

**MAR ATHANASIUS COLLEGE(AUTONOMOUS)
KOTHAMANGALAM, KERALA – 686666**

College with Potential for Excellence
NAAC Accredited and Reaccredited 'A+ Grade' Institution
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**REGULATION OF THE
VOCATIONAL UNDERGRADUATE PROGRAMME
(B.VOC. DEGREE PROGRAMME)**

**IN
DATA ANALYTICS AND MACHINE LEARNING**

(Under Credit & Semester System)
(2020 ADMISSION ONWARDS)

REGULATIONS OF B.VOC. DATA ANALYTICS AND MACHINE LEARNING

The University Grants Commission (UGC) had launched a scheme on 27 February, 2014 for skills development based higher education as part of college/university education, leading to Bachelor of Vocation (B.Voc.) degree with multiple entry and exit points. Considering the implementation modalities, the guidelines of the scheme have been revised in the year 2015. The B.Voc. programme is focused on universities and colleges providing undergraduate studies which would also incorporate specific job roles and their NOSs along with broad based general education. This would enable the graduates completing B.Voc to make a meaningful participation in accelerating India's economy by gaining appropriate employment, becoming entrepreneurs and creating appropriate knowledge.

Objectives

1. To provide judicious mix of skills relating to a profession and appropriate content of general education.
2. To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the programme.
3. To provide flexibility to students by means of pre-defined entry and multiple exit points.
4. To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce.
5. To provide vertical mobility to students coming out of (a) 10+2 with vocational subjects; and (b) Community Colleges.

Governance and Coordination

An Advisory Committee will be set-up for effective governance and coordination of the courses under the scheme. The Advisory Committee will include the representative(s) of the affiliating university, relevant industries, relevant Sector Skills Council(s), and Nodal Officer of B.Voc Scheme. The Vice Chancellor of the university or his Nominee or Principal of the college, as the case may be, will be the Chairman of the Advisory Committee and the Nodal Officer will be the Member-Secretary. The Committee will meet periodically to review the functioning of the courses, as and when required, but at least once in six months. The Advisory Committee will also ensure the timely submission information to UGC and uploading of data in Skill Development Monitoring System (SDMS). Nodal Officer will submit quarterly progress report to UGC and copy of the same may also be endorsed to Head, Standards & Q.A., National Skill Development Corporation, Block A, Clarion Collection, Shaheed Jeet Singh Marg, New Delhi - 110016.

Assessment

- i. The Skill component of the course will be assessed and certified by the respective Sector Skill Councils. In case, there is no Sector Skill Council for a specific trade, the assessment may be done by an allied Sector Council or the Industry partner. The certifying bodies may comply with and obtain accreditation from the National Accreditation Board for Certification Bodies (NABCB) set up under Quality Council of India (QCI). Wherever the university/college may deem fit, it may issue a joint certificate for the course(s) with the respective Sector Skill Council(s).
- ii. The credits for the skill component will be awarded in terms of NSQF level certification which will have 60% weightage of total credits of the course in following manner.

Name of the Course	NSQF Level Certificate	Cumulative Credits
Certificate	Level – 4	18 credits
Diploma	Level – 5	36 credits
Advanced Diploma	Level – 6	72 credits
B.Voc Degree	Level – 7	108 credits

- iii. The general education component will be assessed by the concerned university as per the prevailing standards and procedures. The following formula may be used for the credit calculation in general education component of the courses:
 - General Education credit refers to a unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week. Accordingly, one Credit would mean equivalent of 14-15 periods of 60 minutes each or 28 – 30 hrs of workshops / labs.
 - For internship / field work, the credit weightage for equivalent hours shall be 50% of that for lectures / tutorials.
 - For self-learning, based on e-content or otherwise, the credit weightage for equivalent hours of study shall be 50% of that for lectures / tutorials.
- a. Letter grades and grade points

Letter Grades and Grade Points

The UGC recommends a 10-point grading system with the following Letter grades as given below:

Letter Grade	Grade Point
O (Outstanding)	10
A ⁺ (Excellent)	9

A (Very Good)	8
B ⁺ (Good)	7
B (Above Average)	6
C (Average)	5
P (Pass)	4
F (Fail)	0
Ab (Absent)	0

A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.

Computation of SGPA and CGPA

Following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) may be adopted:

- The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the course components taken by a student and the sum of the number of credits of all the courses undergone by a student in a semester,

ie;

$$\text{SGPA (Si)} = \frac{\sum(C_i \times G_i)}{\sum C_i}$$

Where, 'C_i' is the number of credits of the ith course component and 'G_i' is the grade point scored by the student in the ith course component.

