

Proceedings of the meeting of the members of the Board of Studies in B.Sc.-Hons. (Artificial Intelligence and Machine Learning) Programme of Marian Institute of Professional Studies, MIT Campus, Mandya Dist – 571477, held on 21-12-2024 at 11.30 AM at the Department of Studies in Computer Science, University of Mysore, Manasagangotri, Mysuru. (9)

The following members have attended the meeting,

- |                        |          |
|------------------------|----------|
| 1. Mr. Khagendra Kumar | Member   |
| 2. Mrs. Savitha U K    | Member   |
| 3. Prof. Suresha       | Chairman |

The following member were absent for the meeting.

- |                         |        |
|-------------------------|--------|
| 1. Mr. Jino Joseph      | Member |
| 2. Mr. Frinto Francis V | Member |
| 3. Mr. Alphy Francis    | Member |

The Members of the Board were welcomed by the Chairman. The agenda of the meeting was change in the Regulation and update BoE panel of examiners of B.Sc.-Hons.(Artificial Intelligence and Machine Learning) programme, as per NEP 2020 Regulations, for the academic year 25-26.

After the presentation and discussion among the members, the following were resolved to be recommended.

1. Eligibility condition to be changed  
Higher Secondary course of any government recognised boards in any stream with mathematics/ computer science/ computer application / IT are eligible to take admission for this course.

2. Update of BoE panel of examiners.

  
CHAIRMAN

BoS in B.Sc.-Hons. (Artificial Intelligence and Machine Learning)

Dr. SURESHA  
Professor  
Department of Studies in Computer Science  
University of Mysore  
Manasagangotri, Mysore - 576 006  
Karnataka, INDIA



Proceedings of the meeting of the members of the Board of Studies in B.Sc.-Hons. (Artificial Intelligence and Machine Learning) (UG), held on 21-12-2024 at 11.30 AM at the Department of Studies in Computer Science, University of Mysore, Manasagangothri, Mysuru.

SL No	NAME	POSITION	SIGNATURE
1	Mr. Jino Joseph	Member	Absent
2	Mr. Frino Francis V	Member	Absent
3	Mr. Alphy Francis	Member	Absent
4	Mr. Khagendra Kumar	Member	Khagendra Kumar
5	Mrs. Savitha U K	Member	Savitha U K
6	Prof .Dr Suresha	Chairman	



CHAIRMAN

BoS in B.Sc.-Hons. (Artificial Intelligence and Machine Learning)

**Dr. SURESHA**

Professor

Department of Studies in Computer Science

University of Mysore

Manasagangothri, Mysore - 576 105

Karnataka, INDIA



**UNIVERSITY OF MYSORE**

**B.Sc. Artificial Intelligence and Machine Learning**

**SYLLABUS**

**NEP 2020**

***IMPLEMENTED FROM THE***

***ACADEMIC YEAR 2023-24***

*mf.*



**SYLLABUS FOR B.Sc. (Artificial Intelligence and Machine Learning) DEGREE  
AS PER NEP – 2020 REGULATIONS IMPLEMENTED FROM THE  
ACADEMIC YEAR 2023-24**

**I. OBJECTIVES:**

- a. To familiarize the students with various approaches, methods and techniques of Animation Technology.
- b. To Apply analytical and critical thinking to identify, formulate, analyse, and solve complex problems in order to reach authenticated conclusions.
- c. To Apply the technical and critical thinking skills in the discipline of artificial intelligence and machine learning to find solutions for complex problems.
- d. To Understand what the latest generation of Artificial Intelligence can do with the decision-making process and accrue the qualities of a good leader.
- e. To determine the problems where artificial intelligence techniques are applicable.
- f. To enable students to participate in the design of systems that act intelligently and learn from experience.
- g. To provide efficient and re-defined workforce that enables less manual and paper work, quick responses, change of public administration, provide better solutions
- h. To develop expertise in Design and develop research-based solutions for complex problems in artificial intelligence and machine learning industry through appropriate consideration for the public health, safety, cultural, societal, and environmental concerns.



## Preamble

Education is crucial in the formation of a nation. In our country, there are numerous educational institutions that provide guidance and training to impart quality education. However, our current educational system produces youth who must compete locally, regionally, nationally, and globally. The twenty-first century has brought many new challenges to the field of higher education. The current perilous situation necessitates system transformation and/or redesign, not only by introducing innovations but also by developing a "learner-centric" approach. However, the majority of our higher education institutions have followed a system that restricts students' ability to study subjects/courses. It should be comprehensive in order to develop the student into an ideal human being and useful person in society. Higher education's goal is to develop good, well-rounded, and creative individuals. It must allow an individual to study one or more specialised areas of interest in greater depth, while also developing character, ethical and constitutional values, intellectual curiosity, a spirit of service, and capabilities across disciplines such as sciences, social sciences, arts, humanities, and professional, technical, and vocational crafts.

The National Education Policy (NEP) has introduced several reforms in Indian education, including broad-based multidisciplinary Undergraduate Education with 21st Century skills and the development of specialised knowledge with disciplinary intellectual rigour. Its goal is to improve the National Higher Education System's equity, efficiency, and academic excellence. The most important ones are course curriculum innovation and improvement, paradigm shifts in learning and teaching pedagogy, evaluation, and education system.

