

## **IMPLEMENTATION OF EXAMINATION REFORMS**

The **KAKINADA INSTITUTE OF ENGINEERING AND TECHNOLOGY-II** was established in 2009 in Korangi, Tallarevu Mandal, East Godavari, with the sole purpose of providing quality technical education to rural students from undivided Andhra Pradesh. The Institute is one of the fastest growing Engineering institutes in Andhra Pradesh.

As the institution is affiliated to JNTUK, Kakinada, the academic policies and academic activities from time to time are to be followed as per University Instructions. The examinations and evaluation pattern given by the university is followed.

☐ As per the university regulations, 2 internal exams will be conducted which consists of descriptive and quiz exams. Out of these quiz will be the online exam conducted by the university.

☐ For lab courses also, internal exam will be conducted. Other than, these exams, for continuous evaluation of the students, unit tests and surprise tests will be conducted for the students.

☐ Continuous evaluation procedure is followed for practical subjects also. The department will carry out internal assessment on all subjects based on internal test performance of the students.

Presently for the Academic Year 2021-22, the UG programs are conducting with three regulations such as R16 Regulations for the students admitted in 2016, R19 Regulations for the students admitted in 2019 and R20 Regulations for the students admitted in 2020. The distribution and weightage of marks for each regulation mentioned below.

### **UG-R-16 Regulations: Distribution and Weightage of Marks**

(i) The performance of a student in each semester shall be evaluated subject – wise with a maximum of 100 marks for theory subject and 75 marks for practical subject. The project work shall be evaluated for 200 marks.

(ii) For theory subjects the distribution shall be 30 marks for Internal Evaluation and 70 marks for the End - Examinations.

(iii) For theory subjects, during the semester there shall be 2 tests. The weightage of Internal marks for 30 consists of Descriptive – 15, Assignment - 05 (Theory, Design, Analysis, Simulation, Algorithms, Drawing, etc. as the case may be and for Physics, Virtual Labs to be

considered as Assignments) Objective -10 (Conducted at College level with 20 Multiple choice question with a weightage of  $\frac{1}{2}$  Mark each). The objective examination is for 20 minutes duration. The subjective examination is for 90 minutes duration conducted for 15 marks. Each subjective type test question paper shall contain **3 questions** and all questions need to be answered. The Objective examination conducted for 10 marks and subjective examination conducted for 15 marks are to be added to the assignment marks of 5 for finalizing internal marks for 30. Internal Marks can be calculated with 80% weightage for best of the two Mids and 20% weightage for other Mid Exam As the syllabus is framed for 6 units, the 1st mid examination (both Objective and Subjective) is conducted in 1-3 units and second test in 4-6 units of each subject in a semester.

(iv) The end semester examination is conducted covering the topics of all Units for 70 marks. End Exam Paper: Part-A 1st Question is mandatory covering all the syllabus which contains seven 2 marks questions for 14 marks with atleast 2 marks of question for each of the six units and in Part-B 4 Questions out of 6 Questions are to be answered with each carrying 14 marks . Part-A & Part-B put together gives for 70 marks.

(v) For practical subjects there shall be continuous evaluation during the semester for 25 internal marks and 50 end examination marks. The internal 25 marks shall be awarded as follows: day to day work - 10 marks, Record-5 marks and the remaining 10 marks to be awarded by conducting an internal laboratory test. The end examination shall be conducted by the teacher concerned and external examiner.

(vi) For the subject having design and / or drawing, (such as Engineering Graphics, Engineering Drawing, Machine Drawing) and estimation, the distribution shall be 30 marks for internal evaluation ( 20 marks for day – to – day work, and 10 marks for internal tests) and 70 marks for end examination. There shall be two internal tests in a Semester and the Marks for 10 can be calculated with 80% weightage for best of the two tests and 20% weightage for other test and these are to be added to the marks obtained in day to day work.