- The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme,

$$\text{ie; CGPA} = \frac{\sum(C_i \times S_i)}{\sum C_i}$$

Where 'S_i' is the SGPA of the ith semester and 'C_i' is the total number of credits in that semester.

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

**Reference: UGC B.Voc. Guidelines*

GRADUATE ATTRIBUTES

Job Roles proposed to be covered in each year (Along with NSQF level)

Semester / Year	NSQF Level
First Semester	<p>Level 4</p> <p>1. <u>Domestic Data Entry Operator</u> <u>NOS REFERENCE ID: SSC/Q2212</u> Maintain proper entry of required data of customers through use of various data entry softwares and techniques.</p> <p>2. <u>Collections Executive</u> <u>NOS REFERENCE ID: SSC/Q2214</u> Individuals in this job are responsible for reconciliation of customer accounts through payment follow ups, sending payment reminders, investigating and solving customers' problems, which may lead to delay in payments, communicate the right information to the customers.</p> <p>3. <u>Domestic IT Helpdesk Attendant</u> <u>NOS REFERENCE ID: SSC/Q0110</u> Managing and resolving client queries / issues primarily through telephonic calls.</p> <ul style="list-style-type: none"> • Statistical Enumerator: Statistical Data Collection and preprocessing tasks. • Office Assistant : Administrative tasks, word processing jobs and maintaining records in an office. • DTP Operators :Operates office equipment such as printers, copy machines. • Akshaya e-centre personnel :Giving e-literacy training to ASHA worker, Anganvadi worker etc.
Year I	<p>Level 5</p> <ul style="list-style-type: none"> • <u>Associate: Customer Relationship Management</u> <u>NOS REFERENCE ID: SSC/Q2202</u> Individuals in this job receive and make telephone calls which are primarily scripted, basic and routine with the assistance of a computerized system. They answer inquiries, resolve problems, record complaints and/or receive feedback. • <u>Associate – Recruitment</u> <u>NOS REFERENCE ID: SSC/Q2501</u> Individuals at this job are responsible for supporting recruitment

	<p>activities such as candidate management, first level screening, scheduling and coordination and headhunting.</p> <ul style="list-style-type: none"> • <u>Technical Support Executive-Non Voice</u> NOS REFERENCE ID: SSC/Q7201 <p>Individuals at this job are responsible for resolving queries and customer cases over web-chat or email.</p> <ul style="list-style-type: none"> • <u>Associate-Customer Care (Non-Voice)</u> NOS REFERENCE ID: SSC/Q2201 <p>Individuals at this job are responsible for resolving queries and customer cases over web-chat or email.</p> <ul style="list-style-type: none"> • <u>Technical Writer</u> NOS REFERENCE ID: SSC/Q0505 <p>Individuals at this job are responsible for creating technical documentation related to an application like job-aids, help documents and training materials. These documents serve the core purpose of transferring knowledge between the application development teams and the user teams. The information may be presented in the form of user guides for software applications, reference manuals, training guides or online help incorporated into software and operating guides.</p> <ul style="list-style-type: none"> • Statistical Investigator: Statistical Data Collection and analyses tasks. • Data Analyst.
Year-II	<p>Level 6</p> <ol style="list-style-type: none"> 1. <u>AI - Data Quality Analyst</u> NOS REFERENCE ID: SSC/Q8101 <p>Individuals at this job are responsible for performing different aspects of data quality management. S/he will be responsible for importing and preprocessing data as per pre-defined specifications or as desired for analysis.</p> <ol style="list-style-type: none"> 2. <u>AI - Business Intelligence Analyst</u> NOS REFERENCE ID: SSC/Q8102 <p>Individuals at this job are responsible for performing different aspects of Business Analysis. S/he will be responsible for importing and preprocessing data and perform exploratory</p>