Hence the University of Mysore thought it fit to implement the multidisciplinary and holistic education in all the under-graduate programs and the consequential post-graduate programs, with multiple entry and exit options with multiple certificate/diploma/degrees in the Faculties of Arts, Science, Commerce and Management to replace the present undergraduate degree programs effective from the academic year 2021-22. So based on the initiative of MHRD, the Marian Institute of Professional Studies (MIPS) run by Godwins Institution Private Ltd, has decided to follow the Multi-Disciplinary Under graduate Program with multiple exit and entry options with certificate/Diploma/degrees at each of the existing programs. Undergraduate courses should emphasise creativity and innovation, critical thinking and higher order thinking skills, problem solving abilities, teamwork, communication skills, more in-depth learning, and mastery of curriculum content across fields.

The proposed four-year multidisciplinary undergraduate programme is a fundamental transformation of current undergraduate education that replaces the traditional undergraduate programmes of the state's universities while also attempting to empower students and assist them in their pursuit of overall excellence. Students will be able to graduate after one year with a certificate, two years with a diploma, and three years with a bachelor's degree. The completion of the four-year programme will result in the

award of a bachelor's degree with honors in specific subjects. In colleges, continuation of the undergraduate programme for the fourth year is optional in subjects however, it is the preferred option.

### **Salient Features of four-year multidisciplinary undergraduate programme**

- The program shall be structured in a semester mode with multiple exit options with Certification, Diploma and Basic Bachelor Degree at the completion of first, second and third years, respectively. The candidate who completes the four years Undergraduate Program, either in one stretch or through multiple exits and re-entries would get a Bachelor's degree with Honors.
- The four years undergraduate Honors degree holders with research component and a suitable grade are eligible to enter the 'Doctoral (Ph.D.) Program' in a relevant discipline or to enter 'Two Semester Master's Degree programme with project work'.
- Candidates who wish to enter the master's/doctoral programme in a discipline other than the major discipline studied at the undergraduate programmes, have to take additional courses in the new discipline to meet the requirement or to make up the gap between the requirement and the courses already studied.
- There may be parallel five-year integrated master's degree programmes with exit options at the completion of third and fourth years, with the undergraduate degree and undergraduate degree with honours in a discipline, respectively.
- There may also be an integrated doctoral programme with exit option at the end of the first year with the Master's degree.
- The students who exit with Certification, Diploma and Basic Bachelor Degree shall be eligible to re-enter the programme at the exit level to complete the programme or to complete the next level.
- The curriculum combines conceptual knowledge with practical engagement and understanding that has relevant real-world application through practical laboratory work, field work, internships, workshops and research projects.

The Four-Year Choice Based Credit System Semester Scheme makes the product of a university at par with the global practices in terms of academic standards and evaluation strategies. In the emerging scenario of Internationalization of Indian Higher Education, it is imperative that the Universities in India should follow this system so that the mobility of their products both within and across the geographical jurisdiction becomes possible.

## **2. NAME OF THE PROGRAMME**

- 2.1 The name of the programme is **B.Sc. (Artificial Intelligence and Machine Learning)**
- 2.2 The following Regulations are applicable to all the students who are taking admission for the first semester from 2023-24 Academic year as per the NEP Regulations 2020.



2.3 The duration of each semester is extended over a period of 16 weeks (90 working days) except training period (twenty-two weeks). The total duration of a semester is twenty weeks inclusive of semester end examination

### **3. ELIGIBILITY FOR ADMISSION**

Candidates who have passed Higher Secondary course of any government recognized boards in any stream with Mathematics/ Computer science/Computer Applications/ IT at plus two level or its equivalent (viz., 10+2/HSE of other state or central government boards, CBSE, ICSE, NIOS etc.) are eligible for admission into this program.

### **4. LATERAL ENTRY**

The students who has passed one year –Computer Application/Data science/ Artificial Intelligence Diploma/Certificate programmes in Computer Application/ Data Science/Artificial Intelligence /Skill Enhancement programmes in Computer Application/Artificial Intelligence/ Data Science of Recognized bodies (Regular/Distance/Open University mode) after Plustwo/ PUC/ Equivalent will be allowed admission to the third semester B.Sc. (Artificial Intelligence and Machine Learning).

The students who has passed Two year–Computer Application/Artificial Intelligence/ Data Science/ Diploma/Certificate programmes in Computer Application/ Artificial Intelligence/ Data Science /Skill Enhancement programmes in Computer Application/Artificial Intelligence/ Data Science of Recognized bodies (Regular/Distance/Open University mode) after Plustwo/PUC/Equivalent will be allowed admission to the fifth semester B.Sc. (Artificial Intelligence and Machine Learning).

All compulsory subjects (Languages, Environmental studies, Constitution of India etc.) as required by UGC should be successfully completed in a bridge course if the student has not undergone the prescribed subjects in the diploma/Certificate Course.

### **5. FEATURES OF CHOICE BASED CREDIT SYSTEM SCHEME**

Each course shall carry certain number of credits. Credits normally represent the weight age of a course and are a function of teaching, learning and evaluation strategies such as the number of contact hours, the course content, teaching methodology, learning expectations, maximum marks etc. In the proposed programs, generally one hour of instructions per week in a semester is assigned one credit. In terms of evaluation, one credit is generally equivalent to 25 marks in a semester. Thus a 3 or 4 credits course will be assessed for 100 marks, 2 credits course are assessed for 50 marks and one credit course will be assessed for 25 marks. What matters for the calculation of Semester Grade Point Average (SGPA) or the Cumulative Grade Point Average (CGPA) is the percentage of marks secured in a course and the credits assigned to that course.

On this basis, generally, a three-year (six-semester) undergraduate program will have around 140 credits, and a four-year (eight-semester) honors degree program will have around 180 credits and a five-year (ten semester) master's degree programme will have 220 credits.