(vii) For the seminar, Each student has to be evaluated based on the presentation of any latest topic with report of 10-15 pages and a ppt of min 10 slides. The student shall collect the information on a specialized topic and prepare a technical report, showing his understanding over the topic, and submit to the department, which shall be evaluated by the Departmental committee consisting of Head of the department, seminar supervisor and a senior faculty member. The seminar report shall be evaluated for 50 marks. There shall be no external examination for seminar.

(viii) Out of a total of 200 marks for the project work, 60 marks shall be for Internal Evaluation and 140 marks for the End Semester Examination. The End Semester Examination (Viva – Voce) shall be conducted by the committee. The committee consists of an external examiner, Head of the Department and Supervisor of the Project. The evaluation of project work shall be conducted at the end of the IV year. The Internal Evaluation shall be on

the basis of two seminars given by each student on the topic of his project and evaluated by an internal committee.

(ix) Laboratory marks and the internal marks awarded by the College are not final. The marks are subject to scrutiny and scaling by the University wherever felt desirable. The internal and laboratory marks awarded by the College will be referred to a Committee. The Committee shall arrive at a scaling factor and the marks will be scaled as per the scaling factor. The recommendations of the Committee are final and binding. The laboratory records and internal test papers shall be preserved in the respective departments as per the University norms and shall be produced to the Committees of the University as and when they ask for.

## **UG-R-19 Regulations:**

### **Question paper setting- Distribution and Weightage of marks - Evaluation and Assessment:**

(i) Paper setting and evaluation of the answer scripts shall be done as per the procedures laid down by the University Examination section from time to time.

#### **(ii) Distribution and Weightage of marks:**

The assessment of the student's performance in each course will be based on Continuous Internal Evaluation (CIE) and Semester-End Examination (SEE). The performance of a student in each semester shall be evaluated subject-wise with a maximum of 100 marks for theory subject and 50 marks for practical subject. For theory subjects the distribution shall be 25 marks for Internal Evaluation and 75 marks for the End Examinations.

S. No	Components	Internal	External	Total
1	Theory	25	75	100
2	Engineering Graphics/Design/Drawing	25	75	100
3	Practical	20	30	50
4	Mini Project/Internship/Industrial Training/ Skill Development programmes/Research Project	-	50	50
5	Project Work – Part I	20	30	50
5	Project Work – Part II	60	90	150

#### **(iii) Continuous Internal Theory Evaluation:**

For theory subjects, during a semester, there shall be two mid-term examinations. Each mid-term examination consists of (i) one online objective examination (ii) one descriptive examination and (iii) one assignment. The online examination (objective) and descriptive examination shall be for 10 marks each with a total duration of 1 hour 50 minutes (20 minutes for objective and 90 minutes for descriptive paper). The online examination (objective) is set with 20 multiple choice questions for 10 marks (20 questions x ½ marks) from first two and half units (50% of the syllabus) and it is conducted by **University Examination Section**. The descriptive examination is set with 3 full questions from first two

and half units (50% of the syllabus), the student has to answer all questions. The second online examination shall be conducted on the rest of the syllabus. The assignment is given by the concerned class teacher for five marks from first two and half units (50% of the syllabus). The second assignment shall given from rest of the syllabus. The first assignment should be submitted before the conduct of the first mid-term examination, and the second assignment should be submitted before the conduct of the second mid-term examination. The total marks secured by the student in each mid-term examination are evaluated for 25 marks. The first mid marks (Mid-1) consisting of marks of online objective examination, descriptive examination and assignment shall be submitted to the University examination section within one week after completion of first mid examination. The mid marks submitted to the University examination section shall be displayed in the concerned college notice boards for the benefit of the students. If any discrepancy found in the submitted mid-1 marks, it shall be brought to the notice of university examination section within one week from the submission. Second mid marks (Mid-2) consisting of marks of online objective examination, descriptive examination and assignment shall also be submitted to University examination section within one week after completion of second mid examination and it shall be displayed in the notice boards. If any discrepancy found in the submitted mid-2 marks, it shall be brought to the notice of university examination section within one week from the submission. Internal marks can be calculated with 80% weightage for better of the two mids and 20% Weightage for other mid exam.

