



A GOVT. AIDED UGC AUTONOMOUS & NAAC ACCREDITED INSTITUTE, AFFILIATED TO R.G.P.V BHOPAL (M.P)



STANDARD OPERATING PROCEDURES

Manual (Examination)



Manual (Examination), Madhav Institute of Technology and Science





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List of Abbreviations

| UG | Undergraduate |
|--------|--|
| PG | Post graduate |
| СО | Course Outcome |
| OC | Open Category |
| DE | Department Elective |
| MAC | Mandatory Audit Course |
| NEC | Novel Engaging Course |
| MC | Mandatory Course |
| CBCS | Choice Based Credit System |
| COE | Controller of Examination |
| MMLPE | Multiple Mode Logical Pattern Examination |
| PP | Pen and Paper |
| MCQ | Multiple Choice Question |
| AO | Assignment plus Oral |
| IMS | Integrated management System |
| ECS | Examination Control System |
| MOODLE | Modular Object-Oriented Dynamic Learning Environment |
| SIP | Summer Internship Program |
| MOOC | Massive Open Online Course |
| SEP | Skill Enhancement Program |
| UFM | Unfair Means |





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1. Preface

Madhav Institute of Technology & Science (MITS) is affiliated to Rajiv Gandhi Prodyogiki Vishwavidyalaya, Bhopal, Madhya Pradesh and conferred autonomous status by the university since 2002 and later Autonomy from UGC was approved in the year 2017 for six years.

The scheme of examination of all **UG and PG programs** offered by the institute have been reframed as per the **Choice Based Credit System** (**CBCS**) since **2015** and flexible curriculum was implemented from **2017** with the provision of **Departmental Electives** (**DE**), **Open Category** (**OC**) courses, **mandatory courses** (**MC**) and **Mandatory Audit Courses** (**MAC**). The institute also offers **B. Tech** degree with **Honors or Minor** Specialization **since 2017** admitted batch. In addition to the above, the scheme of examination has following features in line with the **National Education Policy 2020** and **Choice Based Credit System**:

- 1.In **UG programs**, Theory End Term evaluation is carried out under two components viz, End Semester Examination and Proficiency in Course. Continuous evaluation is conducted through two mid semester examinations, quiz and assignments.
- 2.Practical courses are assessed by conducting End Term practical examination, continuous evaluation in each lab class, viva and skill based mini projects related to the courses.
- 3.**Multiple Mode Logical Pattern Examination (MMLPE)** system is the unique feature where examinations are conducted in Pen and Paper (PP), Assignment plus Oral (AO) and Multiple-Choice question (MCQ) mode as proposed by Board of studies and approved by the Academic council.
- 4. The provision of Direct Online credit transfer through **MOOC** platform is available for courses offered under department electives, open category courses of **UG**, **PG** and **Ph.D**. programs.
- 5.**Mandatory Audit Courses (MAC)** are offered with no credit but it is necessary to qualify the course for the award of degree.
- 6.Conduction of mandatory Summer Internship Program (SIP) after I and II year of UG program
- 7.Conduction of mandatory finishing school/Skill Enhancement Programme (SEP)/industrial internship after III year is provisioned.
- 8.Development of a research mindset through Projects (research internships, minor & skill based projects) in UG programs and Dissertations in PG programs is in place.
- 9.In UG program, there is Provision of Fundamental Courses like Engineering Chemistry, Engineering Physics, Environmental Engineering and Language under the Natural Sciences and Skills Category.
- 10. Option of multidisciplinary activity based credit courses under **Novel Engaging Courses (NEC)** for holistic development.