### 5.1 DURATION OF PROGRAMMES, CREDITS REQUIREMENTS AND OPTIONS

The undergraduate degree should be of either a three- or four-year duration, with multiple entry and exit options within this period. The four years multi-disciplinary Bachelor's programme is the preferred option as it allows the opportunity to experience the full range of holistic and multi-disciplinary education with a focus on major and minor subjects as per the student's preference. The four-year programme may also lead to a degree with Research, if the student completes a rigorous research project in the major area(s) of study

The undergraduate programmes shall extend over four academic years (Eight Semesters) with multiple entry and exit options. The students can exit after the completion of one academic year (Two semesters) with the Certificate in a discipline or a field; Diploma after the study of two academic years (Four Semesters) and Regular Bachelor Degree after the completion of three academic years (Six Semesters). The successful completion of Four Years undergraduate Programme would lead to Bachelor Degrees with Honours in a discipline/subject. Each semester shall consist of at least 16 weeks of study with a minimum of 90 working days (excluding the time spent for the conduct of final examination of each semester).

**The candidates shall complete the courses equivalent to minimum credit requirements**

Exit with	Min. Credits Requirement*	NSQF Level
<b>Certificate</b> at the Successful Completion of First Year (Two Semesters) of Four Years Multidisciplinary UG Degree Programme	48	5
<b>A Diploma</b> at the Successful Completion of the Second Year (Four Semesters) of Four Years Multidisciplinary UG Degree Programme	96	6
<b>Basic Bachelor Degree</b> at the Successful Completion of the Third Year (Six Semesters) of Four Years Multidisciplinary Undergraduate Degree Programme	140	7
<b>Bachelor Degree with Honors in a Discipline</b> at the Successful Completion of the Four Years (Eight Semesters) Multidisciplinary Undergraduate Degree Programme	180	8

Master's Degree Programmes will be of One Academic Year (Two Semesters) for the Four Years Honours Degree holders and it will be of Two Academic Years (Four Semesters) for the three years basic or three years Bachelor's Degree holders.

Two Years Master's Degree Programmes will have exit option at the end of One Academic Year (Two Semesters) with the Post-graduate Diplomas in the respective disciplines/ subjects, provided they complete courses equal to a minimum of 44 credits:



44 Credits after the Bachelor Degree to become eligible for the PG Diploma

88 Credits after the Bachelor Degree to become eligible for the Masters Degree

It is optional to the candidate to exit or not, after two, four and six semesters of the undergraduate programme with Certificate, Diploma and with Regular Bachelor Degree, respectively. He/she will be eligible to rejoin the programme at the exit level to complete either the diploma, degree or the honors degree. Further, all the candidates will be awarded Bachelor degrees on successful completion of three academic years (Six Semesters) of the undergraduate programmes.

A student will be allowed to enter/re-enter only at the Odd Semester and can only exit after the Even Semester. Re-entry at various levels as lateral entrants in academic programmes should be based on the earned credits and proficiency test records.

The students shall be required to earn at least fifty per cent of the credits from the Higher Education Institution (HEI) awarding the degree or diploma or certificate: Provided further that, the student shall be required to earn the required number of credits in the core subject area necessary for the award of the degree or Diploma or Certificate, as specified by the degree awarding HEI, in which the student is enrolled.

A candidate who successfully completes a three year Bachelor's degree, with a minimum CGPA of 7.5 and wishes to pursue the fourth year of the undergraduate programme by opting a research project, shall be allowed to continue the programme with Research to obtain the Bachelor's degree with honors by research, while other candidates may continue their studies in the fourth year of the undergraduate programme with or without a research project along with other courses as prescribed for the programme to complete their Bachelor's degree with honors.

Candidates who successfully complete their four years Bachelor's degree with honors, either by research or coursework with research component and a suitable grade are eligible to enter the 'Doctoral (Ph.D.) Programme' in a relevant discipline or to enter the 'Two Semester Master's Degree programme'.

Candidates, who wish to complete the undergraduate and the postgraduate programmes faster, may do so by completing the different courses equal to the required number of credits and fulfilling all other requirements in N-1 semesters (where N is the number of semesters of an undergraduate/ postgraduate programme). This facility is available for the programmes with a minimum duration of three years or six semesters. For example, a candidate may obtain his/her Six Semesters Bachelor's degree, after successfully completing five semesters of the programme, provided he/she has completed courses equal to the required/ prescribed number of credits and fulfills all other requirements for awarding the degree. Likewise, a candidate may obtain his/her Eight Semesters Bachelor's degree with honors, after successfully completing seven semesters of the programme, provided he/she has completed courses equal to the required number of Credits and fulfills all other requirements for awarding the Bachelor's degree with honors.

Similarly, candidates may complete both the undergraduate and the postgraduate programmes in slow track. They may pursue the three years or six semester programmes in 4 to 5 years (8 to 10 semesters) and four years or eight semester programmes in 5 to 6 years (10 to 12

semesters). As a result, the higher education institutions have to admit candidates not only for programmes, but also for subjects or courses. But the new admissions are generally made in the beginning of an academic year or the beginning of odd semesters.

## **5.2 NATIONAL SKILLS QUALIFICATIONS FRAMEWORK**

The National Skills Qualifications Framework (NSQF) is a competency-based framework that organizes qualifications according to a series of knowledge, skills and aptitude. The NSQF levels, graded from one to ten, are defined in terms of learning outcomes which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. National Occupational Standards (NOS) are statements of the skills; knowledge and understanding needed for effective performance in a job role and are expressed as outcomes of competent performance. They list down what an individual performing that task should know and also are able to do. These standards can form the requirements. Just as each job role may require the performance of a number of tasks, the combination of NOSs corresponding to these tasks form the Qualification Pack (QP) for that job role. The NOSs and QPs for each job role corresponding to each level of the NSQF are being formulated by the respective Sector Skill Councils (SSCs) set up by National Skill Development Corporation (NSDC) with industry leadership. The curriculum which is based on NOSs and QPs would thus automatically comply with NSQF.