**Example:**

**Mid-1 marks** = Marks secured in (online examination-1+descriptive examination-1+one assignment-1)

**Mid-2 marks** = Marks secured in (online examination-2+descriptive examination-2+one assignment-2)

**Final internal Marks** = (Best of (Mid-1/Mid-2) marks x 0.8 + Least of (Mid-1/Mid-2) marks x 0.2)

With the above criteria, university examination section will send mid marks of all subjects in consolidated form to all the concerned colleges and same shall be displayed in the concerned college notice boards. If any discrepancy found, it shall be brought to the notice of university examination section through proper channel within one week with all proofs. Discrepancies brought after the given deadline will not be entertained under any circumstances.

(iv) **Semester End Theory Examinations Evaluation:** The semester end examinations will be conducted university examination section for 75 marks consists of five questions carrying 15 marks each. Each of these questions is from one unit and may contain sub-questions. For each question there will be an “either” “or” choice, which means that there will be two questions from each unit and the student should answer either of the two questions.

(v) For practical subjects there shall be continuous evaluation during the semester for 20 internal marks and 30 end examination marks. The internal 20 marks shall be awarded as follows: day to day work - 5 marks, Record-5 marks and the remaining 10 marks to be awarded by conducting an internal laboratory test. The end examination shall be conducted by the teacher concerned and external examiner appointed by controller of examinations, JNTUK.

**Note:** Laboratory marks and the internal marks awarded by the College are not final. The marks are subject to scrutiny and scaling by the University wherever felt desirable. The internal and laboratory marks awarded by the College will be referred to a Committee. The Committee shall arrive at a scaling factor and the marks will be scaled as per the scaling factor. The recommendations of the Committee are final and binding. All the laboratory records and internal test papers shall be preserved in respective departments as per University norms and shall be produced to the Committees of University as and when they ask for.

(vi) For the subject having design and / or drawing, (such as Engineering Graphics, Engineering Drawing, Machine Drawing) and estimation, the distribution shall be 25 marks for internal evaluation (15 marks for continuous Assessment (day-to-day work) and 10 marks for internal tests) and 75 marks for end examination. There shall be two internal tests in a Semester for 10 marks each and final marks can be calculated with 80% weightage for better of the two tests and 20% weightage for other test and these are to be added to the marks obtained in day to day work.

(vii) *Project Work I:*

The object of Project Work I is to enable the student to take up investigative study in the broad field of concerned branch of specialization, either fully theoretical/practical or involving both theoretical and practical work to be assigned by the Department on an individual basis or a group of students, under the guidance of a Supervisor. This is expected to provide a good initiation for the student(s) in R&D work. The assignment to normally include:

- a) Survey and study of published literature on the assigned topic;
- b) Working out a preliminary approach to the problem relating to the assigned topic;
- c) Conducting preliminary Analysis/Modeling/Simulation/Experiment/Design/ Feasibility d) Preparing a written report on the study conducted for presentation to the department;
- e) Final Seminar, as oral Presentation before a departmental committee.
- f) The evaluation of the Project Work I will be done as per the procedure suggested by the university

**Evaluation:** The total marks for Project Work I is 50 marks and distribution shall be 20 marks for internal and 30 marks for external evaluation. The supervisor assesses the student for 10

marks (Continuous Assessment: 5 marks, Report –5 marks). At the end of the semester, projects shall be showcased at the department for the benefit of all students and staff and the same is to be evaluated by the departmental Project Review Committee consists of supervisor, a senior faculty and HOD for 10 marks. The external evaluation of Project Work I is a Viva-Voce Examination conducted in the presence of internal examiner and external examiner appointed by the University and is evaluated for 30 marks.