	<p>analysis to derive actionable insights.</p> <p>3. <u>AI - Visualization Specialist</u> <u>NOS REFERENCE ID: SSC/Q8103</u></p> <p>Individuals at this job are responsible for performing different aspects of visualization. S/he will be responsible for creating reports, charts and dashboards using appropriate visualization tools. S/he will also ensure that the desired output is available across different formats based on the needs of various users.</p> <ul style="list-style-type: none"> • Business Process Outsourcer: Enable to undertake and carry out data processing activities in computerized environments. Analyze business operations, trends, costs, revenues, financial commitments.
Year-III	<p>Level 7</p> <p>1. <u>AI - Test Engineer</u> <u>NOS REFERENCE ID: SSC/Q8116</u></p> <p>Individuals at this job are responsible for performing different aspects of product testing. S/he will be responsible for developing test cases and simulations for end-to-end testing and QA of hardware and software systems.</p> <p>2. <u>AI - Data Steward</u> <u>NOS REFERENCE ID: SSC/Q8111</u></p> <p>Individuals at this job are responsible for defining data standards, assessing quality, completeness and timeliness of data. They are also responsible for implementing good data governance processes and practices.</p> <p>3. <u>Technical Writer</u> <u>NOS REFERENCE ID: SSC/Q4501</u></p> <p>Individuals at this job are responsible for creating technical documentation related to an application like job-aids, help documents and training materials. These documents serve the core purpose of transferring knowledge between the application development teams and the user teams. The information may be presented in the form of user guides for software applications, reference manuals, training guides or online help incorporated into software and operating guides.</p> <p>4. <u>Junior Data Associate</u> <u>NOS REFERENCE ID: SSC/Q0401</u></p>

	<p>Individuals at this job are responsible for designing and implementing processes and layouts for complex, large-scale data sets used for modeling, data mining, and research purposes. Responsibilities also include designing and implementing statistical data quality procedures around new data sources.</p> <p>5. <u>AI - Machine Learning Engineer</u> <u>NOS REFERENCE ID: SSC/Q8113</u></p> <p>Individuals at this job are responsible for developing applications and platforms in AI & Big Data Analytics. S/he will be responsible for developing software code to deploy algorithmic models as per the needs of the business and evaluating the technical performance of the same.</p> <p>6. <u>AI - Applied Scientist</u> <u>NOS REFERENCE ID: SSC/Q8105</u></p> <p>Individuals at this job are responsible for performing different aspects of data science. S/he will be responsible for importing and preprocessing data, performing exploratory analysis and applying pre-designed algorithmic models for various use cases/scenarios.</p> <p>7. <u>AI - Data Engineer</u> <u>NOS REFERENCE ID: SSC/Q8106</u></p> <p>Individuals at this job are responsible for working on different aspects of data architecture. S/he will be responsible for developing data integrations.</p> <p>8. <u>AI - Database Administrator</u> <u>NOS REFERENCE ID: SSC/Q8109</u></p> <p>Individuals at this job are responsible for performing different aspects of administration and governance. S/he will be responsible for creating and maintaining databases.</p> <ul style="list-style-type: none"> • Entrepreneurship: Pursue self-employable opportunities in business process services. • Data Analyst: Can carry out Statistical Data Analysis activities
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AIMS AND OBJECTIVES

Data Science is a multi-disciplinary field that utilizes logical techniques, procedures, calculations and

frameworks to separate information and bits of knowledge from organized and unstructured data. Data Science is an idea to bind together Statistics, data investigation, AI and their related techniques so as to understand and analyse the actual phenomena within the data. It utilizes procedures and hypotheses drawn from numerous fields inside the setting of Mathematics, Statistics, Computer Science and Information science. Turing award winner Jim Gray envisioned Data Science as a "fourth paradigm" of science. Data Science, as a field of study is making a boom all over the world. It is being applied on every aspects of life. Newer domains of applications are being found out. All these points out to the importance of getting knowledge in Data Science concepts for a job aspirant student.

The proposed vocational programme in Data Analytics and Machine Learning will be a judicious mix of skills, professional education related to Data Analytics and Machine Learning and also appropriate content of general education. It is designed with the objective of equipping the students to cope with the emerging trends and challenges in the field of Data Analytics and Machine Learning.

PROGRAMME DESIGN

As per the UGC guidelines, there are multiple exit points for a candidate admitted in this course. If he/she is completing all the six credits successfully, he/she will get B. Voc. Degree in Data Analytics and Machine Learning. If he/she is completing the first four semesters successfully, he/she will get an Advanced Diploma in Data Analytics and Machine Learning. If he/she is completing the first two semesters successfully, he/she will get a Diploma in Data Analytics and Machine Learning. If he/she is completing the first one semester successfully, he/she will complete a Certificate Course in Data Analytics and Machine Learning.

Cumulative credits awarded to the learners in skill based vocational courses.