General Education has to be synchronized/ aligned with skill and Vocational Education as per National Skills Qualifications Framework. The level descriptors are given below as described in UGC Guidelines on National Skills Qualifications Framework. The curriculum should be designed in a manner that at the end of year-1, year-2 and year-3, students are able to meet below mentioned level descriptors for level 5, 6 and 7 of NSQF, respectively: The progressive curriculum proposed shall position knowledge and skills required on the continuum of novice problem solvers (at entry level of the program) to expert problem solvers (by the time of graduation):

**At the end of first year**—Ability to solve well defined problems.

**At the end of second year**— Ability to solve broadly defined problems.

**At the end of third year**—Ability to solve complex problems that are ill-structured requiring multi-disciplinary skills to solve them.

**During fourth year**—Experience of workplace problem solving in the form of internship or research experience preparing for higher education or entrepreneurship experience.

## **6 ACADEMIC BANK OF CREDITS (ABC)**

The Academic Bank of Credits (ABC), a national-level facility will promote the flexibility of the curriculum framework and inter-disciplinary/multi-disciplinary academic mobility of students across the Higher Education Institutions (HEIs) in the country with appropriate “credit transfer” mechanism. It is a mechanism to facilitate the students to choose their own learning path to attain a Degree/Diploma/Certificate, working on the principle of multiple entries and exit as well as anytime, anywhere, and any level of learning. ABC will enable the integration of multiple disciplines of higher learning leading to the desired learning outcomes including increased creativity, innovation, higher order thinking skills and critical analysis. ABC will provide significant autonomy to the students by providing an extensive choice of courses for a



programme of study, flexibility in curriculum, novel and engaging course options across a number of higher education disciplines/institutions.

The multiple entry and exit options for students is facilitated at the undergraduate and Master's levels. It would facilitate credit accumulation through the facility created by the ABC scheme in the "Academic Bank Account" opened for students across the country to transfer and consolidate the credits earned by them by undergoing courses in any of the eligible HEIs. The ABC allows for credit redemption through the process of commuting the accrued credits in the Academic Bank Account maintained in the ABC for the purpose of fulfilling the credits requirements for the award of certificate/ diploma/degree by the authorized HEIs. Upon collecting a certificate, diploma or degree, all the credits earned till then, in respect of that certificate, diploma or degree, shall stand debited and deleted from the account concerned. HEIs offering programmes with the multiple entry and exit system need to register in the ABC to enable acceptance of multidisciplinary courses, credit transfer, and credit acceptance.

The validity of credits earned will be for a maximum period of seven years or as specified by the Academic Bank of Credits (ABC). The procedure for depositing credit earned, its shelf life, redemption of credits, would be as per UGC (Establishment and Operationalization of ABC scheme in Higher Education) Regulations, 2021.

Study Webs of Active Learning for Young Aspiring Minds (SWAYAM :) is India's national Massive Open Online Course (MOOC) platform ([www.swayam.gov.in](http://www.swayam.gov.in)), designed to achieve the three cardinal principles of India's Education Policy: access, equity, and quality. The University Grants Commission (Credit Framework for Online Learning Courses through SWAYAM) Regulations, 2021 have been notified in the Gazette of India, which now facilitates an institution to allow up to 40 per cent of the total courses being offered in a particular programme in a semester through the online learning courses offered through the SWAYAM platform. Universities with approval of the competent authority may adopt SWAYAM Courses for the benefit of the students. A student will have the option to earn credit by completing quality-assured MOOC programmes offered on the SWAYAM portal or any other online educational platform approved by the UGC/ the regulatory body from time to time

## **7. APPLICATION AND APPROVAL**

There will be an application form in the prescribed format that has to be filled by the candidate. The Application will be scrutinized by the university with essential supporting documents prescribed by the University and will give the approval regarding the confirmation of admission.

## **8. ADMISSION PROCEDURE**

8.1. During the time of admission the candidate must submit all the necessary documents in original that support the claim made in the application form.

8.2. The candidates will get the admissions only after getting approval regarding the eligibility of the certificates, as directed by the University guidelines.

8.3. All the decisions taken by the University of Mysore with regard to the course or any matter that is not mentioned over here, is up to the University and all the candidates are liable to follow those decisions.

## **9. SCHEME OF INSTRUCTION**

9.1 Regarding the scheme of instructions, each course offered may have three components- Lecture (L), Tutorial (T) and Practical (P). Lectures are given by the faculties (Regular and Visiting) appointed by the institution both online and offline in blended learning mode. Tutorial session consists of group discussion/self-study /desk work/seminar presentation and other effective methods. Practical or Skill component consist of the applications of the theory content that has to be given either in lab, skill training centres or industry.

9.2 The medium of instruction shall be in English or Kannada as decided by the Board of Studies (BOS). However, the students have to write the exam in English only.

9.3 Credits: One hour session of lecture per week amount to one credit. Two-hour session of tutorial or practical per week amounts to one credit. For the purpose of a teacher, one hour of lecture session, one hour of tutorial session and one hour of practical session are all equal to one hour of workload.