*(viii) Project Work II:*

The object of Project Work II & Dissertation is to enable the student to extend further the investigative study taken up under Project Work I, either fully theoretical/practical or involving both theoretical and practical work, under the guidance of a Supervisor from the Department alone or jointly with a Supervisor drawn from R&D laboratory/Industry. This is expected to provide a good training for the student(s) in R&D work and technical leadership. The assignment to normally include:

- a) In depth study of the topic assigned in light of Report prepared under Project Work I; b) Review and finalization of the approach to the problem relating to the assigned topic; c) Preparing an Action Plan for conducting the investigation, including team work;
- d) Detailed Analysis/Modeling/Simulation/Design/Problem Solving/Experiment as needed; e) Final development of product/process, testing, results, conclusions and future directions; f) Preparing a paper for Conference presentation/publication in Journals, if possible;
- g) Preparing a dissertation in the standard format for being evaluated by the department;
- h) The evaluation of the Project Work II will be done as per the procedure suggested by the university.

*Evaluation:* The total marks for project work II is 150 marks and distribution shall be 60 marks for internal and 90 marks for external evaluation. The supervisor assesses the student for 30 marks (Continuous Assessment: 15 marks, Report –15 marks). At the end of the semester, projects shall be showcased at the department for the benefit of all students and staff and the same is to be evaluated by the departmental Project Review Committee consisting of supervisor, a senior faculty and HOD for 30 marks. The external evaluation of Project Work II is a Viva-Voce Examination conducted in the presence of internal examiner and external examiner appointed by the University and is evaluated for 90 marks.

**Note:** Project Work II is a continuation of Project Work I with same supervisor and it is not allowed to change the topic and area. If the Project is continued at R&D laboratory/Industry, another supervisor may be added from the concerned organization.

**(ix) For Socially Relevant Project** there shall be continuous evaluation during the semester for 20 internal marks and 30 external marks.

*Internal Evaluation (20 Marks):* Two internal evaluations in the form of presentations (First one before I Mid-term and Second one before the II-Mid-term examinations) shall be conducted

by the supervisor and a faculty member nominated by the HOD. For a total of 20 marks, 80% of best one of the two evaluation and 20% of the other evaluation are added and finalized.

*External Semester Evaluation (30 Marks):* A report on socially relevant project shall be submitted by group of students to the department at the end of the semester. The Viva-Voce examination shall be conducted by the committee consisting of internal examiner (supervisor) and external examiner appointed by the University. The Viva-Voce examination shall be planned along end semester practical examinations.

(x) **Mandatory Course (M.C):** There shall be Mandatory Course with zero credits. There shall be no external examination. However, a minimum of 75% attendance is mandatory in that particular subject.

**(xi) Engineering Exploration Course:** The motivation of including Engineering Exploration Project in the curriculum is to make the students practice creative problem solving method - Design Thinking which fosters collaboration and solve problems in human-centered ways. It enables the students to exercise and identify design opportunities through various phases with the help of hands-on activities. Obtaining a best solution for an identified problem involves a non-linear, iterative process which seeks to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. The students are encouraged to explore real-world problems and expected to take charge of their own learning, work together in teams towards the problem. The evaluation of the Engineering Exploration Project involves in writing their observations in Activity Cards at the end of each task given in syllabus and submitting a final report along with working prototype.

**Evaluation:** For Engineering Exploration Project there shall be continuous evaluation during the semester for 20 internal marks and 30 external marks.

*Internal Evaluation (20 Marks):* Two internal evaluations in the form of presentations (First one before I Mid-term and Second one before the II-Mid-term examinations) shall be conducted by the supervisor and a faculty member nominated by the HOD. For a total of 20 marks, 80% of best one of the two evaluation and 20% of the other evaluation are added and finalized.

*External Semester Evaluation (30 Marks):* A report on socially relevant project shall be submitted by group of students to the department at the end of the semester. The Viva-Voce examination shall be conducted by the committee consisting of internal examiner (supervisor) and external examiner appointed by the University. The Viva-Voce examination shall be planned along end semester practical examinations.

(xii) **Procedure for Conduct and Evaluation of MOOC:** There shall be a Discipline Centric Elective Course through Massive Open Online Course (MOOC) as Program Elective course. The student shall register for the course (Minimum of 12 weeks) offered by SWAYAM/NPTEL/JNTUK MOOCS through online with the approval of Head of the Department. The Head of the Department shall appoint one mentor for each of the MOOC subjects offered.