I. Digitization/ Automation of Examination System

The examination section of the Institute is well equipped with printing, reprographic facilities for smooth conduction of examination, preparation and declaration of results. The Integrated





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Management System (IMS) & Examination Control System (ECS) is used to manage the following activities in digital mode:

- 1. Examination form forwarding by the HoD
- 2. Students' Registration for examination
- 3. Issuing admit card of examination to students
- 4. Preparation of Seating plan for examination
- 5. Online submission of continuous assessment and end semester practical exam marks by course faculty
- 6. Processing of Examination result
- 7. Result preparation
- 8. Tabulation Report generation
- 9. Preparation of result analysis
- 10. Declaration of result to students
- 11. Applying for evaluation related grievances, their processing and declaration of result of revaluation and retotaling.
- 12. Enrolment of students in the successive semester

In addition to **IMS and ECS**, institute has been using **Modular Object Oriented Dynamic Learning Environment (MOODLE)** as an online tool for continuous evaluations by conducting quizzes, assignments and Mid Semester Examination since 2017.

II. Examination Team

Director of the institute is the **Chief Controller** of the examination processes and Examination Cell of the institute is headed by the **Controller of Examination (COE)**, who is a permanent faculty nominated by the Director. The other team members of the Examination Cell consist of **Deputy Controllers/Assistant Controllers**. There is a team of Office Assistants, Computer Programmers, Data Entry Operators and other helpers in the Examination Cell.

III. Role of Controller of Examination

- 1. Makes Requisition to HoDs for submitting recommendation for panel of paper setters for End Semester Examination.
- 2. The Dean Academics nominates the paper setters for the end-term examination out of the panel proposed by the respective Heads of Departments.
- 3. Issue paper setting to the examiners after obtaining the list of the examiners from the Dean (*Academics*).
- 4. Receives the question papers from the setters.
- 5. Makes arrangement for Printing of question papers.
- 6. Declares End Semester Examination Time Table as per the academic calendar.
- 7. Prepares of the list of students, who are eligible to appear in various subjects as Regular, **Ex and N-Batch** students as per their academic history.
- 8. Issues notification to students and faculty members related to examination activities.

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- 9. Counsels students regarding the examination related activities.
- 10. Assigns the name faculty member on IMS for filling marks of continuous assessment of different courses.
- 11. Receives and maintains the record of hard copy of marks awarded for practical, mid semester and quiz/assignments.
- 12. Forwards nominal rolls to the Examination Superintendent.
- 13. Receives answer books from the Examination Superintendent.
- 14. Assign the task of Valuation of the answer books to faculty members (*names of the valuers are proposed by the respective Head of Departments*)
- 15. Oversees the preparation of the results of examinations
- 16. Calls the meeting of examination committee for final recommendations of the results on the basis of result analysis.
- 17. Oversees the declaration of the result
- 18. Makes provision to the students for online downloading of valued answer books
- 19. Manages the preparation and distribution of Mark Sheets.
- 20. Manages the preparation of Migration and Provisional Certificates for Final year students.
- 21. Issues course completion certificate on the request of the student
- 22. Issues notification for revaluation / retotaling.
- 23. Supervises conduction of revaluation / re-totaling.
- 24. Oversees result declaration after revaluation and retotaling.
- 25. Updating of Revaluation and Retotaling Marks in the Tabulation Register (TR).
- 26. Calls the applications for Challenge/persuasion from the students in case of unsatisfaction from revaluation results
- 27. Calls the meeting of the UFM Committee (if UFM case registered)
- 28. Forwards form for award of Main degree to pass out students
- 29. Issue Transcripts (based on the application submitted by the pass out students)
- 30. Verifies documents of the pass out students (as per the request of the employer)
- 31. Organizes payment of remuneration and TA/DA to the External Examiners / Internal Examiners and all the other work related to the examination.





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2. Standard Procedure for Conduction of Examinations

As per the scheme of Examination of **UG**, **PG** and **Ph.D**. **programs** offered by the institute, the evaluation is carried out on Continuous and End-Term basis. The mechanism of conduction of examination of continuous and End-Term Evaluation is as follows:

I. Continuous Evaluation

i. Theory Courses

• Mid Semester Examination

- a. Time table of continuous assessment (mid semester examinations) is prepared and displayed by each department in line with the academic calendar of the institute. For each theory subject, the institute shall be required to conduct at least two mid semester tests.
- b. Question Papers of mid semester examinations are set by the course faculty
- c. Seating plan is prepared by the department and invigilators are assigned across the disciplines as per the availability of faculty members and the number of students entitled to appear in mid semester examination.

