e) English for International Communication, (f) Entrepreneurship.

IMBHA (INTEGRATED MIND, BODY, HEART ACTIVITIES): Harmony in life is achieved by the integration of Body, Mind, and Heart so that all the three work together in an intra-dependence and mutually-beneficial way. Good health and vitality in the body, a grand vision in the horizon of the peaceful mind, and love and empathy in the Heart to make a life harmonious, meaningful and glorious. In other words, there should be a balance of IQ(Intelligence Quotient), EQ(Emotional Quotient), and SQ(Social Quotient). To achieve this balance, it is essential that the young University-students take part in one or more activities involving Sports, NCC, NSS, Physical exercises, Mental exercises, like Yoga, Mindfulness, General Knowledge, Extra-curricular activities, and and Voluntary Service to Society. All these subjects are grouped under IMBHA(integrated Mind, Body, Heart Activities). IMBHA is a compulsory subject of one credit in all the 6 semesters of Bachelor's Degree course. The first 4 semesters include studies of English language and a Regional language of 4 credits each per semester.

IV. RECOMMENDATIONS

GENERAL RECOMMENDATIONS

- 1) All Universities offering general degree programmes in the state of Karnataka shall adopt in their under graduate colleges a new pattern of 04 years composed of 08 semesters for BA(Hons), BSc(Hons), BCA(Hons), B Com(Hons) and BBM (Hons) programmes from the academic year 2015-16 to replace the existing 03 years - 06 semesters degree programmes.
 - (i) All courses shall be based on credit pattern under L-T-P structure with continuous assessment.
 - (ii) The new pattern offers in each of the first four semesters two language courses, one foundation course, one course on an Allied subject and a compulsory course on Integrated Mind Body and Heart Activities (IMBHA) in addition to the courses on two major subjects chosen by a student. In each of the fifth and sixth semesters one Foundation course, one course on IMBHA, and 2 each on major subjects and one Allied course are offered. Finally in 7th and 8th semesters a student specializes in one of the major subjects.
 - (iii) The new pattern provides freedom to the students to select any two subjects of their choice within a Faculty in lieu of the present pattern of three subjects of equal importance.
 - (iv) The proposed pattern provides opportunities to the students to exit after one year earning a Diploma, exit after two years earning an Advanced Diploma, exit after three years getting B A/ B Sc/BCA/ B Com/BBM degree in addition to acquiring at each stage certain skills useful for their employment and Honors degree in the fourth year in one of the major subjects chosen.
- 2) Universities can also encourage the colleges to offer Honors courses in a single major subject for a duration of 04 years in a limited number of subjects in well-equipped colleges.
- 3) A Guidance Bureau needs to be created within KSHEC to provide information to guide the students coming to degree colleges with regard to choosing of subjects and also career opportunities available after graduating in such subjects. These details should be made available on the website of the Council. In turn, each college should

have a counselling centre with a mentor to guide the students and explain to them about the information available on the KSHEC website in this respect.

- 4) KSHEC should create a repository of video lectures of eminent scholars in different subjects developed by all the universities, UGC and the lectures available on YouTube and it should be made available to all the colleges through its website.
- 5) Universities should encourage the colleges to adopt the system of peer teaching in which the talented senior students are used to teach juniors. In fact it should be a routine practice to be adopted in colleges.
- 6) Universities need to adopt in their regulations to ensure constant engagement of students through project work, study tour, assignments- either individually or in group, report writing and its presentation, model preparation, Internship, discussions and debates.
- 7) KSHEC should play a pivotal role in the creation of a constantly upgraded Web based contents on each subject and the question bank and the same should be made available to all the colleges in the state.
- 8) Colleges should develop a system of making the best answers of students available as models for all other students through the college website.
- 9) Universities should design many Allied courses catering to the needs of different and diverse interests of students; for example, learning for Civil Service and other competitive Examinations, learning Foreign/other Indian languages, learning cross-disciplinary subjects and so on.

POLICY RECOMMENDATIONS:

- 1) Government as a policy may replace the present 3-year Undergraduate Degree program in general subjects with 4-year Undergraduate program followed by 2-year Postgraduate program.
- 2) Government may enforce the implementation of Lecture-Tutorial-Practice (L T P) structure as a Teaching Learning model with continuous assessment in a Credit based system.
- 3) A work load of one teacher to sixty students (1:60) for theory and 1:15 for tutorial/practical classes need to be adopted for ensuring Quality in Higher Education.
- 4) Government may have to increase the number of merit cum means scholarships, introduce fee waiver and also offer other types of assistance to the needy students coming to Higher Education like the introduction of earn while you learn scheme.
- 5) Government may introduce Remote learning scheme in viable subjects through ICT infrastructure.

V. INTRODUCTION

Rabindranath Tagore, first non-European and Indian to win the Nobel prize for literature in 1913, whose compositions were chosen by two nations as national anthems, India's "Jana Gana Mana" and Bangladesh's "Amar Shonar Bangla", and Founder of Visva-Bharati University, held profound thoughts on Education needed for India, comprising practicality of education and skills. Another great thinker of modern India and mentor for many well-known Indians and foreigners, Swami Vivekananda, stresses the importance of skills and character in his much-quoted saying: " We want that education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one's own feet".

According to Rabindranath Tagore, teaching should be practical and real but not artificial and theoretical. As a naturalist out and out, Tagore laid emphasis on the practicality of education. That will definitely increase the creative skill within a learner. That creativity will bring perfection in the learning process and the student will be a master in his own field but not a slave to mere theoretical knowledge which one delves deep. Tagore attached great importance to the fine arts in his educational curriculum. To him, game, dance, music, drama, painting etc. should form a part of educational process. Students should take active part in these finer aspects of human life for these are very essential to enrich soul.

Swami Vivekananda stresses the importance of skill at all levels and he gives expression to this in his immortal quotation: "Let New India arise - out of the peasants' cottage, grasping the plough; out of the huts of the fisherman, the cobbler, and the sweeper. Let her spring from the grocer's shop, from beside the oven of the fritter-seller. Let her emanate from the factory, from marts, and from markets. Let her emerge from groves and forests, from hills and mountains...".

India's higher education system is the third largest in the world, after China and the United States. Restructuring and Revitalizing education system in India, in general, and Karnataka, in particular, is of utmost importance to reduce unemployment, to impart skills to general graduates (Arts/Sciences/Commerce), and also to seize mass employment opportunities in emerging areas that are around the corner. These emerging areas include: retailing, food processing, hospitality and tourism, IT-KPO and BPO that include store management, buying, merchandising and central management; Food Processing Industry and Packaging; Maintenance and Servicing of equipments; Interior Decoration,

Landscaping, Floriculture; Travel Industry; Hospitality; Printing, Digitization and Storage of Documents; Packaging; Translation and Transcription; Infotainment and Edutainment; Advertisement, Journalism; Regional Service and Support Centres; Facility Management; Security Management, and many more.

UNESCO's Vision of education for the 21st century

It is essential for us to know the current thought processes going on around education in an international organization like UNESCO. As an international laboratory of ideas and a platform for dialogue, UNESCO has initiated a process of rethinking education in the light of global societal transformations since 1970's.

UNESCO's vision on education outlined in the two landmark UNESCO publications, Learning to Be (1972), or the 'Faure Report', and Learning: The Treasure Within (1996), or the 'Delors Report'. The Delors Report based in the context of Globalization and needs of the 21st century emphasizes on Four pillars of Learning that are known as follows:

1. Learning to Know, 2. Learning to Do, 3. Learning to Live together and 4. Learning to Be.

The four pillars of education cover different aspects of the type of education needed in the 21st century:

1. Learning to know: This suggests combining a sufficiently broad general knowledge with the opportunity to work in depth on a small number of subjects. This also means learning to learn, so as to benefit from the opportunities education provides throughout life.

2. Learning to do: This suggests acquiring not only an occupational skill but also, more broadly, the competence to deal with many situations and work in teams. It also means learning to do in the context of young peoples' various social and work experiences which may be informal, as result of the local or national context, or formal, involving courses, alternating study and work.

3. Learning to live together: This suggests developing an understanding of other people and an appreciation of interdependence - carrying out joint projects and learning to manage conflicts - in a spirit of respect for the values of pluralism, mutual understanding and peace.

4. Learning to be: This is about developing one's personality and be able to act with ever greater autonomy, judgement and personal responsibility. In that connection, education must not disregard any aspect of a person's potential: memory, reasoning, aesthetic sense, physical capacities and communication skills.

Irina Bokova, Director-General of UNESCO, in the beginning of 2014 opined as follows: "... Education policy is the ultimate long-term policy – it needs to be visionary, it needs to be strategic... The world is getting younger every day, and the expectations of young people are rising, for decent jobs, for dignified lives. The world is changing –

education must change too. Every woman and man today needs new skills to withstand the pressures of change and to make the most of all its opportunities. This requires education for creativity, education for solidarity and education for sustainability.”

The February 2013 meeting of UNESCO held in Paris with the theme “**Rethinking Education in a Changing World**” highlights the following 10 aspects of education for the 21st century:

1. Strengthening the link between education & employment

Low-employment growth as well as requisite skill shortages in educated youngsters are challenging the link between education and employment upon which international, national, and regional development plans and practices have made investment in ‘human capital’ over the past few decades. Here low-employment growth is a global phenomenon, not easy to solve, whereas skill empowerments are not so difficult at all levels. This needs immediate attention of central and state governments. Thomas Friedman, in his popular and noteworthy book entitled ‘The World is Flat’ opines as follows : ‘The jobs are going to go where the best educated workforce is with the most competitive infrastructure and environment for creativity and supportive government.

2. The digital revolution

Education is also undergoing radical transformation as a result of the digital revolution and the rapid development of information and communication technologies and digital media. The transformation has been likened to that of the historical transition from the traditional pre-industrial educational model to that of mass schooling initiated in the 19th century. While in the traditional pre-industrial model, most of what people learned they did through their daily life and work activities, the industrial educational model equated learning – to a very large extent – with schooling. Learning spaces are now undergoing an important transformation.

3. Emergence of new learning spaces

The multiplication and diversification of sources of information, the continued acceleration in the production and circulation of knowledge, combined with the development of new information and communication technologies and digital media, are spurring the emergence of new forms of learning in the context of the knowledge society. These changes in the spaces, times, and relations in which learning is taking place favours the idea of a network of learning spaces where non-formal and informal spaces of learning will increasingly need to interact with and complement formal educational institutions.

4. Role of teachers

While their role in the digital age of learning is evolving, the role of teachers and other learning professionals remains central for the change of mind-set that we seek in our

quest for new sustainable models of societal development. No matter how we conceptualize education, the learning professions will play a central role whatever we try to achieve. The role of the teaching profession is therefore crucial. It is very important to address the role of teachers and their role in setting standards for the profession.

5. A humanistic vision of education for the 21st century

While the economic functions of education are important, there is a need to go beyond the utilitarian vision that characterizes education. We should consider the role of education as a means of personal, cultural and social development. This highlights the importance of value-based education. Education is not simply about knowledge and skills, but also about human values, respect for human dignity appreciation of human diversity required for achieving harmony in a diverse world. There is a need to rediscover, and rethink, the humanistic dimensions of education for the 21st century.

6. Knowledge and education as public goods

The knowledge commons are an integral part of world heritage, and education is a public good that should be made available to all. While the State has a custodial role for formal education, it is important to recall that the delivery of formal and non-formal education is a collective responsibility that involves families, communities, civil society organizations, private business and other stakeholders. There is a need to rethink the ‘educational pact’ or the social contract on education.

7. Local knowledge systems and globalization

Due respect must be given to local knowledge systems which are losing out in a global economy based on the dominant industrialized model of knowledge. These systems must be recognized, not only as part of the present, but also by giving them a future and by imagining greater connections between alternative yet complementary knowledge systems and livelihoods and work.

8. Science education

Science education must be rethought beyond the training of specialists. It should include ethical dimensions of the development of science as a contribution to active and responsible citizenship.

9. Holistic Education

Formal education systems tend to emphasize the acquisition of knowledge to the detriment of other types of learning; but it is vital now to conceive education in a more encompassing fashion. Such a vision should inform and guide future educational reforms and policy, in relation both to contents and to methods.

10. Learning beyond the classroom

It is important to conceive education as not being limited to classroom teaching and learning. There is a need to be innovative in imagining mechanisms for learning that are not restricted to the classroom setting. Education cannot be reduced to formal schooling – there is a need to consider the role of non-formal education and informal learning.

PROPOSED REMEDIAL ACTIONS

Keeping in view the essence of the above ten aspects highlighted by UNESCO for the education in the 21st century, the Committee is of the opinion that an over all change needs to be initiated in our Under Graduate pattern of education. If we want to produce graduates who are ready to be employable, many changes are required to be made in the entire set up of our U G education.