The student needs to register the course in the SWAYAM/NPTEL portal in the previous semester. During the course, the mentor monitors the students assignment submission given by SWAYAM/NPTEL at the end of every week. The student needs to submit all the assignments given and needs to take final exam at the proctor center. The student needs to earn a certificate by passing the exam. The student will be awarded the credits given in curriculum only by submission of the certificate.

For JNTUK MOOCS course, the mentor appointed shall conduct the mid semester examinations as per 8(iii). Further, the University shall conduct the external examination for the MOOC subject in line with other regular subjects based on the syllabi of the respective subject provided in the curriculum. A MOOC course may be studied either in online or in conventional manner. In case if student does not pass in SWAYAM/NPTEL, the alternative subject may be taken from JNTUK MOOCS and has to pass the course as per 8(iii) and 8(iv). Open Electives are evaluated as per 8(iii) and 8(iv).

(xiii) Mini Project/Internship/Industrial Training/Skill Development programmes/Research Project guidelines: There shall be a Mini Project/Internship/Industrial Training/Skill Development programmes/Research Project, in collaboration with an industry of their specialization. Students shall pursue this course during summer vacation just before its offering as per course structure. The minimum duration of this course is at least 16 hours. The student shall register for the course as per course structure after commencement of academic year. An individual or group of students can take up this course under the guidance of a supervisor from concerned department. The supervisor shall maintain the attendance of the course for the students allotted. Attendance requirements are as per the norms of the University. After completion the students shall be submit a technical report and presented before the committee. A certificate from industry/skill development center shall be included in the report. It shall be evaluated for 50 external marks at the end of the semester. The committee consists of an external examiner appointed by the University; Head of the Department, supervisor of the Mini Project/Internship/Industrial Training/Skill Development programmes/Research Project and a senior faculty member of the department. There shall be no internal marks for Industrial Oriented Mini Project/Summer Internship. A student shall secure minimum 40% of marks for successful completion. In case, if a student fails, he/she shall reappear as and when semester supplementary examinations are conducted by the University.



## UG-R-20 Regulations:

### Evaluation-Distribution and Weightage of marks

(i) Paper setting and evaluation of the answer scripts shall be done as per the procedures laid down by the University Examination section from time to time.

(ii) For non-credit mandatory courses, like Environmental Sciences, Universal Human Values, Ethics, Indian Constitution, Essence of Indian Traditional Knowledge, the student has to secure 40% of the marks allotted in the internal evaluation for passing the course. No marks or letter grade shall be allotted for all mandatory non-credit courses.

(iii) A student is deemed to have satisfied the minimum academic requirements if he has earned the credits allotted to each theory/practical design/drawing subject/ project etc by securing not less than 35% of marks in the end semester exam and minimum 40% of marks in the sum total of the internal marks and end semester examination marks together.

(iv) Distribution and Weightage of marks:

The assessment of the student's performance in each course will be based on Continuous Internal Evaluation (CIE) and Semester-End Examination (SEE). The performance of a student in each semester shall be evaluated subject-wise with a maximum of 100 marks for theory subject and 50 marks for practical subject. For theory subjects the distribution shall be 30 marks for Internal Evaluation and 70 marks for the End Examinations.

S. No	Components	Internal	External	Total
1	Theory	30	70	100
2	Engineering Graphics/Design/Drawing	30	70	100
3	Practical	15	35	50
4	Mini Project/Internship/Industrial Training/ Skill Development programmes/Research Project	-	50	50
5	Project Work	60	140	200

**(v) Continuous Internal Theory Evaluation:** (a) For theory subjects, during a semester, there shall be two mid-term examinations. Each mid-term examination consists of (i) one online objective examination (ii) one descriptive examination and (iii) one assignment. The online examination (objective) shall be 10 marks and descriptive examination shall be for 15 marks with a total duration of 1 hour 50 minutes (20 minutes for objective and 90 minutes for descriptive paper).