## **10. BLENDED MODES (BL) AS A NEW MODE OF TEACHING-LEARNING**

Blended learning (BL) mode is to be used to help learners develop 21st century skills along with the effective learning and skill development related to the subject-domains. Every institute should strive to be a model institute to demonstrate a successful implementation of BL in the higher education of our country.

UGC suggests implementing Blended Mode (BL) as a new mode of teaching-learning in higher education. BL is not a mere mix of online and face-to-face mode, but it refers to a well-planned combination of meaningful activities in both the modes. The blend demands consideration of several factors, mainly focusing on learning outcomes and the learner centred instructional environment.

Implementing BL requires a systematic, planned instructional process. An effective teaching learning process in a blended environment calls for understanding and skills of using appropriate pedagogies with suitable technologies. The UGC Concept Note provides guidelines for implementation of BL.

### **Pedagogies for Online and Face-to-face Modes**

Learner-centred teaching-learning activities include several cognitive processes which enable learners to be communicative, confident, creative and cooperative. Learners in BL environments are not visualised as passive learners, but active learners generating ideas, assimilating knowledge individually and in teams. Once learning resources are provided on an online platform, students sitting in the classroom need not again listen to the instructor. The time, then, can be used for engaging them in activities. Even their online time can be used



innovatively for making online sessions more effective and interesting. There are a few learning processes for both online and face-to-face mode.

Higher education learners are adult learners who come with their own world of experience, previous knowledge gained at schooling level and previous years of education, exposure to other sources of knowledge, etc. Even pre-session resources suggested by teachers help them some knowledge, information. Lecturing of teacher assuming the learners are empty boxes is no more a preferred pedagogy. Learners, instead, can contribute by sharing their knowledge, ideas, and views, either in the classroom or else on online platforms.

BL mode will provide this opportunity to learners to a great extent. Resources can be uploaded and external links can be posted on Learning Management systems prior to classroom sessions. These Out-of-class resources prove useful at least for acquiring information. Once the students' study through the resources, classroom time can be utilized fruitfully in discussions. Online platforms such as discussion forums, shared documents, blogs, etc. may be used to help them share their ideas and knowledge on a common platform.

### **Innovative trends in Evaluation and Assessment**

Out-of-box thinking about summative as well as formative evaluation is expected from the teacher implementing BL mode. The following paragraphs throw light on a few innovative strategies. The list is not exhaustive but mentions a few points with the expectation of continuous exploration of such strategies by the teachers.

#### **Summative Evaluation Strategies**

##### **Open book examination:**

It is a right way to move away from the conventional approach of examination where remembering and reproducing is prime concern. In real functioning beyond formal education, life is all about open book examination. Hence in Higher Education system, we must prepare students for work life by making them acquainted with open book examinations. It will also facilitate better understanding and application of the knowledge with a better potential for its positive impact.

##### **Group examinations even for conventional theory papers:**

Such an approach is followed some time for project and also practical lab assessments. But for theory type examinations it is generally not followed. The group examinations once introduced for theory papers can improve the average performance of a class as students would be encouraged to share their knowledge with each other and also help them improve their general understanding.

##### **Spoken / Speaking examinations:**

These types different approached can be introduced now with the support of new generation of technologies. They can make examination faster and easier and also can be helpful to students with different abilities

### **On demand examinations:**

In most cases students are forced to write examination in a single go and collectively. However, with advent of new methods which are technology based and also blending of teaching-learning and examinations in new form, it would be a good approach to offer examination on demand to offer more flexibility and student centricity.

### **Formative Evaluation Strategies e-Portfolio**

e-Portfolio is not only a compilation of a few best assignments, activities of a learner throughout the programme, but his/her reflections about the assignments, experience and challenges faced during the process of working on these assignments, overall approach, attitude, philosophy towards life as a learner and also his/her academic resume. e-Portfolio is a comprehensive tool which becomes a mirror to a learner for the world.

### **Creative Products**

Innovative Pedagogies and relevant ICT tools enable learners to come out with creative products as an individual or group learning activities. These products are learning experiences in the beginning, but learners should always be given corrective feedback about their outputs. Once feedback is sought, learners need to be given chance to improve on their products and then can be considered for formative evaluation. E.g., preliminary concept-map can be revised after discussion of the topic, summarization and feedback. Revised concept- map can be assessed.

One creative/collaborative activity may then be led towards another product which can be an assessment activity. E.g., Group or individual presentations by self-learning would be a learning activity and not an assessment activity. Once teacher provided corrective feedback during such presentations, learners can be expected to revise the same presentations, add a small write-up/info graph/video to it and submit as an assignment. Creative assignments such as digital stories, Cartoon strips, drama scripts, e-Newsletter, e- Magazine, Recorded interviews of stakeholders, Case studies, etc. can be used for formative assessment.

### **Classroom/Online Quizzes**

Though paper-pencil tests, over-use of question-answers may be discouraged for formative assessments, a few ICT tools for quizzes and games can be used eventually for formative assessment.

### **Use of AI tools for Proctoring as well as assessments:**

During the Covid time, many exams were forced to be conducted in an online mode. These were supported by variety of tools which came into being in recent times and were based on proctoring through Artificial Intelligence tools. However, AI as technology can be used for many more assessments like, attention levels, speed of learning, level of learning etc. Hence new tools should be experimented with for examinations and assessments.

## **11. INDUSTRIAL EXPOSURE TRAINING**

11.1 In the fourth and sixth semester every student may undergo project – Phase I and project Phase II respectively to get the exposure of the respective industry or training and skill centres conveniently arranged during the course of in these semesters. The head of the institution and



the authorized person of the training and skill centre shall issue a certificate to the effect that the student has satisfactorily undergone the industrial training for the prescribed period.