We have to make our Higher Education attractive with equity and excellence. The students should have the freedom to select the subjects of their choice and this requires lot of flexibility in our university admission regulations. Students coming to higher education are from all types of socio-economic background and these persons require proper counselling not only about the selection of subjects but also about the career opportunities. Such counselling should be inbuilt in to the system. The information needed to the students with regard to selection of subjects and career opportunities should also be made available to the students through web based information system. Career guidance information has to be created in each college and it should be made available in the website all the time.

The colleges should adopt plenty of innovations in the teaching-learning processes. It is essential to create content in the digital form and it should be made available to the students through the college website. Video lectures of eminent scholars developed by the affiliating university or those that are available in the You Tubes should be made accessible to all the students. The system of making the best answers of some students available to all other students, creation of question bank in each subject, availability of case study reports and reference books should be adopted in the college.

Affiliating university will have to adopt proper regulations to engage the students continuously in academic programmes. For example apart from the class work there should be project work, seminar, group discussion, group assignments, problem solving sessions and mock interviews organized with the help of industrialists. There should be scope for peer teaching in which good senior students are given opportunities to teach juniors. There should be a system of tutorials for the weak learners, bridge courses for persons coming from different inadequate academic background.

UNEMPLOYMENT VIS-A-VIS SKILLED WOKERS

The previous 2011 census of India indicates that about 17% of India's graduates are unemployed. They are about 44.5 million in number. India also faces a shortage of about 45

million skilled workers. This is a paradox. Have Indian Universities failed the youth? Many say an emphatic Yes! For long the Indian education system has focused as knowledge as an end itself, that is knowledge delinked from skills and work. A modern economy has no use for such knowledge. India aims to grow at more than 10% over the next decade, and for this skilled labour force is of utmost importance.

LINKING: EDUCATION, KNOWLEDGE, SKILL & WEALTH

It is not true that knowledge was not there earlier. Knowledge has been there all through. A nation which has the capacity to generate knowledge, and convert the knowledge into a Product or a Process or a Service has the strength of converting knowledge into wealth. This requires various types of skills. The knowledge is generated in the fertile minds of young people. Young people can have fertile minds only if we give them the right type of teaching and training through education. This is how Education, Knowledge, Skill, and Wealth of a State and the nation get linked.

In the background of all the above, the committee studied in detail the existing higher education pattern in the State of Karnataka, carefully observed the lacunae in the system and evolved a new learning pattern which emphasizes the infusion of skill.

VI. HIGHER EDUCATION AND SKILL DEVELOPMENT IN KARNATAKA

1) THE EVOLUTION OF UNIVERSITY EDUCATION IN KARNATAKA

Karnataka state, before 1960, had only two universities viz University of Mysore located at Mysore and Karnataka University located at Dharwad. The pattern of undergraduate programmes were not identical in these two universities. After 11 years of school education and two years of Intermediate education the students had opportunity to study degree programme in the universities. University of Mysore was offering Honors Courses in Science and Arts including Humanities subjects at Central college Bangalore and Maharaja College Mysore respectively. These Honors courses of three years duration were followed by one year Masters' degree programme. However two year U G programme was offered in all the degree colleges affiliated to University of Mysore. The students after getting degree of two year duration had an opportunity to have a lateral entry to Honors course at the second year.

Even though Karnataka University was also offering undergraduate and post graduate programmes in Arts and Science the pattern was entirely different from that followed by University of Mysore. After 1960 University of Mysore discontinued offering three years Honors degree and one year Masters programme. The University introduced two year Masters degree programme for those who are completing two year degree programme. The degree programme was offered with three subjects of equal importance. The students had the opportunity to choose one of the subjects for their P G studies.

Later on, when the Pre-University course was changed from two years to one year, the duration of the degree programme was changed to three years by offering instead of three subjects (called Major Subjects or Optional Subjects) of equal importance only two major subjects of equal importance along with one minor subject. The minor subject would end after two years of study and only major subjects were studied in the third year. The students could pursue their PG studies in one of the Major subjects but not in Minor subject.

Subsequently when 10+2 school and higher secondary school system was adopted, the three year degree programme with three subjects of equal importance was introduced and this pattern became common in all the universities in the state as it was there in the entire country.

It is well established that higher education is the most essential and powerful tool to build a knowledge based society for the future. Higher education in the state of Karnataka is going through a phase of tremendous expansion in terms of huge increase in the volume of students. This expansion is slightly imbalanced in the state. This is because quite a good percentage of merit students seek admission to professional courses irrespective of their aptitude. Unfortunately students of less merit get admitted to general degree courses both in science and social science. Subjects like Physics, Chemistry, Botany, Zoology, Bio-Technology, Mathematics, Economics, Sociology, Psychology, Philosophy, Political science, Languages, etc. are not getting students of high merit. Added to this much is desired to be done in the teaching-learning process adopted in our degree programme and the exposure of our students to acquire additional skills needed by them to get employment and to face the external world. In the system of lecture based teaching and evaluation of the knowledge of the students only at the end of the year through a test for three hours it is not possible really to test the level of knowledge of the subject acquired by the students. This method of teaching-learning and evaluation also does not help the students to develop communication skill, leadership qualities, sensitiveness for societal issues, ability to work together and above all to develop finer aspects of human life as these are very essential to enrich soul, as visualized by great Indian and Foreign thinkers and Educationists.

In addition, the globalized era has necessitated inculcation of competitive spirit at all levels. This can be achieved only by bringing quality of highest standards to every sphere of work. Therefore the Quality of higher education has become a major concern.

2) SKILL DEVELOPMENT IN KARNATAKA

Higher education and skill development are essential elements for the progress and development of any society. In the Karnataka context, this is particularly the case as the State strives towards achieving a knowledge society as outlined in its Vision 2020.

While Karnataka is considered a hub for institutes of higher education and research, much needs to be done to enhance the overall educational and skill levels of the population. As per the 61st Round of NSSO survey, only 3% of rural population and 16% of the urban population have a degree, diploma or a certification in Karnataka. This suggests that a significant section of the State's population has not pursued higher education, nor been formally certified for a skill. Additionally, a survey conducted by the Ministry of Labour, Government of India indicates that the share of the population in Karnataka with diplomas, graduate degrees or higher levels of education is only 7.5%.

3) ENROLMENT OF STUDENTS BY COURSE IN KARNATAKA

In terms of the distribution of enrolment in graduate degree courses, 38.8% of enrolment is in Arts, followed by 21.2% in Commerce and 19.8% in Engineering/ Technology/ Architecture/ Design. At the post-graduate level, 35.4% of enrolment is in the Arts stream, while 21.6% is in Medicine and 27.6% in Science courses. These are shown in Figure 1.

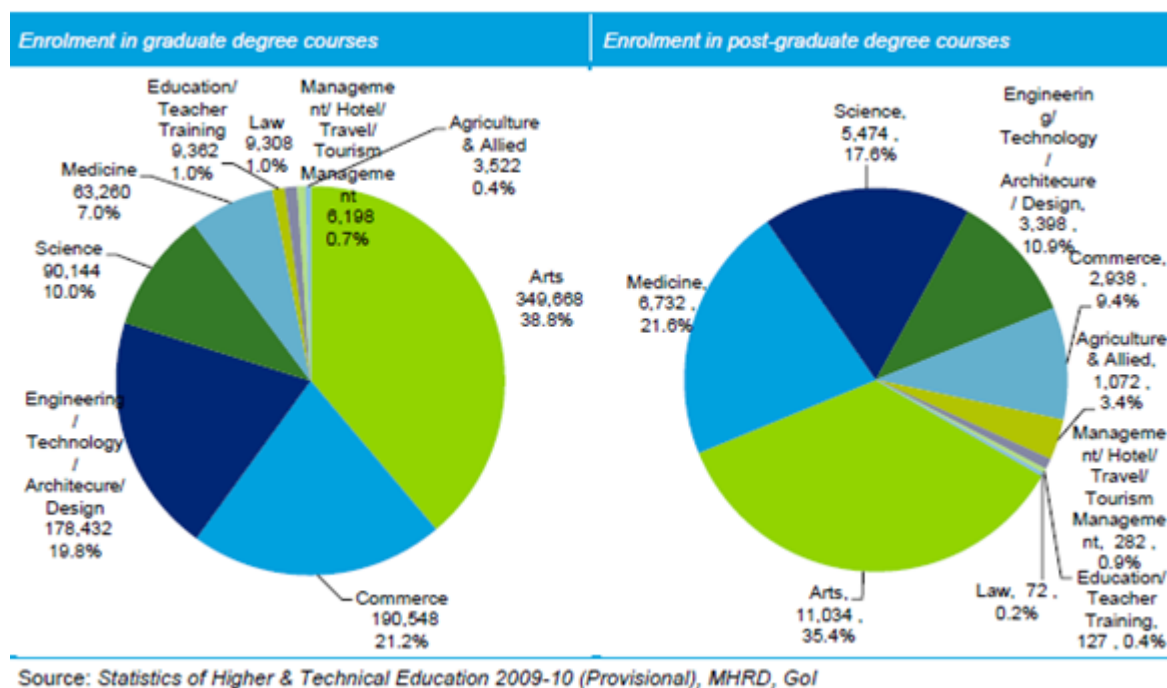


Figure 1. Enrolment in graduate and post-graduate Degree courses in Karnataka (2009-10)

4) LOW SKILL LEVELS OF THE POPULATION

The low skill levels of the population in Karnataka is an area of concern. The skill mismatch is a feature amongst graduates of higher education institutes in Karnataka State. The Karnataka Expenditure Reforms Commission has highlighted the fact that the employability of graduates is not satisfactory, primarily owing to the lack of required language and job skills. The lack of sufficient industry-academia linkages is a contributory factor towards this situation. Additionally, placement services activities in

many universities are very limited resulting in a lack of co-ordination between employment seeking graduates and prospective employers who are looking for suitably qualified candidates.

The issues of skill mismatches and educated unemployment in Karnataka are illustrated by the fact that unemployment rates for educated persons in the State over the age of 15 years are as high as 27% in rural areas and 48% in urban areas. These rates are particularly high amongst women.

Our earnest effort should be to move towards the final objective of generating the finest breed of citizens equipped with knowledge and skill-talent to serve the society.

Keeping these goals and objectives in mind, the committee introspected critically on the following issues:

- (i) present practice of compulsion upon students to memorize,
- (ii) lack of critical assimilation and comprehension by the students,
- (iii) failure in transforming the learners as knowledge practitioners,
- (iv) empowerment of the learners to acquire skills and talents so that they can become knowledge practitioners,

In pursuit of addressing the above issue, there is a need to revive the pattern of our Higher Education system so as to address many key aspects that are listed below:

- Exam-oriented Teaching and learning
- Focus on acquiring knowledge rather than learning
- Requisite skills are not imparted to students
- Dominance of Rote learning
- Homogeneous system doesn't cater to multiple learning styles and disabilities
- Social pressure on learners, leading to high rates of teenage depression and suicides
- Lack of ease in transferring credits from one University to another
- Shortage of competent and well-trained teachers
- Outdated modes of teaching
- Obsolete methods of teacher training

- Inequities at all levels
- ethnically diverse state
- Politicization of education
- Absence of any structured research in pedagogy
- Teaching/learning not based on any sound research
- Knowledge gap between rural and urban learners
- inability to address job needs in the curriculum

5) JOB POTENTIAL

For 2010, it was estimated as follows: Retail creates 2.5 million direct jobs and 2.5 million indirect jobs; Food Processing needs 1.6 million; IT Sector creates 1, 50, 000 direct jobs; and BPO needs 3,60,000. Hotel and Tourism creates more than 3 million jobs by 2015. Current requirements in industry and skill set available in our educated mass are not at all matching. This is the time to open up and revitalize our education system.

Such being the case, it is essential to empower our graduates with skills in their areas of interest, and their capability based on the type of intelligence they possess based on Howard Gardner's Multiple Intelligences. The possible combination of Multiple Intelligence which could be harnessed upon as listed by Howard Gardner are the Body / Kinesthetic Intelligence, the Environmental / Ethical Intelligence, the Logical / Mathematical Intelligence, the Musical / Rhythmic Intelligence, the Interpersonal Intelligence, the Intrapersonal Intelligence, the Verbal / Linguistic Intelligence, and the Visual / Spatial Intelligence.

VII. ACADEMIC REFORMS

In order to impart better quality higher education and infuse skills among our graduates, Academic Reforms are very important. This academic reform should be oriented towards employability and innovation. These reforms should also aim at making the higher education system more flexible to the needs of students and society. Some of the reforms that are needed to achieve the desired aims are :

(1) introduction of Semester system in order to enhance the student- faculty contact hours, to enlarge the curricular space and to support accelerated learning opportunities for all concerned, to accommodate diverse choices of subjects to the dynamic and motivated students. Semester system also helps in reconfiguration and revision of curricula.