(b) The first online examination (objective) is set with 20 multiple choice questions for 10 marks (20 questions x  $\frac{1}{2}$  marks) from first two and half units (50% of the syllabus) and it is

conducted by **University Examination Section**. The descriptive examination is set with 3 full questions for 5 marks each from first two and half units (50% of the syllabus), the student has to answer all questions. In the similar lines, the second online and descriptive examinations shall be conducted on the rest of the syllabus.

(c) The assignment is given by the concerned class teacher for five marks from first two and half units (50% of the syllabus). The second assignment shall be given from rest of the syllabus. The first assignment should be submitted before the conduct of the first mid-term examination, and the second assignment should be submitted before the conduct of the second mid-term examination.

(d) The total marks secured by the student in each mid-term examination are evaluated for 30 marks. The first mid marks (Mid-1) consisting of marks of online objective examination, descriptive examination and assignment shall be submitted to the University examination section within one week after completion of first mid examination.

(e) The mid marks submitted to the University examination section shall be displayed in the concerned college notice boards for the benefit of the students.

(f) If any discrepancy found in the submitted Mid-1 marks, it shall be brought to the notice of university examination section within one week from the submission.

(g) Second mid marks (Mid-2) consisting of marks of online objective examination, descriptive examination and assignment shall also be submitted to University examination section within one week after completion of second mid examination and it shall be displayed in the notice boards. If any discrepancy found in the submitted mid-2 marks, it shall be brought to the notice of university examination section within one week from the submission.

(h) Internal marks can be calculated with 80% weightage for better of the two mids and 20% Weightage for another mid exam.

(i) With the above criteria, university examination section will send mid marks of all subjects in consolidated form to all the concerned colleges and same shall be displayed in the concerned college notice boards. If any discrepancy found, it shall be brought to the notice of university examination section through proper channel within one week with all proofs. Discrepancies brought after the given deadline will not be entertained under any circumstances.

Example:

**Mid-1 marks** = Marks secured in (online examination-1+descriptive examination-1  
+one assignment-1)

**Mid-2 marks** = Marks secured in (online examination-2+descriptive examination-2  
+one assignment-2)

**Final internal Marks** = (Best of (Mid-1/Mid-2) marks x 0.8  
+ Least of (Mid-1/Mid-2) marks x 0.2)

i (vi) **Semester End Theory Examinations Evaluation:**

ii (a) The semester end examinations will be conducted university examination section for 70 marks consists of five questions carrying 14 marks each. Each of these questions is from one unit and may contain sub-questions. For each question there will be an “either” “or” choice, which means that there will be two questions from each unit and the student should answer either of the two questions.

iii (b) For practical subjects there shall be continuous evaluation during the semester for 15 internal marks and 35 end examination marks. The internal 15 marks shall be awarded as follows: day to day work - 5 marks, Record-5 marks and the remaining 5 marks to be awarded by conducting an internal laboratory test. The end examination shall be conducted by the teacher concerned and external examiner appointed by controller of examinations, JNTUK.

**Note:** Laboratory marks and the internal marks awarded by the College are not final. The marks are subject to scrutiny and scaling by the University wherever felt desirable. The internal and laboratory marks awarded by the College will be referred to a Committee. The Committee shall arrive at a scaling factor and the marks will be scaled as per the scaling factor. The recommendations of the Committee are final and binding. All the laboratory records and internal test papers shall be preserved in respective departments as per University norms and shall be produced to the Committees of University as and when they ask for.

(c) For the subject having design and / or drawing (such as Engineering Graphics, Engineering Drawing, Machine Drawing) and estimation, the distribution shall be 30 marks for internal evaluation (15 marks for continuous Assessment (day-to-day work) and 15 marks for internal tests) and 70 marks for end examination. There shall be two internal tests in a Semester for 15 marks each and final marks can be calculated with 80% weightage for better of the two tests and 20% weightage for other test and these are to be added to the marks obtained in day-to-day work.