NSQF Level/Year	Skill Component Credits	General Component Credits	Normal Duration	Exit Points / Awards
Level 7/Year 3	108	72	Six Semesters	B. Voc. Degree
Level 6/Year 2	72	48	Four Semesters	Advanced Diploma
Level 5/Year 1	36	24	Two Semesters	Diploma
Level 4/6 Months	18	12	One Semester	Certificate Course

The curriculum in each of the years of the programme would be a suitable mix of general education and skill development components. As is evident from Table above, the General Education Component shall have 40 % of the total credits and balance 60% credits will be of Skill Component. The Curriculum details should be finalized before introduction of the courses.

COURSE CODE FORMAT

A nine-character Course code is assigned to each course. The first character indicates the discipline, second, third and fourth character indicates the programme, fifth and sixth specifies types of course category, seventh for semester and next two characters for serial no of the course

Eg: **VDAMCC101**

- V: Vocational
- DAM: Data Analytics and Machine Learning
- CC/GC/SC: Common Course/ General Component/ Skill Component
- 1: Semester
- 01: Serial Number of the Course

NATURE OF THE COURSE

- No open course is envisaged
- No Electives are included
- Total credits is 180
- Working hours per week is 30 hours
- All vocational subjects are treated as core course
- Multiple exit points are permitted.
- A candidate who failed in a semester may get two supplementary chances. Only failed papers are to be written in the supplementary examination.

PROGRAMME STRUCTURE

a) Title

Regulations for conducting B. Voc Programme under Mahatma Gandhi University

b) Scope

The regulations stated in this document shall apply to all B.Voc Programmes conducted by colleges affiliated to Mahatma Gandhi University, sanctioned by University Grants Commission with effect from 2014 admission.

c) Definitions

B.Voc: Bachelor of Vocation- is a scheme introduced by UGC for skill development based higher education as part of college/university education.

NSQF : National Skills Qualifications Framework

Programme: A Programme refers to the entire course of study and examinations for the award of the B. Voc degree.

Semester: A term consisting of a minimum of 450 contact hours distributed over 90 working days, inclusive of examination days, within 18 five- day academic weeks.

Course: Refers to the conventional paper, which is portion of the subject matter to be covered in a semester. A semester shall contain many such courses from general and skill development areas.

Credit: B. Voc programme follows a credit semester system and each Course has an associated credit.

Grade: Uses seven point grading system suggested by Hridayakumari Commission to assess the students.

Words and expressions used and not defined in this regulation shall have the same meaning assigned to them in the Act and Statutes.

Eligibility for Admission

Eligibility for admissions and reservation of seats for B.Voc Data Analytics and Machine Learning shall be according to the rules that no student shall be eligible for admission to B.Voc Data Analytics and Machine Learning unless he/she has successfully completed the examination conducted by a Board/ University at the +2 level of schooling in Mathematics stream. The total no.of seats allotted is 30.

The B.Voc. Data Analytics and Machine Learning shall include:

- a) Language courses
- b) General Education Components
- c) Skill Components
- d) Internship
- e) Field Visits
- f) Project
- g) Soft Skills and Personality Development Programmes
- h) Study tours

B.Voc Data Analytics and Machine Learning

A	Program Duration	6 Semesters
B	Total Credits required for successful completion of the Programme	180
C	Credits required from Common Course I	24
D	Credits required from Skill course and General courses including Project	156
E	Minimum attendance required	75%

SCHEMES OF COURSES

Sl. No.	Courses	No. of Papers	Credits
1.	General Education Components (+ Common Courses)	18	72
2.	Skill Components	27	99
3.	Project	1	5
4.	Internship	1	4
Total		47	180

DURATION OF THE COURSE

- The duration of U.G. Programmes shall be 6 semesters. Each semester shall have 90 working days inclusive of all examinations.
- A student may be permitted to complete the programme, on valid reasons, within a period of 12 continuous semesters from the date of commencement of the first semester of the programme.
- Attendance: Students having a minimum of 75% average attendance for all the courses only, can register for the examination.

Readmission

Readmission will be allowed as per the prevailing rules and regulations of the university.

There shall be 3 level monitoring committees for the successful conduct of the scheme. They are:

1. Department Level Monitoring Committee (DLMC), comprising HOD and two senior-most teachers as members.
2. College Level Monitoring Committee (CLMC), comprising Principal, Dept. Co – Ordinator and A.O/Superintendent as members.
3. University Level Monitoring Committee (ULMC), headed by the Vice – Chancellor and Pro –Vice – Chancellor , Convenors of Syndicate subcommittees on Examination, Academic Affairs and Staff and Registrar as members and the Controller of Examinations as member-secretary.