• Quiz/Assignments

Minimum 05 Assignments and Quizzes are made available for attempt through MOODLE to students for each theory course and average marks of all assignments and quizzes are awarded

ii. Practical Courses

- a. The internal viva of practical courses is conducted after each mid semester examination and time table for the same is prepared and displayed by the department.
- b. For Skill Based Mini Project, two mid-term valuations are conducted by the course faculty of the departments and time table for the same is prepared and published as per the guidelines given by the Dean Academics.

II. End Term Evaluation

Even and Odd semester End Term Examinations are conducted during **November/December** and **May/June** of each year respectively. There is a full examination at the end of each semester consisting of end semester examination and Course Proficiency (Only for UG courses) for theory and End term practical examination for practical courses. These examinations are conducted as follows:

A. Modes of Examination: Conduction of Theory End Semester Examination is based on Multiple Mode Logical Pattern (MMLP) therefore; institute conducts examination through following modes:

- **1.Pen & Paper (PP) Mode**: It is recommended for Computational/Numerical based courses and duration of examination is 2hrs (for UG courses) and 3 hrs (for PG and Ph D courses).
- **2.Multiple Choice Questions (MCQ) mode**: It is recommended for Theoretical courses and duration of examination is 1.5 hrs and 03 hrs (for MOOC courses only).
- **3.Assignment plus Oral (AO) mode:** It is recommended for drawing/Design/Programming based courses and duration of examination is 2 hrs. However, the duration may vary as per the recommendation of Board of Studies of the department.





B. Pre conduction preparations

- a. Appointment of Examiners and Question Paper Setting
- 1. Examiners for theory End Term Examination are approved by the Dean Academic of the institute from the panel recommended by the respective Board of Studies.
- 2. Controller of Examination (COE) issues the letter for paper setting along with the instructions for setting question paper for different modes of the examination to the approved examiners. For guidelines for setting the question paper under different modes, refer Annexure I.
- 3. The typed manuscripts of Question papers are accepted in sealed envelope or online by the COE to avoid poor legibility of hand written manuscript.

b. Publishing of End Semester Examination Time Table

The Controller of Examination prepares and publishes Time table for End Semester examination specifying the Day, date, Time/Shift, Mode of Examination for Regular and Ex-students. Time table is published on institute website well in advance before the end semester examination and also forwarded to **HoDs** for displaying on department notice board.

d. Examination Registration

- 1. COE notifies the dates by which applications and fees for registration of examination shall be paid by the intending examinees.
- 2. Institute has Online platform **Integrated management system (IMS)** for carrying out examination related activities.
- 3. HoD forwards the examination registration form of the eligible students of their respective departments
- 4. Students get registered for examination by using their IMS login credentials.

C. Conduction of End Term Examinations

The Director in consultation with Controller (Examination) appoints Superintendent, Deputy Superintendent and Assistant Superintendents for examination center and issues necessary instructions for the fair conduction of exam.

For the purpose of appointment of an Assistant Superintendent at a center, the minimum strength of examinees appearing there should be at least 300.

(i) Role of Superintendent of Examination

- 1. The Superintendent of Examination at center is personally responsible for the safe custody of question papers and the answer books supplied to him and shall render to the Examination office a complete account of used and unused question papers and answer-books.
- 2. Following arrangements for the conduct of examination to be held at Madhav Institute of Technology & Science are made by the Superintendent, Examination in accordance with directions issued by COE and Director and norms approved by Academic Council:
 - a. Preparation and displaying of seating plan and making seating arrangement as per the time table and number of students registered for examination.
 - b. Preparation of Daily attendance and answer book record.