(2) Choice Based Credit System (CBCS): This enhances learning opportunities and ability to match students' scholastic needs and aspirations. The importance of CBCS is highlighted in the RUSA (Rastreeya Uchatama Shikshana Abhiyana) document as follows:

“The CBCS eminently fits into the emerging socio-economic milieu, and could effectively respond to the educational and occupational aspirations of the upcoming generations. In view of this, institutions of higher education in India would do well to invest their available resources into introducing CBCS. Aided by modern communication and information technology, CBCS has a high potency to be operationalised efficiently and effectively - elevating students, institutions and higher education system in the country to newer heights.”

In the light of the foregoing discussion it has become essential to propose a new pattern of UG programme in order to provide (a) flexibility to the students in the choice of their subjects of study, (b) opportunity to acquire proper skills that are essential for their employability, (c) option to exit from the programme at different stages, (d) opportunity to help the students to get good knowledge in the subject content to make them highly competitive and also (e) an opportunity for the students to pursue higher education in their chosen field of study, (f) help the students to develop their personalities with a balanced Intellectual, Emotional, Social, and Humanistic quotients, (g) opportunity to empower the youngsters with values of Character, Citizenship, Rights and Duty consciousness. The new pattern will have to be naturally different from the existing pattern necessitating total structural reforms.

THE NEW PATTERN:

The present pattern of three subjects of equal importance along with two language courses in addition to the learning of three Courses as directed by the Hon'ble Supreme Court of India, viz courses on Human Rights, Environmental education and Indian Constitution, do

not provide adequate space for imparting skill oriented Courses. Therefore there is a need to reduce the existing three subject load and introduce certain essential courses that can provide skills to the students to make them employable. However the three topics suggested by the Supreme Court have to be continued even in the new pattern. In view of these, the Committee after intense deliberations, decided to suggest a system of offering two subjects of equal importance along with a set of Allied Courses. The choice of two subjects should not be made rigid but the system should provide flexibility of choosing the subjects of their choice to the students.

In order to provide wider scope to the students, even in undergraduate colleges, for them to go to higher education all colleges may offer a four year Honors Course with two major subjects along with Foundation courses that will provide skills and also Allied courses. Opportunity should be provided to students to exit after one year earning a Diploma, exit after two years earning an Advanced Diploma, exit after three years getting a BA, BCom or BSc degree and continue in the fourth year choosing one of the major subjects to earn Honors degree in the chosen subject. The courses may be devised to achieve many outcomes like:

- (1) Demonstrated depth of knowledge in the major subject.
- (2) Ability to think as a Professional in the subject.
- (3) Ability to communicate well both orally and in writing.
- (4) Ability to function in a multi disciplinary setting.
- (5) Demonstrated depth of knowledge.

When the students exit after one year the Foundation courses offered to the students will equip them to get a profile such as “Junior Customer Service Executive”. After two years the students will be made to acquire additional proficiency in the skills to make them fit for a higher level in employment. Similarly in the third year of their study, the Students who are only interested in pursuing academics can conveniently go to Honors programme which offers research oriented project work. The students have the freedom to select allied courses that help them to pursue interdisciplinary research.

As an example, BSc(Hons) with Physics major can have Associated or second major subjects like Mathematics, Biology, Chemistry, Computer science, Earth & atmospheric science and Statistics. This will help students of Physics to pursue research in interdisciplinary areas like Bio-physics, Geo-physics, Atmospheric science and Chemical Physics. The learning in the two major subjects can further be supplemented through a set of Choice Based Allied Courses.

All UG students should acquire a few generic skills, irrespective of the faculty of their graduation, before they get their degree. The skills that are essentials are the skills of numeracy, computer literacy, problem solving and communication both oral and written

preferably in English language. These essential skills are to be imbibed through appropriate Foundation courses and/or Allied courses.

PROPOSED REFORMATION FROM 3 YEAR UG TO 4 YEAR UG(Honors) STUDIES

In addition to the setbacks that were brought out in the previous sections, the other major lacunae with the conventional UG programs- BSc,BA, etc., are as follows:

- i)Prima-facie the three years duration UG programs are not considered equivalent with the Bachelor's degree programs at international arena , since they fall short by one year.
- ii)Even within India these UG studies have virtually been reduced to second level Bachelor's degree programs in contrast to Bachelor's degree programs in professional subjects such as Engineering/Technology, Medicine, Agriculture. The duration shortage by one year is the main concern.
- iii)Generally a Bachelor's degree program is expected to contain courses which cut across disciplines to provide breadth, cross disciplinary exposure which prepare a candidate to build up confidence through appropriate skill learning to be ready to enter into a job as a beginner/starter along with an elevated level of knowledge acquired in one particular branch of learning.

The presently practised three optional undergraduate programs making a candidate study three different subjects fail to accomplish the objectives as generally expected to happen. It is evident that such BSc graduates cannot become entry level Scientists and cannot hope to become good Scientific Assistants. Similarly BA graduates cannot hope to stand independently on the strength of their knowledge so acquired in their BA studies

The skill sets earned by the learners in these UG programs even in their optional streams is so poor that they cannot confidently offer themselves to take up any entry level jobs. It is also experienced that the life skill-set they ought to have acquired by the time they complete UG studies, seldom is realised. The fact is that these candidates most of the time cannot even confidently be considered for their language abilities in terms of communication skills, documenting skills and such language related skills.

In this backdrop, it now becomes necessary to increase the study duration from 3 to 4 years and frame the courses of study in a hierarchically graded structure so that a candidate could experience a sort of logical completion in learning process at the end of every year and should gain required skill based confidence to face the world, in addition to shaping himself as an excellent human being.

Accordingly opportunities are built in for lateral exits at the end of respective years and similarly for lateral entries.

Further, in order to improve the depth along with the breadth of study, the number of major optional subjects is recommended to be limited to two against three and to provide an opportunity for a learner to choose choice based allied courses to enhance the skill expertise generally related to major optional subjects.

After first three years, a candidate can opt to major in one of the optional subjects during the fourth year for Honors degree in that subject. This makes a candidate to fairly excel in one branch of study. In case, a candidate desires to do Honors program in the 2nd major subject after completing the Honors program in one major subject, he can be permitted to rejoin the course at the 4th year to complete the Honors in the 2nd major subject.

In sequel to four years Honor's degree programs, the proposal is to design 2 years' master degree programs with lateral exit option at the end of first year for the award of conventional MSc/MA/MCom degree and at the end of second year with MSc Honors/MA Honors/MCom Honors on par with (4+2) years of expected study duration pattern .

In Parallel, it is also recommended to encourage single major optional subject based UG programs such as BCA Honors, BCom Honors, BBM Honors. Such new ventures are also expected to happen like BSc Honors in Natural/Biological Science, BSc Honors in Chemical Science, BA Honors in Social Science.

CREDIT BASED TEACHING–LEARNING MECHANISM

A closer look and critical analysis of the existing teaching–learning model reveals that theory classes are more often lecture based and the laboratory/field works have been limited to just routinely implementing the practical procedures. It is high time that we examine critically whether our teaching efforts have been towards making students creative and whether they inspire students to acquire skill and talent based knowledge.

No doubt that the material content passed on to students through lecture classes are rich with information. But, unfortunately, little provision is created for reinforcement of the information through students' assimilation, absorption, and creative utilization of the same in the course of solving problems. Even the knowledge component, present within the information input, is fed to a student through lectures. The student is not challenged to acquire knowledge and to create knowledge as well. It is possible to strengthen these aspects by compelling a student through some drilling/reinforcing tutorial sessions and by encouraging students to design and conduct suitable practical/field/case studies to experience and acquire the knowledge. This approach will facilitate a student to acquire a command over two major components of learning, viz., (i) acquisition of talent and skill required for designing, devising and conducting practical/case/field studies, and (ii) the intelligence to approach a subject critically and from a research-perspective. This approach enriches the analytical capabilities of a learner. In other words, what is to be appreciated is that students' acquisition of knowledge should be tempered with and tamed by practical experiences. Curriculum content of every subject/paper should have an integrated composition of information, knowledge and skill parameters to be learnt. It is important to note that practical/field studies should not be isolated as independent papers of study. Both theory and practice should be taught in a holistic manner.

Experts recommend reduction of lecture - oriented theory classes and integration of tutorial/practical classes for reinforced learning. The model proposed is phrased as L-T-P structure that focuses on learner-centric-teaching. 'L' (Lecture classes) stands for conventional class room contact sessions. 'T' stands for Tutorial sessions for reinforced learning through participatory discussion/self study/desk work and such other novel

methods that make a student absorb and assimilate more effectively the contents delivered in the lecture classes. 'P' stands for Practice/Practical sessions for laboratory/field studies that equip students to acquire the much required skill component.

It may be possible in some specific papers to fuse together T & P components or to drop either T or P component depending upon the nature and content of the paper. For example, in teaching a paper on Ancient History, visiting Archaeological sites makes a Tutorial learning, but it may not warrant an explicit Practical component. However, it cannot be ignored that both knowledge and talent for skills are picked up by the learner through T and/or P sessions whereas L sessions highlight the contents to be learnt.

Tutorial sessions should be more ICT based. Web enabled/interactive tutorial sessions should be designed. As far as possible, assessments in all such tutorial performances should also be ICT enabled. Further the tutorial sessions should enable the students to learn creating opportunities for themselves.

In a semester pattern, the task of teaching a paper is completed in a span of 16 weeks. If a paper is taught by administering all three L, T & P components, one possible distribution of learning hours/week in that paper could be as follows:

L: Two sessions each of 1 Hour/week amounting to 2 credits of learning/semester by a student in the paper;

T: One session of 2 Hours/week amounting to 1 credit of learning per semester by a student in the paper;

P: One session of 2 Hours/week amounting to 1 credit of learning per semester by a student in the paper.

This distribution of 2 credits for L (through 2 hrs of Lecture classes), one credit for T (through a session of 2 hours of tutorial) and 1 credit for P (through a session of 2 hours of practical) defines a value of $2+1+1 = 4$ credits for the paper.

Conversely, if a paper in a particular semester is defined as a 4 credit paper, then a candidate is said to have earned 4 credits in that semester by successfully completing the said paper within the duration of 16 weeks in that semester. The typical L-T-P structure, as illustrated above for a 4 credit paper is of 2:1:1 type with the split up for L, T and P sessions as indicated in the previous paragraph, resulting in a credit value of $2+1+1=4$ for that paper.

It is not necessary that every paper should be designed as a paper of credit value 4, in a 2:1:1 pattern. It is possible that even a paper of 4 credits, in practice can have different credit patterns such as 3:0:1 or 3:1:0 or 2:1:1 or 2:2:0 or 2:0:2 or 1:1:2 or 1:2:1 or 1:0:3 or 1:3:0 in L:T:P structure. These diversities illustrate the amount of flexibilities possible in designing a course/paper and in deciding how the contents of the course/paper should be taught/learnt.

Depending upon the volume of content and the nature of the course to be taught, generally the papers can be of 3 credits or 4 credits, and occasionally, there may be some papers of 2 credits and rarely of 5 credits. In order to enthuse students to participate in creative activities through independent thinking and researching, a project work of 4 credits may also be included in the course work.

PROVISIONS FOR LATERAL EXIT, & LATERAL ENTRY TRANSITIONS

In the proposed new system, a learner shall be provided with different possible transition provisions. One can leave at the end of first year/second year/third year/fourth year, and similarly one could report to second/third/fourth year after a gap in between (but not exceeding the double duration norm in one stretch from the date of joining). After exiting, a candidate is entitled to receive Diploma/Degree certification as illustrated in the schematic diagram shown in Fig.2.

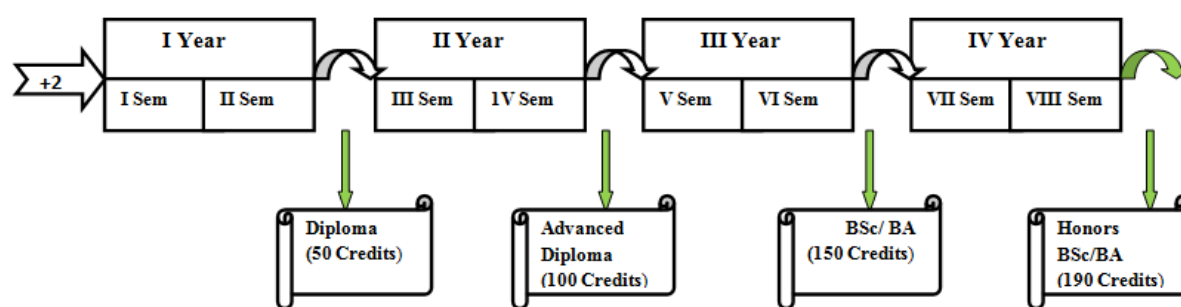


Fig.2 Schematic Diagram illustrating the Transition provisions

CREDITS PER SEMESTER & TOTAL NUMBER OF CREDITS:

A candidate can enroll for a maximum of 30 credits per Semester including:

- i. **dropped courses** of corresponding semester(s) of previous year(s), if any.
- ii. **additional courses** from the list of allied courses/choice based papers.