EXAMINATIONS

The evaluation of each course shall contain two parts:

- (i) Internal or In-Semester Assessment (ISA)
- (ii) External or End-Semester Assessment (ESA)

- The internal to external assessment ratio shall be 1:4.
- Both internal and external marks are to be rounded to the next integer.
- Grades are given **on a 7-point scale** based on the total Percentage of marks,

(ISA+ESA) as given below: -

Percentage of Marks	Grade	Grade Point
95 and above	S Outstanding	10
85 to below 95	A+ Excellent	9
75 to below 85	A Very Good	8
65 to below 75	B+ Good	7
55 to below 65	B Above Average	6
45 to below 55	C Satisfactory	5
35 to below 45	D Pass	4
Below 35	F Failure	0
	Ab Absent	0

Note: Decimal are to be rounded to the next whole number

CREDIT POINT AND CREDIT POINT AVERAGE

Credit Point (CP) of a course is calculated using the formula

$$CP = C \times GP, \text{ where } C = \text{Credit}; GP = \text{Grade point}$$

Semester Grade Point Average (SGPA) of a Semester is calculated using the formula: -

$$SGPA = TCP/TC, \text{ where } TCP \text{ is the Total Credit Point of that semester.}$$

Cumulative Grade Point Average (CGPA) is calculated using the formula: -

$$CGPA = TCP/TC, \text{ where } TCP \text{ is the Total Credit Point of that programme.}$$

Grade Point Average (GPA) of different category of courses viz. Common Course I, Common Course II, Complementary Course I, Complementary Course II, Vocational course, Core Course is calculated using the formula: -

$$GPA = TCP/TC, \text{ where } TCP \text{ is the Total Credit Point of a category of course. } TC \text{ is the total credit of that category of course}$$

Grades for the different courses, semesters and overall programme are given based on the corresponding CPA.

CPA

GPA	Grade
9.5 and above	S Outstanding
8.5 to below 9.5	A+ Excellent
7.5 to below 8.5	A Very Good
6.5 to below 7.5	B+ Good
5.5 to below 6.5	B Above Average
4.5 to below 5.5	C Satisfactory
3.5 to below 4.5	D Pass
Below 3.5	F Failure

MARKS DISTRIBUTION FOR EXTERNAL AND INTERNAL EVALUATIONS

The external theory examination of all semesters shall be conducted by the College at the end of each semester. Internal evaluation is to be done by continuous assessment. For all courses without practical total marks of external examination is 80 and total marks of internal evaluation is 20. Marks

distribution for external and internal assessments and the components for internal evaluation with their marks are shown below:

For all Theory Courses

- 1) **Marks of external Examination: 80**
- 2) **Marks of internal evaluation: 20**

Components of Internal Evaluation–Theory	Marks
Attendance	5
Assignment/Seminar/Viva	5
Test paper (s)(1or2) (1×10=10;2×5=10)	10
Total	20

For all Practical Courses total marks for external evaluation is 80 and total marks for internal evaluation is 20.

For all Practical Courses

- a) **Marks of external Examination : 80**
- b) **Marks of internal evaluation : 20**

Components of Internal Evaluation–Practical	Marks
Attendance	5
Record	5
Skill Test	5
Lab Performance / Punctuality	5
Total	20

*Marks awarded for Record should be related to number of experiments recorded and duly signed by the teacher concerned in charge.

All three components of internal assessments are mandatory.

PROJECT EVALUATION

- a) Marks of external Examination : 80
b) Marks of internal evaluation : 20

Components of Internal Evaluation	Marks
Punctuality	5
Experimentation/Data Collection	5
Skill Acquired	5
Report	5
Total	20

Components of External Evaluation	Marks
Dissertation (External)	50
Viva-Voce (External)	30
Total	80

(Decimals are to be rounded to the next higher whole number)

INTERNSHIP

After the completion of fourth semester, the student will undergo Internship Programme in an Industry, having a good exposure in the concerned skill (Established at least two years prior), capable of delivering the skill sets to the students.

At the end of the Internship, the students should prepare a comprehensive report.

Attendance Evaluation for all papers

Attendance Percentage	Marks
Lessthan75%	1Mark

75% & less than 80%	2Marks
80% & less than 85%	3Marks
85% & less than 90%	4Marks
90% & above	5Marks

(Decimals are to be rounded to the next higher whole number)

ASSIGNMENTS

Assignments are to be done from 1st to 4th Semesters. At least one assignment per course per semester should be submitted for evaluation.