(d) Evaluation of the summer internships: It shall be completed in collaboration with local industries, Govt. Organizations, construction agencies, Industries, Hydel and thermal power projects and also in software MNCs in the area of concerned specialization of the UG programme. Students shall pursue this internship during summer vacation just before its offering as per course structure. The minimum duration of this course shall be at least 6 weeks. The student shall register for the internship as per course structure after commencement of academic year. A supervisor/mentor/advisor has to be allotted to guide the students for taking up the summer internship. The supervisor shall monitor the attendance of the students while taking up the internship. Attendance requirements are as per the norms of the University. After successful completion, students shall submit a summer internship technical report to the concerned department and appear for an oral presentation before the departmental committee consists of an external examiner appointed by the University; Head of the Department, supervisor of the internship and a senior faculty member of the department. A certificate from industry/skill development center shall be included in the report. The report and the oral presentation shall carry 40% and 60% weightages respectively. It shall be evaluated for 50 external marks at the end of the semester. There shall be no internal marks for Summer Internship. A student shall secure minimum 40% of marks for successful completion. In case, if a student fails, he/she shall reappear as and when semester supplementary examinations are conducted by the University.

(e) The job-oriented skill courses may be registered at the college or at any accredited external agency. A student shall submit a record/report on the on the list skills learned. If the student completes job-oriented skill course at external agency, a certificate from the agency shall be included in the report. The course will be evaluated at the end of the semester for 50 marks (record: 15 marks and viva-voce: 35 marks) along with laboratory end examinations in the presence of external (appointed by the university) and internal examiner (course instructor or mentor). There are no internal marks for the job-oriented skill courses.

(f) Mandatory Course (M.C): Environmental Sciences, Universal Human Values, Ethics, Indian Constitution, Essence of Indian Traditional Knowledge etc non-credit (zero credits) mandatory courses. Environmental Sciences shall be offered compulsorily as mandatory course for all branches. A minimum of 75% attendance is mandatory in these subjects. There shall be an external examination for 70 marks and it shall be conducted by the college internally. Two internal examinations shall be conducted for 30 marks and a student has to

secure at least 40% of the marks for passing the course. There is no online internal exam for mandatory courses. No marks or letter grade shall be printed in the transcripts for all mandatory non-credit courses, but only Completed (Y)/Not-completed (N) will be specified. (g)

**Procedure for Conduct and Evaluation of MOOC:** There shall be a Discipline Centric Elective Course through Massive Open Online Course (MOOC) as Program Elective course. The student shall register for the course (Minimum of 12 weeks) offered by SWAYAM/NPTEL through online with the approval of Head of the Department. The Head of the Department shall appoint one mentor for each of the MOOC subjects offered. The student needs to register the course in the SWAYAM/NPTEL portal. During the course, the mentor monitors the student's assignment submissions given by SWAYAM/NPTEL. The student needs to submit all the assignments given and needs to take final exam at the proctor center. The student needs to earn a certificate by passing the exam. The student will be awarded the credits given in curriculum only by submission of the certificate. In case if student does not pass subjects registered through SWAYAM/NPTEL, the same or alternative equivalent subject may be registered again through SWAYAM/NPTEL in the next semester with the recommendation of HOD and shall be passed.

(h) *Major Project* (Project - Project work, seminar and internship in industry):

In the final semester, the student should mandatorily register and undergo internship and in parallel he/she should work on a project with well-defined objectives. At the end of the semester the candidate shall submit an internship completion certificate and a project report. A student shall also be permitted to submit project report on the work carried out during the internship. The project report shall be evaluated with an external examiner.

*Evaluation:* The total marks for project work 200 marks and distribution shall be 60 marks for internal and 140 marks for external evaluation. The supervisor assesses the student for 30 marks (Report: 15 marks, Seminar: 15 marks). At the end of the semester, all projects shall be showcased at the department for the benefit of all students and staff and the same is to be evaluated by the departmental Project Review Committee consisting of supervisor, a senior faculty and HOD for 30 marks. The external evaluation of Project Work is a Viva-Voce Examination conducted in the presence of internal examiner and external examiner appointed by the University and is evaluated for 140 marks.

**PRINCIPAL**