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- c. Allotting invigilation duty: one invigilator is appointed over 20 students and minimum two invigilators even for a single student.
- d. Arrangement of Computers for MCQ based examinations
- 3. The Superintendent shall supervise the work of invigilator working under him.
- 4. It shall be the duty of the Centre Superintendent to ensure that an examinee is the same person who had filled-in the form of application for appearing at the examination, by way of checking the photograph pasted on the form and signature (one already on the form and the other to be obtained in the examination hall) in cases of all candidates.
- 5. The Superintendent of exam, if fully satisfied, appoint an amanuensis to write down dictation pertaining to the answer to questions at the examination on behalf of an examinee who is unable to write himself/herself on account of severe short sightedness or sudden illness after obtaining medical certificate of the competent medical officer of Govt. Hospital provided that such amanuensis should be a man/woman possessing qualification of at least one class/exam lower than the examination Controller of the Institute with all the connected papers just after over the examination.
- 6. The Superintendent of Examination will promote the students to submit the feedback of question papers through **MOODLE.**
- 7. The Superintendent of Examination Centre shall take action against the examinee who is found using or attempting to use unfair means in the examination hall or within the premises of the Examination Centre during the hours of examination, in the following manners:
 - a. The examinee shall be called upon to surrender all the objectionable material found in his/her possession including answer book and the memorandum shall be prepared with date and time.
 - b. The statement of the examinee and the invigilator shall be recorded.
 - c. The examinee shall be issued a fresh answer-book marked **'Duplicate-Using Unfair Means**' to attempt answers within the remaining time prescribed for the exam.
 - d. All the material so collected and the entire evidence along with the statement of the examinee and the answer-book duly initialed shall be forwarded to the Examination Controller by name in a separate confidential sealed registered packet marked "Unfair Means" along with the observations of Superintendent.
- 8. Handing over the answer books collected from examinee /unused question papers to COE for further necessary action.

(ii) Guidelines for Conduction of PP and AO mode Examination

- 1. Duration of examination is **02 hrs** for B. Tech Courses and **03 hrs** for PG and Ph D course work. However, the duration of examination for B. Arch is as per the recommendation of Board of Studies.
- 2. Students are required to fill following entries very carefully available on the OMR cover page of answer book:
 - a. Date of Examination
 - b. Subject name and Code
 - c. Date of examination
 - d. Status
 - e. Semester





- f. Branch
- g. Enrollment Number
- 3. In case of use of supplementary answer books, it is mandatory to mention the number of supplementary answer book used on the Main Answer book.
- 4. The answer book number of supplementary answer book must be recorded by the candidate
- 5. The details must be completely filled in supplementary answer book as well and duly signed by the invigilator.
- 6. The Oral Examination of AO based course will be conducted by the department within two or three days after the end date of examination. The time table for the same will be prepared and displayed by the department.

(iii) Guidelines for Conduction of MCQ based Examination

MCQ based examination are conducted through online/offline (for ex-students only) mode. The invigilator will provide the username and password to each candidate and the questions are made available to the students at the scheduled time of examination. Upon completion of the examination, the student needs to press the submit button for final submission of quiz.

(iv) Guidelines for Conduction of MOOC course Examination

The institute level examinations of MOOC courses are conducted online in MCQ mode. The **examination** procedure for students who failed or could not register for examination in the courses which were considered for credit transfer and offered through **SWAYAM/NPTEL/MOOC** based learning platform is as follows:

a. For Continuous Assessment

- 1. Student should get registered under a Mentor on Moodle (Create separate group).
- 2. Student should attend mentoring session conducted by respective course mentor
- 3. Student should submit the assignments as once or twice a week on Moodle (at least 8 assignments) so that the evaluation must be completed

b. For End Term Assessment

The student will appear in institute level examination of MOOC course as per the time table published by COE

However, if the same course is being re-run (available for credit transfer) on the SWAYAM/NPTEL/ MOOC platform, the student can opt to repeat the course in on-line mode also.