11.2 Project report will be evaluated by the University in the form of Training report, Log-book and Viva- voce.

11.3 Evaluation of the both these Projects is for 100 marks and that has been divided into three components.

- a) C1 -20 Marks (Log book & Training Report).
- b) C2-20 Marks (Viva-voce conducted Internal Examiner).
- c) C3- 60 Marks (Viva-voce conducted by External Examiners).

11.4. The candidate who wishes to continue the course in fourth year also must under go two Research oriented Projects Phase I and Phase II in seventh and eighth semester respectively.

## **12. SKILL ENHANCEMENT PROGRAMME**

12.1 In all the specified semesters there will be a Skill Enhancement Programme that is incorporated in the curriculum, with the aim of achieving appropriate platform and domain skill exposure related to each course and demanded by the industry.

12.2 The skill enhancement programs are evaluated by the University /Institute /Accreditation body. An authorized body will issue performance certificates to the students based on their involvements and efficiency. The students also have to submit a detailed report to the Institute. These Skill Enhancement programmes are devised, monitored and evaluated in keeping with the university guidelines.

12.3 The students can undergo Skill enhancement programmes either in the institute or other institutions /skill training centres /industries. The institute shall facilitate the students those who prefer to do skill enhancement programmes from other institutions /skill training centres /industries (across India and abroad), which are willing to associate with our institute signing Mou.

12.4 The students will have to complete their Skill enhancement programmes to get the skills which are indispensable regarding their career advancement.

12.5 Evaluation of the Skill Enhancement Programme is for 50 marks and that has been divided into three components.

- a) C1 -10 Marks (Skill Enhancement Certificate).
- b) C2 -10 Marks (Skill Enhancement Report evaluated by Internal Examiner).
- c) C3- 30 Marks (Viva-voce conducted by Internal and External Examiners).

### 13. SCHEME OF ASSESSMENT

Total marks for each course shall be based on continuous assessments and semester end examinations. As per the decision taken at the Karnataka State Higher Education Council, it is necessary to have uniform pattern of 40: 60 for IA and Semester End theory examinations respectively and 50:50 for IA and Semester End practical examinations respectively.

Total Marks for each Theory course=100% Continuous assessment (C1) =20%marks  
Continuous assessment (C2) = 20% marks Semester End Examination (C3) = 60%marks

Total Marks for each Practical/Skill course=100% Continuous assessment (C1) =20%marks  
Continuous assessment (C2) = 30% marks [including 10% for Record/Work book] Semester End Examination (C3) = 50%marks

13.1 Evaluation process of IA marks shall be as follows.

- The first component (C1) of assessment is for 20% marks. This shall be based on test, seminar, case study, field work, project work etc. This assessment and score process should be completed after completing 50% of syllabus of the course/s and within 45 working days of semester program
- The second component (C2) of assessment is for 20% marks. This shall be based on test, assignment, seminar, case study, fieldwork, internship/industrial practicum/project work etc. This assessment and score process should be based on completion of remaining 50 percent of syllabus of the courses of the semester.
- During the 17<sup>th</sup> – 19<sup>th</sup> week of the semester, a semester end examination shall be conducted by the Institution for each Course. These forms the third and final component of assessment (C3) and the maximum marks for the final component will be 60% for theory and 50% for Practical/Skill Course.
- In case of a student who has failed to attend the C1 or C2 on a scheduled date, it shall be deemed that the student has dropped the test. However, in case of a student who could not take the test on scheduled date due to genuine reasons, such a candidate may appeal to the Program Coordinator / Principal. The Program Coordinator / Principal in consultation with the concerned teacher shall decide about the genuineness of the case and decide to conduct special test to such candidate on the date fixed by the concerned teacher but before commencement of the concerned semester end examinations.

The outline for continuous assessment activities for Component-I (C1) and Component-II (C2) of a course shall be as under.

#### 13.1 Outline for continuous assessment activities for C1 and C2

Activities	C1	C2	Total Marks
Session Test	10marks	10marks	20
Seminars/ Presentations/ Activity	10marks		10
Case study/ Assignment/Field work/Record or Work Book/Project work etc.		10marks	10
Total	20marks	20marks	40



13.2 Components of continuous assessment activities for C1 and C2				
	C1		C2	
	Max marks	To be reduced to	Max marks	To be reduced to
Session test	20	10	20	10
Assignment		10	Quiz	05
			Project	05
			Role Play	05
			Charts/Models	05
			Case study	05
			Group discussion	05
			Crosswords	05
			Presentation	05
			Review-movie/Book	05
			presentation	05
			e-content preparation	05
			Any two activities from the above list to be conducted, according to the convenience of teacher depending upon the number of students 5x2=10marks	
Total		20marks	20 marks	

- For practical/Skill course of full credits, Seminar shall not be compulsory. In its place, marks shall be awarded for Practical Record Maintenance. (The ratio is 50%:50%)
- Conduct of Seminar, Case study /Assignment, etc. can be either in C1 or in C2 component at the convenience of the teacher concerned.
- The teachers concerned shall conduct test / seminar / case study, etc. The students should be informed about the modalities well in advance.
- The evaluated courses/assignments of component I (C1) and component II (C2) shall be provided to the candidates and the IA register has to be maintained by the department.
- The evaluated courses/ assignments of component I (C1) and component II (C2) shall be maintained at the department till the announcement of the results of the examination of the semester concerned.
- The marks of the internal assessment shall be published on the notice board/website of the College for the information of the students.
- The Internal assessment marks shall be communicated to the Controller of Examinations at least 10 days before the commencement of the Semester End examination and the Controller of Examinations shall have the access to the records of such periodical assessments.
- There shall be no minimum in respect of internal assessment marks.
- Internal assessment marks may be recorded separately. A candidate, who has failed or rejected the result, shall retain the internal assessment marks.