Only such candidates who register for a minimum of 25 credits per semester from I semester to VI semester , 20 credits from VII and VIII semesters as prescribed and complete successfully 190 credits in 8 successive semesters shall be considered for declaration of Ranks, Medals, Prizes.

Generally a full-time candidate may register for 25 credits / semester from I to VI

semester and 20 credits/semester for VII and VIII semesters.

A candidate admitted to UG program can exercise an option to exit with respective Diploma / Degrees as described earlier.

ADD-ON FACILITIES:

At the completion of Honors degree, if a candidate has earned a minimum of 28 extra credits from additional courses (i.e. in excess of the usual 190 credits as stipulated for awarding an Honors degree), then such a candidate will be eligible for ADD-ON *Graduate Diploma* additionally.

(b) At the completion of Degree/Honors Degree, if a candidate has earned a minimum of 20 extra credits from additional courses, then such a candidate will be eligible for an ADD-ON Diploma.

(c) However all other candidates who have earned extra credits less than 20 Credits, will obtain ADD-ON certification as applicable.

VIII. PROPOSED FOUR YEAR UNDER-GRADUATE PROGRAMME IN SCIENCE/ ARTS/ COMMERCE WITH MULTIPLE EXIT OPTIONS

The proposal is to start Four year undergraduate degree programme with options to exit after 01 year to earn a Diploma, after 02 years to earn an Advanced Diploma, with an exit after 03 years to get a Bachelors degree and after 04 years earn Honors degree in one of the major subjects. A student can also earn Honors Degree in the second major subject after rejoining at the 4th year for doing Honors Degree program in the 2nd major subject.

The general pattern is to offer a **four year under-graduate degree programme with any two subjects of equal depth in content for three years with an option to the students to choose one of these subjects in the fourth year for Honors degree.** In the first three years, students study different allied subjects along with the other two subjects of equal depth. **The Courses of Allied subjects are to be decided to help the students to acquire skills that are required to make them become eligible for employment.** There should be freedom to the students to choose the first two subjects of their choice and also the Allied courses offered in the college. **Hence there should not be any fixed combination of subjects to be studied by the students.** The list of Courses of Allied subjects should be prepared by the concerned Faculty in each university. A list of probable **Allied Subjects** that can be offered to the U G students is placed in the next section. The general structure of the education imparted by the university should include the Practical components, Exposure to field work, Innovations, and Entrepreneurship.

A LIST OF DISCIPLINE-WISE ALLIED SUBJECTS (Suggested, but not limited)

The allied subjects that can be offered to the under-graduate students can be drawn, discipline-wise from the following list. Based on the region where the college is located, interest of the student, availability of the jobs, and the training facilities, the students can select the allied subject.

ARTS FACULTY

ECONOMICS: Financial Advisory & marketing, Awareness of LPG, value addition strategies, poverty reduction strategies, Public distribution network, Participatory micro-plan,

POLITICAL SCIENCE: Panchayat Raj governance, Rural leadership, Electoral duties, Concepts of forming world government, Adult Education, Educating Panchayat members,

SOCIOLOGY: Community & health, Establishing communal harmony, Dalit and tribal welfare, Population education, Social conflict resolution, Spiritual unification of the world, Building Team spirit, multi-religious meetings,

HISTORY: Tourism & Hospitality, Promotion of Art and culture, Promotion of good traditions, Awareness of historical mistakes, and bad traditions, Archaeology, Preservation of Art pieces & monuments,

GEOLOGY: Surveying of earth resources, Remote sensing data applications, Wasteland development, Identification of soil & rock types

REGIONAL LANGUAGE: Language skill- written & oral, Promotion of the importance of mother tongue, DTP in local language, Poetry, story, & article writing, Translation, Film appreciation,

ENGLISH: Spoken English, Language skill-written & oral, DTP in English, Enhancement of communication skill, Art of English teaching, Poetry-story-article writing, Film appreciation, Translation to regional languages,

PSYCHOLOGY: Personality Development & Interpersonal skills, Counselling, Value inculcation, Personality development, Meditation, Yoga,

JOURNALISM: Promotion of Rights & Duties, News-item writing, Video making, Managing News & Views,

PHYSICAL EDUCATION: Recreation & Fitness, Promotion of Sports & Games, Spreading Gymnasium culture,

COMMERCE FACULTY

COMMERCE: Auditing, Accounting, Sales management, Banking & Finance, Retail skills, Gems & Jewellery, Furniture & Furnishing, Running of cooperative marketing Societies, Agricultural product distribution Network, Export of agricultural products, Micro credit management, Micro enterprises, Rural entrepreneurship, handmade paper making, Toy making, Glass blowing, Pottery, Servicing,

SCIENCE FACULTY

CHEMISTRY: Chemicals & Pharmaceuticals, Pharmacist course, Awareness of safe drinking water, Fluoride toxicity prevention & control, Oil extraction, Rural water supply & sanitation, Herbal products, Food processing, Soap making,

MATHEMATICS: Numeric ability, Promotion of Importance of Maths, Promotion of Reason & Logic, Highlighting importance of Maths in Computers,

PHYSICS: Optometry, Awareness of the physical world, Physics & Metaphysics, Wiring & lighting, Electronics servicing, renewable energy sources.

BOTANY: Training in horticulture, Floriculture, Biotechnology and its applications, Mushroom cultivation, Sustainable agriculture & organic farming, Jatropha cultivation, Bio-diesel plant cultivation, Waste harvesting for manure,

ZOOLOGY: Clinical Biology, Bee keeping, Training in vermiculture & sericulture, Vermicomposting, Training in fish breeding ,Ornamental fish breeding, Cattle rearing, Poultry farming, Maintenance of pets, Animal waste harvesting for manure,

ENVIRONMENTAL SCIENCE: Environment pollution & prevention, Rain water harvesting, Watershed management, Waste water recycling, Culture of cleanliness sanitation, Plastic free environment, waste management, recycling of waste.

HOME SCIENCE: Fashion Technology, Beauty therapy, Restaurant services, Dietetics, Bakery, Food processing, Tailoring, Fruits & Vegetable preservation, Preservation of Cooked Food, Embroidery, Natal Care, Childcare, Ikebana, Maintenance of Pets, First Aid and simple treatments, Textile.

COMPUTER SCIENCE: Information technology, Graphic design, Computer literacy & training, Computer servicing, Use of mother tongue & computers, Computer networking,

ELECTRONICS: Medical Instrumentation, Electronics Sevcing, Mobile servicing, X-ray technician, Electronics & IT Hardware.

IMBHA (Integrated Mind, Body, Heart Activities)

We are all one entity with three aspects: Body, Mind, and Heart. Each has its needs. Each part of us needs to honor, respect, and work in an integrated way with the other parts in order that each gets its needs. Heart cannot stay detached from Mind or Body. Mind cannot ignore Heart or Body. Body has a duty to Mind and heart. Our Body, Mind, and Heart should work in an integrated fashion to achieve a unique purpose of life.

The Body is a complex machine designed by nature to house the Mind and Heart. It interacts with its surrounding through the sense of sight, smell, taste, touch, and hearing. The senses should be used to support the trinity of Body, Mind, and Heart, guiding us to the things that are in harmony with our path of life or that are good for achieving the purpose of life. The needs of the Body at the basic level are food, water, clothing, and shelter. At the Second Level, it needs to be healthy, to feel well, to feel good, to be pampered, and to be touched. The needs of the Mind, at the basic level, are control, safety, and security. At the Second Level it needs to be loved, to be connected, and to be enabled to achieve self-actualization. The needs of the Heart are-to be loved, to be known, to be recognized, to be accepted as existing. At the second level, the needs of the Heart are-to be blissful, to be peaceful, to become whole, to know itself, and to find wisdom.

In this technological era, we have turned more to logic and reasoning alone without using our natural instinct or the inner guidance of the Heart for making major decisions in our

lives. When this happens we start to make compromises in life, taking decisions as dictated by our Head, completely ignoring the Heart which results in improper and sometimes inhuman decisions resulting in loss of feeling of fulfillment and true happiness. As a result, many youngsters suffer from disorders like worry, anxiety, depression, boredom, and unhappiness, which sometimes leads to acts of suicides. In order to get back into a balanced life, the remedy is to interconnect seamlessly Head and Heart in the foreground of a healthy Body.

Harmony of Body, Mind, and Heart is the key to ultimate wellness and happiness, and as such, attaining this balance should be an important goal for every individual. However, most of us rarely give it a thought. We talk about living in peace and harmony with others, but very little is said about living in harmony with ourselves. Most people emphasize one aspect over the others. Some are primarily concerned about their body, either making it look good or making it healthy, almost forgetting the welfare of the other two. Some are concerned about Heart and Spirit, and they denigrate their body, learn to overcome physical discomfort, and also denigrate the mind, attributing to it negatives such as selfishness. Some give more importance to active mental activities, almost neglecting the importance of Body and Heart. Generally, in the materialistic world of today most people spend time and effort concentrating on the demands and needs of the Brain and Body, and ignore the Mind and Heart.

We are all placed in this world, not to escape from it, but to deal with the world proactively integrating ourselves with it. A piano that is out of tune cannot produce all the melodious notes. In the same way the piano of our life consisting of Body, Mind, and Heart, which are out of tune, cannot produce melodious music while performing on the stage of life. In order to make this piano of life produce harmonious music, it is essential to integrate Body, Mind, and Heart harmoniously. Harmony is the integration of Body, Mind, and Heart so that all the three work together in an intra-dependence and mutually-beneficial way. Good health and vitality in the body, a grand vision in the horizon of the peaceful mind, and love and empathy in the Heart make a life harmonious, meaningful and glorious.

In other words, there should be a balance of IQ(Intelligence Quotient), EQ(Emotional Quotient), and SQ(Social Quotient). To achieve this balance, it is essential that the young University-students take part in one or more activities involving Sports, NCC, NSS, Physical exercises, Scouts & Ranging, Red Cross, Mental exercises, like Yoga, Mindfulness, General Knowledge, Co-curricular activities, and Voluntary Service to Society.

As education is the development of Body, Mind, Heart, and Skill of a student, Sports admirably serves this purpose. Physical Exercise not only makes one healthier, but also more intelligent. New research has shown that, in addition to causing the release of chemicals called endorphins, responsible for decreased feelings of pain, euphoria, modulation of appetite, enhancement of immune responses, exercises also contribute to the formation of new connections among the neurons of the brain and even to the formation of new cells. In addition, playing sports improves self confidence, builds team spirit, and makes one happy.

NCC is a very important activity which teaches the young minds the importance of discipline in life, develops the physique of the youngsters, gives the mind necessary self control and a satisfaction of achievement, promotes patriotism, and it teaches leadership as well as good follower qualities.

NSS seeks young persons to help channelize their energies and capabilities towards nation building activities by organizing them into groups of volunteers. It plays a vital role in personality development of the students. It provides an opportunity to devote the time of the students to the service of the nation, inculcation of social responsibilities, and provide creative outlets for the energies of the youngsters.

Yogic exercises recharge the body and facilitate attainment of perfect equilibrium and harmony, promote self-healing, remove negative blocks from the mind and toxins from the body, enhance personal power, increase self-awareness, help to increase concentration, and reduce stress and tension in the physical body.

Many Graduates coming out of our colleges are usually found to have inadequate General Knowledge with regard to national and international current affairs. This gap can be filled up through a paper on General Knowledge under IMBHA.

Students have to be inculcated sense of empathy in their character to be sensitive for societal problems through organizing Social Service activities. For example, a group of students can take up projects to address illiteracy problems, hygienic issues, etc.

Students should have opportunities to exhibit talent in Creative writing, Debate, Quiz, Music, Dance, Drama, Paintings, and other talents under Fine Arts. These talents can be appropriately assessed for the credit under IMBHA. IMBHA has several components like Sports, NCC, NSS, Social Service, Co-curricular activities, and General knowledge. Students have the opportunities to get credits under IMBHA for the talents they exhibit under any one or more of the components. Every course under IMBHA will be a one credit course. A student earns totally 6 credits during the first 6 semesters at the rate of one credit per Semester, choosing different components under IMBHA.

THE PROGRAMS:

There shall be two types of programs:

- I. ***Two Major optional subjects contained UG program*** in which *the* Graduate Program leads to specialization in one of the optional subject during the 4th year of Honors.
- II. ***Single major subject based UG program*** which is a Core Subject Graduate program leading to specialization in a single major subject.