INTERNAL ASSESSMENT TEST PAPERS

Two test papers are to be conducted in each semester for each course. The evaluations of all components are to be published and are to be acknowledged by the candidates. All documents of internal assessments are to be kept in the college for one year and shall be made available for verification by the University. The responsibility of evaluating the internal assessment is vested on the teacher(s), who teach the course.

GRIEVANCE REDRESSAL MECHANISM

Internal assessment shall not be used as a tool for personal or other type of vengeance. A student has all rights to know, how the teacher arrived at the marks. In order to address the grievance of students, a three-level Grievance Redressal mechanism is envisaged. A student can approach the upper level only if grievance is not addressed at the lower level.

Level 1: Department Level:

The Department cell chaired by the Nodal Officer/HOD, Department Coordinator, Faculty Advisor and Teacher in-charge as members.

Level 2: College level

A committee with the Principal as Chairman, College Coordinator, HOD of concerned Department and Department Coordinator as members.

Level 3: University Level

A Committee constituted by the Vice-Chancellor as Chairman, Pro-Vice-Chancellor, Convener - Syndicate Standing Committee on Students Discipline and Welfare, Chairman- Board of Examinations as members and the Controller of Examination as

member- secretary.

The College Council shall nominate a Senior Teacher as coordinator of internal evaluations. This coordinator shall make arrangements for giving awareness of the internal evaluation components to students immediately after commencement of I semester

The internal evaluation marks/grades in the prescribed format should reach the University before the 4th week of October and March in every academic year.

EXTERNAL EXAMINATION

The external examination of all semesters shall be conducted by the University at the end of each semester.

- Students having a minimum of 75% average attendance for all the courses only can register for the examination. Condonation of shortage of attendance to a maximum of 10 days in a semester subject to a maximum of 2 times during the whole period of the programme may be granted by the University on valid grounds. This condonation shall not be counted for internal assessment. Benefit of attendance may be granted to students attending University/College union/Co-curricular activities by treating them as present for the days of absence, on production of participation/attendance certificates, within one week, from competent authorities and endorsed by the Head of the institution. This is limited to a maximum of 10 days per semester and this benefit shall be considered for internal assessment also. Those students who are not eligible even with condonation of shortage of attendance shall repeat the **semester** along with the next batch after obtaining readmission.
- Benefit of attendance may be granted to students attending University/College union/Co-curricular activities by treating them as present for the days of absence, on production of participation/attendance certificates, within one week, from competent authorities and endorsed by the Head of the institution. This is limited to a maximum of 10 days per semester and this benefit shall be considered for internal assessment also.
- Those students who are not eligible even with condonation of shortage of attendance shall repeat the course along with the next batch.
- There will be no supplementary exams. For reappearance/ improvement, the students can appear along with the next batch.
- Student who registers his/her name for the external exam for a semester will be eligible for promotion to the next semester.
- A student who has completed the entire curriculum requirement, but could not register for the Semester examination can register notionally, for getting eligibility for promotion to the next semester.
- A candidate who has not secured minimum marks/credits in internal examinations can re-do the same registering along with the University examination for the same semester, subsequently.

PATTERN OF QUESTIONS

Questions shall be set to assess knowledge acquired, standard and application of knowledge, application of knowledge in new situations, critical evaluation of knowledge and the ability to synthesize knowledge. The question setter shall ensure that questions covering all skills are set. She/he shall also submit a detailed scheme of evaluation along with the question paper. A question paper shall be a judicious mix of short answer type, short essay type /problem solving type and long essay type questions.

Pattern of questions for External examination–Theory paper

Question Type	Total no. of questions	Number of questions to be answered	Marks of each question	Total marks
Very short answer type	12	10	2	20
Short answer(Not to exceed 60 words)	9	6	5	30
Long essay	4	2	15	30
TOTAL	25	18		80

Pattern of questions for external examination with Practical

Question Type	Total no. of questions	Number of questions to be answered	Marks of each question	Total marks
Theory Assessment- Short Answer Type	8	5	4	20
Skill Assessment- Practical	1	1	60	60
TOTAL	9	6		80

Mark division for external LAB examination

Record	Theory/ Procedure/ Design	Activity/ Neatness	Result	Viva	Total
10	10	20	10	10	60