#### **14. SUBJECTIVE REGULATIONS:**

14.1 Under AECC a candidate has to study English and additionally choose any ONE of the languages namely, Kannada, French, Malayalam and Hindi. And also, candidate has to pursue Environmental studies and Constitution of India under AECC category.

14.2 Change of languages once chosen will not be permitted during the period of the program.

14.3 In the case of foreign nationals, the requirement of an Indian language may be waived by the University of Mysore. In such an eventuality, the University may permit the foreign national student for private study of choice of any one foreign language. Such a student will not be evaluated for C1 and C2 marks. However, for the final grade calculation of 60 marks of C3 will be equated to 100 marks.

#### **15. ATTENDANCE**

15.1 Only those students who are scoring 75% of attendance shall be permitted to take C3 examination for that course.

15.2 A candidate who does not satisfy the minimum attendance percentage (75%) shall re-join the course unless producing medical certificates and paying required fees by obtaining prior permission from the University if needed.

#### **16. BOARD OF EXAMINERS**

16.1 There shall be a board of examiners for each course, constituted by the University for scrutinizing and approving the question paper and scheme of evaluation.

16.2 There will be only a single valuation for all the papers.

#### **17 QUESTION PAPER PATTERN**

17.1 Internal Assessment Tests (IAT): The IAT will carry a maximum of 20% weightage (20 marks) of total marks of a course.

#### **17.2 SEMESTER END EXAMINATION (SEE):**

The Semester End Examination for all the courses for which students who get registered during the semester shall be conducted. SEE of the course shall be conducted after fulfilling the minimum attendance requirement as per the University norms. The BOS of the University has prepared the SEE framework and the question paper pattern for SEE is presented below for 60 marks.



**PATTERN OF QUESTION PAPER**

**TIME: 2 HOURS MARKS: 60**

**PART – A**

**Answer any FIVE out of Eight questions. Each question carries 3 marks. (5x3= 15)**

1. -----
2. -----
3. -----
4. -----
5. -----
6. -----
7. -----
8. -----

**PART – B**

**Answer any THREE out of Five questions. Each question carries 5 Marks. (3x5 =15)**

8. -----
9. -----
10. -----
11. -----
12. -----

**PART – C**

**Answer ONE of Two questions. Each question carries 15 Marks (1x15=15)**

13. -----
14. -----

**PART – D**

**Answer ONE of Two questions. Each question carries 15 Marks (1x15=15)**

15. -----
16. -----

## 18. CONDUCT OF EXAMINATIONS

- A candidate shall register for all the courses/papers of a semester for which he/she fulfills the requirements, when he/she appears for the examination of that semester for the first time.
- There shall be Theory and Practical examinations at the end of each semester, ordinarily during November-December for odd semesters and during May-June for even semesters, as prescribed in the Scheme of Examinations.
- Unless otherwise stated in the schemes of examination, practical examinations shall be conducted at the end of each semester. They shall be conducted by two examiners, one internal and one external. The statement of marks sheet of practical examinations shall be sent to the office of the Controller of Examinations by the respective departments immediately after the practical examinations.
- The candidate shall submit the record book for practical examination duly certified by the course teacher and the H.O.D/staff in-charge. It shall be evaluated at the end of the Semester during the practical examination.

## 19. MINIMUM REQUIREMENTS FOR A PASS:

- a) No candidate shall be declared to have passed the Semester Examination as the case may be under each course/paper unless he/she obtains not less than 35% marks in theory examination /practical examination and 40% marks in the aggregate of theory / practical examination and internal assessment put together in each of the courses and 40% marks (including IA) in Project work and viva wherever prescribed.
- b) A candidate shall be declared to have passed the program if he/she secures at least 40% of marks or a CGPA of 4.0 (Course Alpha-Sign Grade P) in the aggregate of both internal assessment and semester end examination marks put together in each unit such as theory papers / practical / fieldwork / internship / project work / dissertation / viva-voce, provided the candidate has secured at least 40% of marks in the semester end examinations in each unit.
- c) The candidates who pass all the semester examinations in the first attempt only are eligible for ranks, provided they secure at least CGPA of 6.00 (Alpha-Sign Grade B+)
- d) A candidate who passes the semester examinations in parts (more than one attempt) is eligible only for a Class, CGPA and Alpha-Sign Grade but not for ranking.
- e) The results of the candidates who have passed the last semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed the Lower Semester Examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.
- f) If a candidate fails in a subject, either in theory or in practical, he/she shall appear for that subject only at any subsequent regular examination, as prescribed for completing the programme. He/she must obtain the minimum marks for a pass in that subject (theory and practical, separately) as stated above.
- g) Candidates who fail in lower semester examinations may go to the higher semesters and take the lower semester examinations



## 20. CLASSIFICATION OF SUCCESSFUL CANDIDATES

An alpha-sign grade, the eight-point grading system, as described below may be adopted. The declaration of result is based on the Semester Grade Point Average (SGPA) earned towards the end of each semester or the Cumulative Grade Point Average (CGPA) earned towards the completion of all the eight semesters of the programme and the corresponding overall alpha-sign grades. If some candidates exit at the completion of first, second or third year of the four years Undergraduate Programmes, with Certificate, Diploma or the Basic Degree, respectively, then the results of successful candidates at the end of second, fourth or sixth semesters shall also be classified on the basis of the Cumulative Grade Point Average (CGPA) obtained in the two, four, six or eight semesters, respectively, for the award of

- Certificate in Arts/ Science/ Commerce
- Diploma in Arts/ Science/ Commerce
- Bachelor's Degree in Arts/ Science/ Commerce
- Bachelor's Degree with Honors in a Discipline/Subject

In addition to the above, successful candidates at the end of tenth semester of the integrated Master's Degree Programmes, shall also be classified on the basis of CGPA obtained in the ten semesters of the Programmes. Likewise, the successful candidates of one year or two semester's Master's Degree Programmes are also classified on the basis of CGPA of two semesters of the Master's Degree Programmes.