The different degree programs are listed below:

Science & Technology Faculty: BSc, BSc(Honors), BCA, BCA(Honors)

Arts & Humanities Faculty: BA, BA(Honors)

Commerce & Management Faculty: B.Com, B.Com(Honors), BBM, BBM(Honors)

PROPOSED SKILL INFUSED NEW LEARNING PATTERN FOR 4 YEAR B.SC. (HONORS) / BA (HONORS) WITH OPTION FOR MULTIPLE EXITS HAVING

Two Major Optional subjects in the Graduate Program leading to specialization in one of the optional subject during the 4th year of Honors

Structure

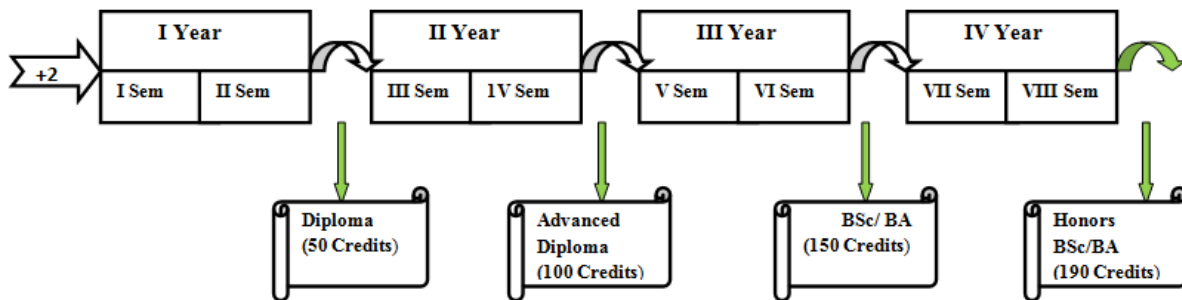


Fig.3 Schematic Diagram for 4 Years Honors Degree Course with Two Major Optional Subjects

PROPOSED SKILL INFUSED NEW LEARNING PATTERN FOR 4 YEAR UG STUDIES WITH OPTION FOR MULTIPLE EXITS HAVING

Single Major Optional Subject such as B.Sc/B.Sc(Honors) in Computer Science or Electronics or BCA/BCA(Honors) in Computer Applications, or B.Com/B.Com(Honors), BBM/BBM (Honors), etc.

Structure

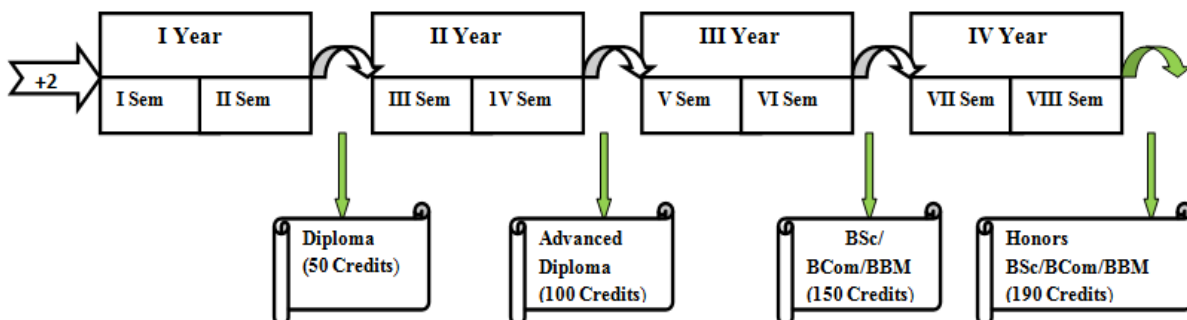


Fig.4 Schematic Diagram for 4 Years Honors Degree Course with Single Major Optional Subject

IX. OUTCOMES EXPECTED OF THE NEW PATTERN

The purpose of any reformation in the system of higher education should be to move towards Outcome Based Education. It is the purpose of the Committee to suggest a pattern of higher education to take the present system of Teacher centric education to Learner centric education. In view of this, the Committee has made an earnest effort in addressing the problems that confront the present system of undergraduate programs in our colleges affiliated to different universities in the state of Karnataka. The proposed pattern is expected to accomplish the following:

- (a) Reduce the exam-oriented teaching and learning and help the students acquire knowledge rather than mere learning,
- (b) Give flexibility in providing opportunities to the students to choose subjects of their liking for their study
- (c) Give credit to the talents exhibited by the students in Sports, Yoga, NCC, NSS, General Knowledge and Co- curricular activities through IMBHA
- (d) Create scope to acquire different types of skills that may help the students become employable at different stages of the degree program through a set of Foundation Courses
- (e) Expand the scope for interdisciplinary studies and research through the selection of courses listed under Allied courses
- (f) Provide opportunities to students for multiple exits and reentry during the program to suit their personal conveniences and finally
- (g) Give credits to the students based on their level of learning instead of awarding marks.

The new pattern has several outcomes like helping the students acquire good depth of knowledge in the major subject and create ability among the students to communicate well both orally and in writing. It helps the students to develop entrepreneurship skills and also think as professionals in the subject. The pattern also helps the students become IT savvy in addition to developing leadership qualities. Of course, the new pattern envisages lots of responsibilities on the part of our faculty whose involvement solely decides the success of the new program or for that matter any program.

X. REGULATIONS FOR 4 YEARS UG HONORS PROGRAM INCORPORATING CREDIT BASED CONTINUOUS ASSESSMENT, 2014

1. Title and Commencement:

These Regulations shall be called the “**UNIVERSITY REGULATIONS FOR SKILL INFUSED CREDIT BASED LEARNING AND CONTINUOUS ASSESSMENT PATTERN FOR UNDERGRADUATE DEGREE PROGRAM**”.

These Regulations shall come into force from the date of assent of the Honorable Chancellor.

2. The Programs:

There shall be two types of programs:

- i. UG program with Two Major optional subjects* in which the Bachelor’s Degree Program leads to specialization in *one of the optional subjects* during the 4th year with Honors Degree.
- ii. UG program with Single major subject* which is a Core Subject Graduate Honors program leading to specialization in a single major subject.

The different degree programs are listed below:

Science Faculty: BSc, BCA, BSc Honors, BCA Honors

Arts Faculty: BA, BA Honors

Commerce Faculty: BCom , BBM, BCom Honors, BBM, BBM Honors

3. Definitions:

Course : Every course offered will have three components associated with the teaching-learning process of the course, namely:

- (i) L= Lecture (ii) T= Tutorial (iii) P= Practice, where:

L stands for **Lecture** session consisting of classroom instruction.

T stands for **Tutorial** session consisting participatory discussion / self study/ desk work/ brief seminar presentations by students and such other novel methods that make a student to absorb and assimilate more effectively the contents delivered in the Lecture classes and to orient towards the skill application.

P stands for **Practice** session and it contains of Hands on Experience / Laboratory Experiments / Field Studies / Case Studies that equip students to acquire the much required skill component.

In terms of credits, every **one hour session of L amounts to 1 credit per Semester** and a minimum of **two hour session of T or P amounts to 1 credit per Semester**, over a period of one Semester of 16 weeks for teaching-learning process. **The total duration of a semester is 20 weeks inclusive of semester-end examination.**

A course shall have either or all the three components. That means, a course may have only lecture component, or only practical component or combination of any two or all the three components.

The total credits earned by a student at the end of the semester upon successfully completing the course are L + T + P. **The credit pattern of the course is indicated as L: T: P. However, it is necessary that every course should have at least L and T, or L and P, or T and P, and preferably all the three - L,T,P.**

If a course is of 4 credits then the different credit distribution patterns in L: T: P format could be:

4 : 0 : 0, 1 : 2 : 1, 1 : 1 : 2, 1 : 0 : 3, 1 : 3 : 0,
2 : 1 : 1, 2 : 2 : 0, 2 : 0 : 2, 3 : 1 : 0, 3 : 0 : 1,
0 : 2 : 2, 0 : 4 : 0, 0 : 0 : 4, 0 : 1 : 3, 0 : 3 : 1,

The concerned BoS will choose the convenient Credit Pattern for every course based on the requirement. However, generally, a course shall be of FOUR Credits and occasionally may be of ONE Credit/TWO Credits/ THREE Credits/ FIVE Credits.

Different Courses of Study are labelled and defined as follows:

1)TWO MAJOR OPTIONAL SUBJECT PROGRAM

1	Language Course Regional (LC-R) Contents on the Right side are only suggestive	Language: Kannada/Mother Tongue/One of the languages as listed by the University Prose: Comprising of Essay,Famous Regional- National Personalities\Fictional stories\Moral Stories\Episodes from epics Poetry: Comprising of Nature, Epic sequences, Morality boosters \ confidence promoters etc Drama : Aiming at developing and improving communication skills and learning through Role plays. Composition : Comprising of Summary Writing, Proposal Writing			
2	Language Course International-English (LC-E) Contents on the Right side are only suggestive	Language: English Prose: Comprising of Essay, Famous National-International Personalities, Fictional stories\Moral Stories\Episodes from epics Poetry: Comprising of Nature, Epic sequences, Morality boosters, confidence promoters etc Drama : Aiming at developing and improving communication skills Composition : Comprising of Summary Writing, Proposal Writing			
3	Foundation Course (FC)	FC-1: Computer Literacy-using Proprietary and Open Source Software,			
4		FC-2: Soft Skills for Employability, Logical reasoning, Emotional Intelligence, Personality development			
5		FC-3: Constitution, Citizen Duties and Citizenship, Human Rights, Civic Sense-Society & Ethics, Environment, Renewable Energy, Go Green			
6		FC-4: Inter-personal Communication Skills such as Customer Service, Behavioural communication, etc.			
7		FC-5: English for International Business Communication			
8		FC-6: Invention, Innovation, & Entrepreneurship including Business Entrepreneurship Management			
9	Optional Subjects S1-Major1 S2-Major2 S3-Related Allied courses	Optional BA Hon Subject Ex: PS	BSc Hon Ex: PM	BSc Hon Ex: EC	BA Hon Ex: HE
10		S1 Political Science	Physics	Electronics	History
11		S2 Sociology	Maths	Computer Science	Economics
		S3 -----Allied Courses -----			
		<i>Note: 1)Majoring for Honors in the 4th year could be from any of the 2 Major Optional subjects 2)A candidate willing to earn Honors in the other major subject also can spend one more year for the same. 3)'Ex' represents an Example</i>			
12	Integrated Mind, Body, Heart Activities(IMBHA)	Sports & Yoga / NCC/NSS /Social Service / Co-curricular activities /General Knowledge			

Table 1(a): Subjects in Two Major Optional program

2) SINGLE MAJOR SUBJECT PROGRAM

1	Language Course Regional (LC-R) Contents on the Right side are only suggestive	Language: Kannada/Mother Tongue/One of the languages as listed by the University Prose: Comprising of Essay, Famous Regional- National Personalities \ Fictional stories \ Moral Stories \ Episodes from epics Poetry: Comprising of Nature, Epic sequences, Morality boosters, confidence promoters etc Drama : Aiming at developing and improving communication skills and learning through Role plays. Composition : Comprising of Summary Writing, Proposal Writing
2	Language Course International-English (LC-E) Contents on the Right side are only suggestive	Language: English Prose: Comprising of Essay, Famous National-International Personalities\Fictional stories\Moral Stories\Episodes from epics Poetry: Comprising of Nature, Epic sequences, Morality boosters, confidence promoters etc Drama : Aiming at developing and improving communication skills Composition : Comprising of Summary Writing, Proposal Writing
3	Foundation Course (FC)	FC-1: Computer Literacy-using Proprietary and Open Source Software
4		FC-2: Soft Skills for Employability, Logical reasoning, Emotional Intelligence, Personality development
5		FC-3: Constitution, Citizen Duties and Citizenship, Human Rights, Civic Sense-Society & Ethics, Environment, Renewable Energy, Go Green
6		FC-4: Inter-personal Communication Skills such as Customer Service, Behavioural communication, etc.
7		FC-5: English for International Business communication
8		FC-6: Invention, Innovation, & Entrepreneurship including Business Entrepreneurship Management
9	S1*	Computer Science/Technology, Computer Applications (For instance)
10	S2*	Electrical & Electronics, Related Interdisciplinary subjects (For this example)
11	S3*	Mathematics (For this example)
12	Integrated Mind, Body, Heart Activities(IMBHA)	Sports & Yoga / NCC/NSS /Social Service / Co-curricular activities /General Knowledge

Table 1(b) Subjects in Single Major Subject Program

S1*, S2*, S3* : All are Core/major courses related to the major course including choice-based/or skill based courses pertaining to the Core course

PROJECT WORK:

The Project work shall be in the theme area of major subject involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problems.

4. ELIGIBILITY FOR ADMISSION:

To be filled in by the respective Universities for different streams of study.

5. SCHEME

5.1 DURATION:

A B.Sc-Honors/BA-Honors/BCom-Honors/ BBM- Honors (UG Honors)degree program is of 8 semesters - 4 years duration of 190 credits. If for any reason, a candidate is not able to complete the Degree program in 4 years, the candidate can avail a maximum of 16 semesters - 8 years as per double duration norm, in one stretch to complete Honors degree, including blank semesters in between, if any. Whenever a candidate opts for blank semesters, he/she has to study the prevailing courses offered by the School/Department when he/she resumes his/her studies.