(v) Conduction of end term Practical exam

The end term practical examination, are conducted through the internal panel of subject matter experts / faculty members.

HoDs will communicate copy of the panel of end term practical examination to COE also.

(vi) Conduction of Major Project/Internship Assessment (UG programs):

Major Project /Internship activities are assessed continuously as follows:

a. Preliminary review is conducted in the first week of January. The students are asked to present





synopsis/outline and expected outcomes of the project.

- b. **Monthly Progress Report**: Students are assessed on the basis of the monthly progress report submitted by the Guide/Mentor for consecutive three months (February-April).
- c. Mid-term presentation & review: Presentation and Viva is conducted in the month of April.
- d. **End Term Presentation**: Final presentation and viva is conducted at the end of month of May in front of the Committee duly constituted by the HODs.

(vii) Conduction of Dissertation Thesis Exam (PG programs)

- a. One pre-submission presentation and viva is conducted by the department by the duly constituted committee.
- b. On the recommendation of internal committee, the student submits two copies of Dissertation thesis to the Department along with the Examination Form of IV semester.
- c. The HOD forwards the examination form and thesis to the Controller of Examination along with the panel of external examiner.
- d. The Controller of Exam gets the examiner approved from the Director and intimates the name of appointed examiner to HOD for the conduction of of End term viva.
- e. The time line/schedule for the conduction of ME/M. Tech dissertation examination

| Last date of Submission | Examination session | Result Declaration |
|-------------------------|----------------------------|---------------------------|
| 31 st July | May/June | July |
| 15 th Dec | December | January |

(viii) Conduction of PhD course work Exam

The course work examination of Ph D registered student is conducted twice in a year i.e. session **May/June** and **Nov/Dec.**

The candidate is required to appear in examination as per the scheme recommended by the guide and HOD.

It is mandatory to qualify a MOOC course to complete course work. No institute level examination is conducted for Ph D courses in case of failing.

(ix) Conduction of Examination for Mandatory Audit Courses (MAC)

a. Continuous Assessment:

Two mid-term examinations are conducted by the department along with other theory course examination through MCQ mode.

b. End term Assessment

- i. Time table of End Term Examination of MACs is prepared by COE and communicated to students.
- ii. The mode of End Term examination of MACs is MCQ based

(x) General Instructions for students

1. Students are required to refer the latest time table and schedule including the shift time and mode





of examination carefully.

- 2. All examinees are required to carry printed copy of admit card available in their IMS account. Candidates not possessing the necessary admit card will not be permitted to appear in examination
- 3. Candidate is supposed to take the seat in exam hall 15 min before the scheduled time of examination as per the seating plan displayed on institute website, display boards and each exam hall. No latecomer is permitted for the exam after half an hour of its commencement.
- 4. Question paper will be distributed to examinees five minutes before the commencement of examination and no candidate is allowed to leave the room before one hour of start of examination.
- 5. Invigilators will make aware regarding the unfair means practices and their punishment before the commencement of examination.
- 6. No examinee shall leave the exam hall within one hour of the start of the exam for any purpose.
- 7. Students are not allowed to write anything on the question paper except their enrollment number and no identification mark will be made in the answer sheet.
- 8. Student will not leave the exam hall permanently without marking their attendance and submitting the answer book to the invigilator.

Students are permitted to carry only writing material (pen, pencil, drawing tools and standard tables (if prescribed by the examiner), non-programmable calculator in the exam hall. No electronic/smart equipment's (e.g. mobile phones, tablets, smart watches, earphones/Bluetooth/AI based devices) are permissible.