### Final Result / Grades Description

Semester GPA/ Program CGPA	Alpha-Sign / Letter Grade	Semester/Program % of Marks	Result / Class Description
9.00-10.00	O (Outstanding)	90.0-100	Outstanding
8.00-<9.00	A+ (Excellent)	80.0-<90.0	First Class Exemplary
7.00-<8.00	A (Very Good)	70.0-<80.0	First Class Distinction
6.00-<7.00	B+ (Good)	60.0-<70.0	First Class
5.50-<6.00	B (Above Average)	55.0-<60.0	High Second Class
5.00-<5.50	C (Average)	50.0-<55.0	Second Class
4.00-<5.00	P (Pass)	40.0-<50.0	Pass Class
Below 4.00	F (Fail)	Below 40	Fail/Reappear
Ab (Absent)	-	Absent	-

## **21. REJECTION OF RESULTS:**

- A candidate may be permitted to reject result of the whole examination of any semester. Rejection of result course/paper wise or subject wise shall not be permitted.
- The candidate who has rejected the result shall appear for the immediately following examination.
- The rejection shall be exercised only once in each semester and the rejection once exercised shall not be revoked.
- Application for rejection of results along with the payment of the prescribed fee shall be submitted to the Registrar (Evaluation) through the College of study together with the original statement of marks within 30 days from the date of publication of the result.
- A candidate who rejects the result is eligible for only SGPA/CGPA or Class and not for ranking.

## **22.IMPROVEMENT OF RESULTS**

- A candidate who has passed in all the papers of a semester may be permitted to improve the results by reappearing for the whole examination of that semester.
- The reappearance may be permitted during the period of N+2 years (where N refers to the duration of the programme) without restricting it to the subsequent examination.
- The student may be permitted to apply for improvement examination 45 days in advance of the pertinent semester examination whenever held.
- If a candidate passes in all the subjects in reappearance, higher of the two aggregate marks secured by the candidate shall be awarded for that semester. In case the candidate fails in the reappearance, candidate shall retain the earlier result.
- A candidate who has appeared for improvement examination is eligible for class/CGPA only and not for ranking.
- Internal assessment (IA) marks shall be shown separately. A candidate who wants to improve the result or who, having failed, takes the examination again or who has appeared for improvement shall retain the IA marks already obtained.
- A candidate who fails in any of the semester examinations may be permitted to take the examinations again at a subsequent appearance as per the syllabus and scheme of examination in vogue at the time the candidate took the examination for the first time. This facility shall be limited to the following two years.

## **23. SUBJECTS OF STUDY**

### **23.1 Ability Enhancement Courses**

Ability Enhancement (AE) Courses can be divided into two categories:

- a) AE Compulsory Courses (AECC): The universities may have common curriculum for these papers. There may be one paper each at least in the first four semesters viz.
  - (i) Environmental Studies and (ii) Constitution of India.
  - (ii) In addition to these, two languages shall be studied in the first four semesters of the Undergraduate Programmes.



**b) LANGUAGES:**

- Two languages are to be studied out of which one shall be English and the other shall be either Kannada or an Indian Language or other foreign language:
- The language syllabus and curriculum is prepared by the institution and not mandatory to follow university syllabus and curriculum of the university as required by specialized skill curriculum of respective courses

**Skill Enhancement Courses (SEC):**

- The colleges can offer from a common pool of papers listed by KSHEC/ National Regulatory Bodies such as UGC or GEC/ NHERC or the universities may frame some papers, in addition to the list suggested.

**24. TRANSFERS OF ADMISSION:**

Transfer of admissions is permissible only for odd semesters for students of other universities and within the University.

**24.1. Conditions for transfer of admission of students within the University.**

- A His/her transfer admission shall be within the intake permitted to the college.
- B Availability of same combination of subjects studied in the previous college.
- C He/she shall fulfill the attendance requirements as per the University Regulation.
- D He/she shall complete the programme as per the regulation governing the maximum duration of completing the programme.

**24.2. Conditions for transfer admission of students of other Universities.**

- a) A Candidate migrating from any other University may be permitted to join odd semester of the degree programme provided he/she has passed all the subjects of previous semesters / years as the case may be. Such candidates must satisfy all other conditions of eligibility stipulated in the regulations of the University.
- b) His/her transfer admission shall be within the intake permitted to the college.
- c) He/she shall fulfill the attendance requirements as per the University Regulation.
- d) The candidate who is migrating from other Universities is eligible for overall SGPA/CGPA or Class and not for ranking.
- e) He/She shall complete the programme as per the regulation governing the maximum duration of completing the programme as per this regulation

- i. Any other regulations not mentioned above shall be resolved by the Vice – Chancellor in consultation with the designated authorities of the University of Mysore, which shall be final and firm.
- ii. Wherever the regulation is silent, the provisions of university regulations are applicable.



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