5.2 EXIT OPTIONS

A candidate can exercise option to exit with a Diploma/ Advanced Diploma /UG degree/ UG Honors by completing the stipulated number of credits as mentioned below in table 2 and as detailed in table 3(a) and table 3(b)

Exit	At the end of	Credits to be completed
Diploma	First year	$(8*6)+2 = 50$
Advanced Diploma	Second Year	$50 + 50 = 100$
BSc/BCA/BA/BCom/BBM(UG)	Third year	$100+ (50) = 150$
UG Honors	Fourth year	$150 + (20+20) = 190$

Table 2 :Exit Options

5.3 A candidate has to earn 190 credits for successful completion of Honors degree with the distribution of credits for different courses as given in **Table 3(a) for Two Major Optional Honors' degree and Table 3(b) for Single Major Honors degree.**

Two Major Optional Subjects Honors Program													
Subject	I	II	Diploma	III	IV	Advanced Diploma	V	VI	UG	VII	VIII	Honors UG	Papers
LC-E	4	4	8	4	4	16		-	16			16	4
LC-R	4	4	8	4	4	16		-	16			16	4
FC	4	4	8	4	4	16	4	4	24			24	6
S1	4	4	8	4	4	16	4+4	4+4	32	5X4=20	5X4=20	72	18
S2	4	4	8	4	4	16	4+4	4+4	32			32	8
S3	4	4	8	4	4	16	4	4	24			24	6
IMBHA	1	1	2	1	1	4	1	1	6			6	6
Sub Total	25	25		25	25		25	25		20	20		
Total			50			100			150			190	52

*Assuming S1 to be the majoring subject for Honors

Table 3(a): Credits and Exit Options in Two Major Optional Subjects Honors Program

Single Major Subject program													
Subject	I	II	Diploma	III	IV	Advanced Diploma	V	VI	BSc	VII	VIII	Honors BSc	Papers
LC-E	4	4	8	4	4	16	-	-	16			16	4
LC-R	4	4	8	4	4	16	-	-	16			16	4
FC	4	4	8	4	4	16	4	4	24			24	6
S1	4	4	8	4	4	16	20 (5X4)	20 (5X4)	88	20 (5X4)	20 (5X4)	128	32
S2	4	4	8	4	4	16							
S3	4	4	8	4	4	16							
IMBH A	1	1	2	1	1	4	1	1	6			6	6
Sub Total	25	25		25	25		25	25		20	20		
Total			50			100			150			190	52

Table 3(b) : Credits and Exit Options in Single Major Subject Honors Program

5.4 A candidate can enrol for a maximum of 30 credits per Semester including:

I. **Dropped Courses** of corresponding semester(s) of previous year(s), if any:

II. **Additional Courses** that are Allied courses/Choice based papers

5.5 Only such candidates who register for a minimum of 25 credits per semester from I semester to VI semester , 20 credits from VII and VIII semesters as prescribed and complete successfully 190 credits in 8 successive semesters shall be considered for declaration of Ranks, Medals, Prizes.

5.6 Generally a full-time candidate may register for 25 credits / semester from I to VI semester and 20 credits/semester for VII and VIII semesters.

5.7 A candidate admitted to UG program can exercise an option to exit with respective Diploma / Degrees as described in Table 2.

5.8 ADD-ON FACILITIES

(a) At the completion of Honors degree, if a candidate has earned a minimum of 28 extra credits from additional courses (i.e. in excess of the usual 190 credits as stipulated for awarding an Honors degree), then such a candidate will be eligible for ADD-ON *Graduate Diploma* additionally.

(b) At the completion of Degree/Honors Degree, if a candidate has earned a minimum of 20 extra credits from additional courses, then such a candidate will be eligible for an ADD-ON Diploma.

(c) However all other candidates who have earned extra credits less than 20 will obtain ADD-ON certification as applicable.

6 Continuous Assessment, Earning of Credits and Award of Marks

The evaluation of the candidate shall be based on continuous assessment. The structure for evaluation is as follows:

6.1 Assessment and evaluation processes happen in a continuous mode. However, for reporting purposes, a semester is divided into 3 discrete components identified as C1, C2, and C3.

6.2 The performance of a candidate in a course will be assessed for a maximum of 100 marks as explained below in I to IV semester and for a maximum of 150 marks from V to VIII semesters .

6.3 The first component (C1), of assessment is for 15 marks (I to IV Sem)/25 marks(V to V111Sem). This will be based on tests and assignments. During the first half of the semester, the first 50% of the syllabus (unit 1 and 2) will be completed. This shall be consolidated during the 9th week of the semester. Beyond 9th week, making changes in C1 is not permitted.

C1 Split		15 marks(I to IV Sem)	25 marks(V to VIII Sem)
Assignment	Unit1	4	8
Assignment	Unit2	4	8
Review test	Unit1, Unit2	7	9

6.4 The second component (C2), of assessment is for 15 marks (I to IV Sem)/25 marks(V to V111Sem). This will be based on tests and assignments. The continuous assessment and scores of second half of the semester will be consolidated during the 17th / 18th week of the semester .During the second half of the semester the remaining units (unit 3 and 4)of the syllabus will be completed.

C2 Split		15 marks(I to IV Sem)	25 marks(V to VIII Sem)
Assignment	Unit3	4	8
Assignment	Unit4	4	8
Review test	Unit3, Unit4	7	9

6.5 The evaluated assignments and answer papers of review tests during Component I (C1) and Component II (C2) of assessment are immediately returned to the candidates after obtaining acknowledgement in the register maintained by the concerned teacher for this purpose. *A minimum of 40% should be scored in (C1+C2)*

6.6 The semester-end examinations will be conducted during the 18th -20th week of the semester. The Theory examinations will be of 2 hours duration for each course in I to IV semester and of 3 hours duration in V to VIII Semester .Practical examinations will also be of 2 hours and 3 hours duration respectively. This forms the third/final component of assessment (C3) and the maximum marks for the final component will be 70 during I to IV semesters and will be 100 marks during V to VIII semesters for both

theory and practical examinations put together. *A minimum of 35% should be scored in C3*

Note: C1,C2,C3 breakup for IMBHA is as indicated in the tables which follow.

SETTING QUESTIONS PAPERS AND EVALUATION OF ANSWER SCRIPTS

- I. Questions papers (for C3) in three sets shall be set by the suitable examiners for a course. The chairman of Board of Examiners(BoE) shall get the question papers set.
- II. The Board of Examiners shall scrutinize and approve the question papers and scheme of valuation.
- III. a) There shall be central valuation for all theory papers.

b) The examination for Practical work/Project work will be conducted jointly by internal and external examiners. However the Chairman of BoE on discretion can also choose both the examiners from the panel of external examiners whenever the College does not have qualified internal examiners.
- IV. Challenge Valuation

A student who desires to apply for challenge valuation shall obtain a photo copy of the answer script by paying the prescribed fee within 10 days after the announcement of the results. He / She can challenge the marks awarded to him/her by surrendering the marks card and by submitting an application along with the prescribed fee to the Registrar (Evaluation) within 10 days after the announcement of the results. This challenge valuation is only for C3 component.

The answer scripts for which challenge valuation is sought for shall be sent to another examiner. The higher of two marks from first valuation and challenge valuation shall be the final.

6.7 In case of a practical examination , it will be conducted with both internal and external examiners. A candidate will be assessed on the basis of a) knowledge of relevant processes b) Skills and operations involved c) Results including calculation and reporting. The duration for semester-end practical examination shall be 2 hrs for I to IV semester and 3 hrs from V to VIII semester.

6.8(a) The scheme of study and assessment for the different semesters can be found in the tables below for *Two Major Optional Subjects Program*

2 Major 1 Optional	Code	Course	LTP(Credit Value)	Continuous assessment			Semester-end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem I, II, III & IV										
1	LC-E		L:T:P = 4	15	15	30	40	30	70	100
2	LC-R		L:T:P = 4	15	15	30	40	30	70	100
3	FC		L:T:P = 4	15	15	30	40	30	70	100
4	S1		L:T:P = 4	15	15	30	40	30	70	100
5	S2		L:T:P = 4	15	15	30	40	30	70	100
6	S3		L:T:P = 4	15	15	30	40	30	70	100
7	IMB HA		L:T:P = 1	15	15	30	-	20	20	50
Total 25 credits										

2 Major 1 Optional	Code	Course	LTP(Credit Value)	Continuous assessment			Semester-end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem V										
1	FC-5		L:T:P = 4	25	25	50	50	50	100	150
2	S1.1		L:T:P = 4	25	25	50	50	50	100	150
3	S1.2		L:T:P = 4	25	25	50	50	50	100	150
4	S2.1		L:T:P = 4	25	25	50	50	50	100	150
5	S2.2		L:T:P = 4	25	25	50	50	50	100	150
6	S3		L:T:P = 4	25	25	50	50	50	100	150
7	IMB HA		L:T:P = 1	15	15	30	-	20	20	50
Total 25 credits										

2 Major 1 optional	Code	Course	LTP(Credit Value)	Continuous assessment			Semester-end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem VI										
1	FC-6		L:T:P = 4	25	25	50	50	50	100	150
2	S1.1		L:T:P = 4	25	25	50	50	50	100	150
3	S1.2	Project-1/ A Course	L:T:P = 4	25	25	50	50(Pro ject report)	50(final demo & viva)	100	150
4	S2.1		L:T:P = 4	25	25	50	50	50	100	150
5	S2.2	Project- 2/A Course	L:T:P = 4	25	25	50	50(Pro ject report)	50(final demo & viva)	100	150
6	S3		L:T:P = 4	25	25	50	50	50	100	150
7	IMBH A		L:T:P = 1	15	15	30	-	20	20	50
Total 25 credits										

2 Major 1 optional	Code	Course	LTP(Credit Value)	Continuous assessment			Semester end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem VII										
1	Hon.Major 1.1		L:T:P = 4	25	25	50	50	50	100	150
2	Hon.Major 1.2		L:T:P = 4	25	25	50	50	50	100	150
3	Hon.Major 1.3		L:T:P = 4	25	25	50	50	50	100	150
4	Hon.Major 1.4		L:T:P = 4	25	25	50	50	50	100	150
5	Hon.Major 1.5		L:T:P = 4	25	25	50	50	50	100	150
6	Project/ Dissertation		←----- Project work Initiation -----→							
Total : 20 credits										

2 Major 1 optional	Code	Course	LTP(Credit Value)	Continuous assessment			Semester-end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
1	Hon.Major 2.1		L:T:P = 4	25	25	50	50	50	100	150
2	Hon.Major 2.2		L:T:P = 4	25	25	50	50	50	100	150
3	Hon.Major 2.3		L:T:P = 4	25	25	50	50	50	100	150
4	Hon.Major 2.4		L:T:P = 4	25	25	50	50	50	100	150
5	Hon.Major 2.5	Project	L:T:P = 4	25	25	50	50 (Project report)	50 (final demo & viva)	100	150
Total : 20 credits										

6.8(b) The schema of study and assessment for the different semesters can be found in the tables below for *Single Major Subject Program*:

Single Major	Code	Course	LTP(Credit Value)	Continuous assessment			Semester-end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem I,II, III&IV										
1	LC-E		L:T:P = 4	15	15	30	40	30	70	100
2	LC-R		L:T:P = 4	15	15	30	40	30	70	100
3	FC		L:T:P = 4	15	15	30	40	30	70	100
4	S1		L:T:P = 4	15	15	30	40	30	70	100
5	S2		L:T:P = 4	15	15	30	40	30	70	100
6	S3		L:T:P = 4	15	15	30	40	30	70	100
7	IMBHA		L:T:P = 1	15	15	30	-	20	20	50
Total : 25 credits										

Single Major	Code	Course	LTP(Credit Value)	Continuous assessment			Semester end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem V										
1	FC-5		L:T:P = 4	25	25	50	50	50	100	150
2	S1, S2, S3		L:T:P = 4	25	25	50	50	50	100	150
3			L:T:P = 4	25	25	50	50	50	100	150
4			L:T:P = 4	25	25	50	50	50	100	150
5			L:T:P = 4	25	25	50	50	50	100	150
6			L:T:P = 4	25	25	50	50	50	100	150
7	IMBHA		L:T:P = 1	15	15	30	-	20	20	50
Total 25 credits										

Single Major	Code	Course	LTP(Credit Value)	Continuous assessment			Semester end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem VI	FC-6		L:T:P = 4	25	25	50	50	50	100	150
1	S1, S2, S3		L:T:P = 4	25	25	50	50	50	100	150
2			L:T:P = 4	25	25	50	50	50	100	150
3			L:T:P = 4	25	25	50	50	50	100	150
4			L:T:P = 4	25	25	50	50	50	100	150
5			L:T:P = 4	25	25	50	50	50	100	150
6		Project-1	L:T:P = 4	25	25	50	50 (Project report)	50 (final demo & viva)	100	150
7	IMBHA		L:T:P = 1	15	15	30	-	20	20	50
Total 25 credits										

Single Major	Code	Course	LTP(Credit Value)	Continuous assessment			Semester end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
1	Hon.Major 1.1		L:T:P = 4	25	25	50	50	50	100	150
2	Hon.Major 1.2		L:T:P = 4	25	25	50	50	50	100	150
3	Hon.Major 1.3		L:T:P = 4	25	25	50	50	50	100	150
4	Hon.Major 1.4		L:T:P = 4	25	25	50	50	50	100	150
5	Hon.Major 1.5		L:T:P = 4	25	25	50	50	50	100	150
6	Project/ Dissertation	Project starts	<-----Project work is initiated ----->							
Total : 20 credits										

Single Major				Continuous assessment			Semester end assessment			
				8 th week (C1)	16 th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
Sem VIII	Code	Course	LTP(Credit Value)	8th week (C1)	16th Week (C2)	Total	Writing	Practical	Total (C3)	Total marks (C1+C2+C3)
1	Hon.Major 2.1		L:T:P = 4	25	25	50	50	50	100	150
2	Hon.Major 2.2		L:T:P = 4	25	25	50	50	50	100	150
3	Hon.Major 2.3		L:T:P = 4	25	25	50	50	50	100	150
4	Hon.Major 2.4		L:T:P = 4	25	25	50	50	50	100	150
5	Hon.Major 2.5	Project	L:T:P = 4	25	25	50	50 (Project report)	50 (final demo & viva)	100	150
Total : 20 credits										

6.9 The details of continuous assessment are summarized in the following Table.

Component	Period	Syllabus	Weightage	Activity.
C1	1 st Week to 8 th Week	First 50% (First two units of the course)	15 marks (I to IV Sem) 25 marks(V to VIII Sem)	Instructional process and Continuous Assessment
	First 3 days of 9 th Week			Consolidation of C1(By teachers)
C2	From 9 th Week to 16 th Week	Second 50% (remaining two units of the course)	15 marks (I to IV Sem) 25marks (V to VIII Sem)	Instructional process and Continuous Assessment Consolidation of C2 (By teachers)
	17 th Week			Revision and preparation for semester – end exam
C3	18 th Week to 20 th Week	Entire syllabus	70 marks (I to IV Sem) 100 marks (V to VIII Sem)	* Conduct of Semester -end Exams
	21 st Week to 22 nd Week			Evaluation and Tabulation
	22 nd Week			Announcement of results
*Examination and Evaluation shall take place concurrently and Final Marks be announced latest by 22nd week				

6.10 A candidate's performance from all 3 components will be in terms of scores, and the sum of all three scores will be for a maximum of 100 marks (15 + 15 + 70) from I to IV semester and for a maximum of 150 marks(25+25+100) from V to VIII semester.

6.11 Finally, announcing the results should be completed latest by 24th week of the semester.

6.12 Evaluation of Projects

Right from the initial stage of defining the problem, the candidate has to submit the

progress reports biweekly and also present his/her progress in the form of seminars in addition to the regular discussion with the guide. Components of evaluation are as in the tables.

6.13 In case a candidate secures less than 40% in C1 and C2 put together in a course, the candidate is said to have DROPPED that course, and such a candidate is not allowed to appear for C3 in that course.

In case a candidate's class attendance in a course is less than 75% or as stipulated by the University, the candidate is said to have DROPPED that course, and such a candidate is not allowed to appear for C3 in that course.

Teachers offering the courses will place the above details in a meeting convened by the Principal of the Institution during the last week of the semester, before the commencement of C3, and subsequently a notification pertaining to the above will be brought out by the Principal of the institute before the commencement of C3 examination. A copy of this notification shall also be sent to the office of the Registrar & Registrar (Evaluation).

6.14 In case a candidate secures more than 40% in C1+C2 but less than 35% in C3, such a candidate may opt to DROP that course or may opt to appear for C3 examination during the subsequent examinations. In case he/she opts to appear for just C3 examination, then the marks scored in C1+C2 shall get continued. Repeat C3 examinations will be conducted in every semester.

6.15 Re-Registration for Dropped Course: A candidate has to re-register for the DROPPED course when the course is offered again by Department. The candidate may choose the same or an alternative paper in case the Dropped Course is a choice based paper. A Candidate who is said to have DROPPED project work has to re-register for the same subsequently within the stipulated period. The provision of re-registration is subject to the condition laid down in section 5.4. **The details of any DROPPED course will not appear in the Marks Card.**

Provisional Marks Card: The tentative / provisional marks card will be issued by the

Registrar (Evaluation) at the end of every semester indicating the courses completed successfully. This statement will not contain the list of DROPPED courses.

6.16 Final Marks Card: Upon successful completion of Honors Degree a Final Mark card consisting of marks of all courses successfully completed by the candidate will be issued by the Registrar (Evaluation). When a candidate chooses to exit at optional exit points, he/she gets consolidated marks card upto the exit point along with the respective Diploma/Degree

6.17 A candidate can DROP any course within ten days from the date of notification of final results. Whenever a candidate drops a paper, he/she has to register for the DROPPED course as stated in 6.15, subject to the condition laid down in section 5.4.

7. Classification of Results

The final classification of Results after successful completion of the course is as follows.

%	Classification
<55%	Pass Class
55 <= % < 65	Second Class
65 <= % < 75	First Class
>=75%	Distinction

8. Provision for Appeal

If a candidate is not satisfied with the evaluation of C1 and C2 components, he/she can approach the grievance cell with the written submission together with all facts, the assignments, test papers etc, which were evaluated. He/she can do so before the commencement of Semester-end examination (and not after the commencement of Semester-end examination). The grievance cell is empowered to revise the marks if the case is genuine and is also empowered to levy penalty as prescribed by the university on the candidate if his/her submission is found to be baseless and unduly motivated. This cell may recommend taking disciplinary/corrective action on an

evaluator if he/she is found guilty. The decision taken by the grievance cell is final. For every program there will be one grievance cell. The composition of the grievance cell is as follows.

1. The Registrar (Evaluation) - Ex-officio Chairman / Convener
2. One Senior Faculty Member (other than those concerned with the evaluation of the course concerned) from the same College.
3. One Senior Faculty Member / Subject Expert drawn from outside the College.

9. Work Load

Every teaching hour is treated as 1 hr of work. Every tutorial/practical session is treated as 2 hours of work.

A batch for theory class may have upto 60 students. A batch for tutorial/practical session may have a maximum of 15 students and 1 teacher for supervision.

Eg: If L:T:P structure of a course is 3:1:0 or 3:0:1 and the class strength is 60 then a minimum of 4 batches with 15 students each should be made for tutorial/practical sessions. Accordingly the workload is (3 hrs of theory) + (2X4=8 hrs of Practical/Tutorial sessions) = 11 hours

If L:T:P structure of a course is 2:1:1 or 2:2:0 or 2:0:2 and the class strength is 60 then a minimum of 4 batches with 15 students each should be made for tutorial/practical sessions. Accordingly the workload is (2 hrs of theory) + (2X2X4=16 hrs of Practical/Tutorial sessions) = 18 hours

10. ANY AMBIGUITY

With regard to any specific case of ambiguity and unsolved problem, the decision of the Vice-Chancellor shall be final.

SOME TYPICAL EXAMPLES:

(a) Single Major Subject Honors program : A typical example showing knowledge, tools and Skills required for B.Sc Honors (Computer Science) Degree

Semester	Course	L:T:P Credit	Aptitude necessary to learn the subject	Knowledge to be gained	Tools to be learnt	Required skill level to be reached
I	Concepts of computers, information technology and office automation	2:1:1	<ul style="list-style-type: none"> • Interest in technology • Eager to automate manual tasks 	<ul style="list-style-type: none"> • Computerized Accounting • Entering and manipulating data • Anatomy of email • FTP • Basic concepts of computer organization and memory 	<ul style="list-style-type: none"> • OS like Windows XP • MS Word, Excel, Access, PPT • Intranet • Internet • VBA 	<ul style="list-style-type: none"> • Office Assistant • Data Entry Operator • Backoffice Assistant • Computer Operator • Help desk technician
II	Problem solving and programming in C	2:1:1	<ul style="list-style-type: none"> • Keen to solve problems • Backtracking • Troubleshooting 	<ul style="list-style-type: none"> • Fundamental building blocks for solving problems using computers • Procedural language concepts 	<ul style="list-style-type: none"> • C language • Debuggers • Integrated Development environment(IDE) • Testing tools 	<ul style="list-style-type: none"> • MIS Executive • Manual Tester • Operation support • Technical Support
III	Problem Solving and programming in C++/.NET	2:1:1	<ul style="list-style-type: none"> • Concepts of OOP • Exploiting Reusable techniques in software 	<ul style="list-style-type: none"> • Object Oriented Programming • Advanced IDE Concepts • .NET Framework 	<ul style="list-style-type: none"> • Turbo C++ • C# • VB.NET 	<ul style="list-style-type: none"> • Programmer • Tester
IV	Introduction to JAVA, HTML , Internet & Web	1:1:2	<ul style="list-style-type: none"> • Understand E-Commerce • Business Intelligence 	<ul style="list-style-type: none"> • Advanced features of OOB • GUI Programming • Threading • Remote Method Invocations • Website Design • 	<ul style="list-style-type: none"> • JAVA Enterprise Edition • HTML • JSP 	<ul style="list-style-type: none"> • Programmer • Web Developer
V	Computer Organization and Operating Systems	3:0:1	<ul style="list-style-type: none"> • Understand salient features of computer system • Assembly level operation of processor 	<ul style="list-style-type: none"> • Basic structures of CPU and Bus • Process Management • Memory management • Operating Systems • Distributed Systems • Time sharing systems • Compilation Linking and Loading 	<ul style="list-style-type: none"> • Basics of UNIX(compulsory) • Windows • UNIX/Windows scripting 	<ul style="list-style-type: none"> • System Support • Tech Support • System Maintenance

V	Data Structures and Algorithms	2:1:1	<ul style="list-style-type: none"> Programming strategies Resource Optimization 	<ul style="list-style-type: none"> Searching ,Sorting techniques Complexity of Algorithms Abstract data type Implementation(ADT) Graphs, trees etc. 	<ul style="list-style-type: none"> C++ .NET JAVA 	<ul style="list-style-type: none"> Advanced Programmer
VI	Database and Query Optimization	2:1:1	<ul style="list-style-type: none"> DB Management Develop queries and Reporting techniques 	<ul style="list-style-type: none"> Relational DB Concepts Query Performance & Optimization Normalization 	<ul style="list-style-type: none"> Microsoft/Oracle SQL SSIS SSRS 	<ul style="list-style-type: none"> Business Analyst DB developer
VII	System Analysis and Design	1:2:1	<ul style="list-style-type: none"> Fact finding Decision making Critical thinking Testing and Quality Assurance System Analysis and Design 	<ul style="list-style-type: none"> Data Modelling techniques Manage Application Development Prototyping System & Integration testing 	<ul style="list-style-type: none"> Simple Object Access Protocol(SOAP) Abinitio/Informatica(ETL) Web services 	<ul style="list-style-type: none"> Software Architect Application Engineer System Analyst
VII	Computer Graphics & Multimedia	2:1:1	<ul style="list-style-type: none"> Demonstrate use of Interactive multimedia Automation Scanned Images 	<ul style="list-style-type: none"> Computer Graphics Electronic images Electronic Publishing Vector based graphics Interactive multimedia 3-d Graphics 	<ul style="list-style-type: none"> HyperStudio Netscape Photoshop 	<ul style="list-style-type: none"> Web developer Graphics developer
VIII	Software Engineering	2:0:1	<ul style="list-style-type: none"> Development, Maintenance, Operation of software and software products 	<ul style="list-style-type: none"> Software processes SDLC Legal aspects of Software Engineering Reliability and Performance of software Business aspects of Software Engineering S/W metrics Risks of Software Engineering 	<ul style="list-style-type: none"> Debuggers Compilers Interpreters Test Generators/Management tools Microsoft - MPP 	<ul style="list-style-type: none"> Programmer Analyst System Architect System Analyst
VIII	Computer Networks and Security	2:2:0	<ul style="list-style-type: none"> Develop skills to store data Use data exchange efficiently and safely 	<ul style="list-style-type: none"> LAN, MAN, WAN etc. Layers of network Wireless network Network software OSI,TCP/IP Models Connection oriented & connectionless networks Ethernet Network Security 	<ul style="list-style-type: none"> Preferable on UNIX &/ Linux Tracer Route NS Lookup Router S/W P2P filesharing S/W Android apps-Wireless network 	<ul style="list-style-type: none"> System Manager Network Engineer Software Engineer

(b)Single Major Subject Honors program : A typical example showing knowledge, tools and Skills required for B.Sc Honors (Physics) Degree Courses that can be offered during several semesters with single major Physics Honors Course are as follows:

First Semester :

- 1) Language Course - English with LTP credit of 04
- 2) Language Course - Kannada/Hindi/Sanskrit/Urdu with L T P credit of 04
- 3) Foundation Course- FC1- Computer Literacy-using Proprietary and Open Source Software, with L T P credit of 04; This course provides the skill of computer Literacy to the students.
- 4) Major subject Course –MC1: Mechanics I: with L T P credit of 03+01=04
- 5) Minor subject Course M1 : Mathematics 1: with L T P credit of 04
- 6) Allied Subject Course AL1: Biology for Physicists-1 With L T P credit of 04
- 7) Compulsory Course I M B H: with an L T P credit 01

◆ Total credit in the first semester = 25.

Second Semester:

- 1) Language Course - English with LTP credit of 04
- 2) Language Course - Kannada/Hindi/Sanskrit/Urdu with L T P credit of 04
- 3) Foundation Course: FC2- Soft Skills for Employability, Logical reasoning, Emotional Intelligence, Personality development with L T P credit of 04.
- 4) Major subject Course: MC2-Thermal Physics and Statistical Physics with a L T P credit of 03+01=04
- 5) Minor Subject Course M2 : Mathematics 2: Algebra, Analytical Geometry, Calculus-II-Matrices and quadratic curves. With L T P credits of 04
- 6) Allied subject Course AL2: Biology for Physicists-2 with L T P credit of 04
- 7) Compulsory Course I M B H : with an L T P credit of 01

◆ Total credit in the second semester = 25

Third Semester:

- 1) Language Course - English with LTP credit of 04
- 2) Language Course - Kannada/Hindi/Sanskrit/Urdu with L T P credit of 04
- 3) Foundation Course: FC3- Constitution, Citizen Duties and Citizenship, Human Rights, Civic Sense-Society & Ethics, Environment, Renewable Energy, Go Green with a credit of 04
- 4) Major subject Course: MC3-Waves, acoustics and Optics with a L T P credit of 03+01=04
- 5) Minor Subject Course M3 : Mathematics 3-Differentiation and its application, Partial derivatives, Line integrals . With L T P credits of 04
- 6) Allied subject course AL3 :Inorganic Chemistry- Chemical Bonding, Molecular orbital theory With LTP credit of 04
- 7) Compulsory Course: I M B H with L T P credit 01

◆ **Total credit in the third semester = 25**

Fourth Semester:

- 1)Language Course - English with LTP credit of 04
- 2)Language Course - Kannada/Hindi/Sanskrit/Urdu with L T P credit of 04
- 3) Foundation Course: FC4- Skills in Customer Service with L T P credit of 04.
- 4) Major subject Course: MC4-Electricity, Magnetism and Electromagnetic Theory with LT P credit of 03+01=04
- 5) Minor Subject Course M4 : Mathematics 4 –Group Theory & Differential equations. With LTP credits of 04
- 6) Allied subject course AL4 :Organic Chemistry- Introduction, classification of organic compounds, principles of purification of organic compounds Electronic effects Aliphatic Hydrocarbons .with LTP credit of 04
- 7) Compulsory Course: I M B H with L T P credit 01

◆ **Total credit in the fourth semester = 25**

◆ **Total Credit for Diploma = 100**

Fifth Semester:

- 1) Foundation Course: FC 5- English for International Business Communication with L T P credit of 04
- 2) Major subject Course: MC5-Atomic and Molecular Physics with L T P credit of 03+01=04

- 3) Major Subject Course: MC6- Relativity and Physics of condensed matter with L T P credit of 03+01=04
- 4) Minor Subject Course M 5 : Mathematics 5 –Advanced Calculus, Infinite series, improper integrals With LTP credits of 04.
- 5) Minor Subject Course M6: Mathematics6 -Rings and Fields & Riemann Integration with LTP credits of 04
- 6) Allied subject course: AL5- Introductory Course on Earth Science with L T P credit of 04
- 7) Compulsory Course: I M B H with L T P credit of 01

◆ Total credit in the fifth semester =25

Sixth Semester:

- 1) Foundation Course: FC 6- Entrepreneurship, Business Entrepreneurship Management with L T P credit of 04
- 2) Major Subject Course : MC7- Nuclear Physics with L T P credit of 04
- 3) Major subject Course: MC 8- Electronics with L T P credit of 04
- 4) Minor subject Course M 7: Mathematics 7- Applied Mathematics-Laplace Transforms, Fourier series, Fourier transforms& Linear differential equations. With LTP credit of 04.
- 5) Minor subject Course M 8 : Mathematics 8- Numerical Analysis and Vector Calculus with LTP credit of 04.
- 6) Allied subject Course: AL 6- Course on Statistics to be used in data analysis with L T P credit of 04.
- 7) Compulsory Course: IMBH with LTP credit of 01

◆ Total credit in the sixth semester = 25

◆ Total Credit for B Sc degree= 150

Seventh Semester:

- 1) Hon Major Course 7.1: with L T P credit of 04
- 2) Hon Major Course 7.2: with L T P credit of 04
- 3) Hon Major Course 7.3: with L T P credit of 04
- 4) Hon Major Course 7.4: with L T P credit of 04
- 5) Project work:-----with the credit of 04

◆ Total Credits for the Seventh Semester = 20

Eighth Semester:

- 1) Hon Major Course 8.1 : with L T P credit of 04
- 2) Hon Major Course 8.2 : with L T P credit of 04
- 3) Hon Major Course 8.3 : with L T P credit of 04
- 4) Hon Major Course 8.4 : with L T P credit of 04
- 5) Project work:-----with credit of 04

- **Total Credits for the Eight Semester = 20**
- **Grand Total Credits for B Sc(Hons) Course=190**

Additional courses for skill development with the main objective of making our graduates become employable can be offered exclusively on Saturdays by making the regular subject courses to be covered with in five days a week. The courses that can be offered during Saturdays are (1) Customer Service Course (2) one or more courses from the list of courses that can be picked from the website of TAFE SA which offers more than 1000 courses. There are many short term courses.

Degree program consists of 01 major subject in any discipline + 01 minor subject+ 02 Language courses + 01 Compulsory course + Life coping skill courses for two years. The life coping skills are numeracy ability, computer literacy, spoken English, personality development and interpersonal skills and finally Advance Science & Technology; knowledge

XI. CONCLUSIONS

It is well established that in to-day's globalized world, technology and knowledge workers are very important for enhancing the economic development and future growth of a country. In order to create knowledge workers in the field of Science & Technology and Knowledge, we need to have a vision for science and technology and a policy frame work for education and research to be adopted in our institutions of Higher Education. This should begin at our Undergraduate colleges. The new pattern of Undergraduate education proposed in this Report hopes not only to create skilled human resource to meet the demands of industrial sector both in public and private enterprise but also provides scope to pursue inter disciplinary studies in higher education. It is hoped that it will also infuse among the youngsters human qualities, concerns for societal problems and above all, become knowledge workers by bringing down Rote learning. The new pattern will be a robust system of Higher Education that can make Karnataka a pioneer state with many new initiatives. It has been observed that, generally the changes are not accepted easily by our academics. But it is hoped that the entire proposal will be viewed by all the concerned in the larger context of bringing in a new system to train our graduates to become more useful to themselves as well as to the society and country at large.

XII. ACKNOWLEDGEMENT

This report is the result of the combined efforts and collective thinking of a number of academicians. The report has taken into consideration the existing position of the academic system in the various Universities in the State. For this, the Committee interacted with all the concerned stake-holders and target groups of some of the University system. In doing so, the Committee acknowledges the contributions made by many knowledgeable people, groups, and institutions.

The PG and UG teachers, students and non-teaching staff of these Universities have enriched the Committee's perceptions by their experiences, valuable feedback and inputs.

The Chairman and members of the Committee would like to place on record their appreciation and thanks to Hon'ble Chief Minister, Hon'ble Minister for Higher Education, Government of Karnataka, Principal Secretary, Department of Higher Education, GOK.

The committee specially acknowledges the support and encouragement extended by Prof. Pundi Narasimham, Mr. Venkatesh, and his colleagues from NovusSTS for their inputs regarding Foundation courses, and Dr.P.Nagabhushan, Professor of Computer Science, Mysore University and Sri M.N.Srinivas of Mysore University for many useful academic inputs, Dr. Arunkumar Khannur, Chairman & CEO, ISQT Process and Consulting Services for providing details about Skills, and Ms. Preethi Mahadev for proper formatting. The Committee has a deep sense of appreciation for the proactive involvement of the staff of Higher Education Council, Govt. of Karnataka.

XIII. REFERENCES

1. Statistics of Higher & Technical Education 2009-10 (Provisional), MHRD, GOI
2. Innovations for Skills Compendium, National Skill Development Corp.(NSDC)
3. Delor's Report, "The Treasure Within"(1996), UNESCO Publication
4. "Rethinking Education in a changing world", Report, UNESCO Meeting, Paris, February, 2013.
5. Revitalizing Higher Education System in Karnataka to Cater to Mass Employment Opportunities in Different Retail; Food Processing; Hotel and Tourism; IT, KPO and BPO Sectors: By Dr. Arunkumar Khannur, Chairman & CEO, ISQT Process and Consulting Services.

XIV. ANNEXURES

APPENDIX I. POSSIBLE AREAS OF MASS EMPLOYMENT

Possible areas of mass employment are basically of types:

- Skill Centric
- Consumer Centric
- Knowledge Centric

Skill Centric Areas

In Skill Centric areas, opportunities for mass employment are:

- Retailing that includes:
 - Marketing/Advertising
 - Store Operations
 - Loss Prevention
 - Store Management
 - Finance
 - Human Resources
 - IT and E-Commerce
 - Sales and Sales-Related
 - Distribution, Logistics, Supply Chain Management
Merchandise Buying/Planning
- Food Processing Industry and Packaging
- Maintenance and Servicing of Equipments
- Interior Decoration, Landscaping, Floriculture
- Printing Digitisation and Storage of Documents
- Packaging
- Translation and Transcription
- Advertisement, Journalism
- Facility Management

Consumer Centric Areas

In Consumer Centric areas, opportunities for mass employment are:

- Regional Service and Support Centres
- Telemarketing
- Tele Services
- Documentation
- Hospitality
- Travel Industry
- Customer Relationship Management
- Ticketing and Travel Support
- Front end Office and Help Desk Management
- Stress Management and Yoga

Knowledge Centric Areas

Skill Centric areas of mass employment are related to IT and IT related which will continue to play a significant role in the economic development of India for years to come. Following are the areas in IT related fields:

- IT, Telecom, Mechatronics, Robotics and Intelligent Control
- Multimedia and Animation
- Infotainment and Edutainment
- Content Management
- Technical Writing
- Software Testing

Above areas are some emerging areas of mass employment.

APPENDIX-II PERSONALITY CENTRIC SOFT SKILLS

The youth power endowed with good education and proficiency in skills become pillars of the economy of a country in the era of globalization. The educational training of the youth should also equip them with the following soft skills:

1. Communication, presentation, and listening ability
2. Cooperative working
3. Inter-personal skills
4. Organizational ability
5. Team building ability
6. Business acumen
7. Diligence
8. Resilience

9. Honesty
10. Obedience
11. Self-motivation
12. Self-awareness
13. Self-control
14. Awareness of 'personal-good' and 'social-good'

APPENDIX-III SPECIAL SOFT SKILLS FOR BUSINESS

Following are set of Soft skills that we need in Retail, Food Processing, KPO, BPO:

- Basic English, Business English, Communication skills,
- Managing clients
- Basics of accounting, Billing and Collection
- Word processing, Preparation of Presentations
- Sales and Marketing
- Repairs and Maintenance of Appliances
- Digitisation
- Printing
- Packaging
- Cold Storage Management
- Facility Management
- Front-end Office Management
- Administration
- Security Management
- Store Operations
- Loss Prevention
- Store Management
- Human Resources Development and Training Management
- Sales and Sales-Related
- Distribution, Logistics, Supply Chain Management
- Merchandise Buying/Planning
- Psychiatry, Stress Management and Yoga
- Ticketing and Travel Support
- Tour Operation

- Travel Hostess
- Customer Management
- Food and beverage service,
- Housekeeping,
- Front office operation

In IT also, current skill set are not addressing the need in upcoming areas. We need skills that include:

- Fundamentals that include-Software Engineering; Programming Languages; Database concepts
- Soft Skills- Communication skills; Presentations skills, Aptitude, Group Discussions, Facing Interviews
- Technical area of current lead like Software Testing/Telecom/Mobile Computing/ Banking, Finance, and Insurance / Health care