D. Post Conduction Activities

a. Preparation of Solutions

On the day of examination, COE issues order to the paper setter for preparing solution of questions asked in end semester exam. The solutions are submitted by the paper setter on the same day and later same is uploaded by the COE on MOODLE for students' reference.

b. Uploading of Question Paper on MOODLE

All questions papers of end semester examination are uploaded on MOODLE for students' reference after the examinations are over





3. Standard Operating Procedure for Evaluation and Redressal of Grievances

I. Digital Valuation: The valuation of answer books of Pen and paper end semester examination is done onscreen by through Online mode whereas the answer books of AO based examination is valuated manually and later viva voce is conducted by the valuer of the course as per the schedule prepared by the department.

II. Mechanism of valuation

- 1. Scanning of the answer booklets of PP mode examination by approved Vendor.
- 2. Sharing of Answer books to valuers from the list provided by COE. The valuers are provided with password in case of digital/onscreen valuation.
- 3. The question paper and solution of question paper is also made available online to valuers.
- 4. The record of answer books valuated and marks are shared by the vendor to COE.

Answer books/Drawing Sheets of AO based examination are valuated physically by approved valuers. COE issues the answer books to valuers on the same day of examination. Valuation of answer books are completed as per the timelines and a consolidated marks award list is submitted by the valuer by including oral examination marks to COE

III. Transparency in evaluation System

- 1. Answer books of end-term exam are shown to students for maintaining transparency and credibility after the declaration of result through online mode after submitting fee of Rs 100 per answer book.
- 2. The COE notify the dates to students regarding the availability of evaluated answer books for viewing.
- 3. Students can view valuated answer books after making online payment of Rs 100 through a link shared by COE on Institute website.

IV. Mechanism of redressal of grievances related to evaluation

i. Revaluation

Grievances related to term-end exam relate to various stages and there exists a standard operating procedure to deal with the same. A brief detail of these grievances and the SOP related thereto is as follows:

- 1. After result declaration, COE notifies the dates to the students regarding submission of applications for revaluation through online mode via IMS.
- 2. The examinee raises online grievance maximum in any two courses by making online payment of Rs 500 per course.
- 3. After a candidate applies for the revaluation, the answer-book in which revaluation is sought, are masked and coded before dispatch for revaluation as per the provisions of ordinance.
- 4. The answer books are sent for revaluation by COE to two examiners (other than the one who initially valued it) at least one of whom shall be from outside the territorial jurisdiction of the University.
- 5. The revaluated answer books are collected, decoded and marks considered for result change as per the following criteria:





"If the marks awarded in the paper by any of the two examiners vary from the marks given by the original examiners by more than 10% of the maximum marks in the paper, the average of the marks awarded by two of the examiners, amongst the original examiner and two revaluers which are nearest to each other, will be taken to represent "correct valuation". This average of marks will be awarded to the candidate for the revision of his/her results. Provided that subject to the condition that at least one of the variations from the original marks is more than 10% of the maximum marks in the paper, if the difference in marks allotted by the first examiner and the original examiner is equal to the difference in marks allotted by the second examiner and the original examiner, that difference of marks shall be taken into account for arriving at the correct valuation which is to the best advantage of the candidate. Provided further that if the original marks obtained by the student are reduced on revaluation, it shall not be taken into accounts"

ii. Persuasion/Challenge

The candidate may challenge the evaluation/revaluation process by applying for persuasion/challenge and following steps are taken dealing with grievances:

- a. The COE notifies the dates to the students of applying for challenge
- b. The student applies for challenge in the courses (max two) in which he/ she had applied for revaluation by making a payment of **Rs. 2000** per course.
- c. COE puts the challenge related cases before Committee constituted by Director for arriving at a suitable resolution.
- d. The original valuer, respective HOD of the department re-evaluates the answer book before the committee and the student (who applied for challenge) and the grievance is settled

V. SOP to deal with the Unfair Means Cases related to term-end exam

Use of Unfair Means – If an examinee has been found using unfair means during the exam, appropriate action is taken and the extent of punishment is properly defined in the rules of the University.

- 1. The materials so collected from the examinee together with both the answer books, Viz., the answer-book collected while using unfair means and other supplied afterward will be sent to the Examiner by the Controller Examination for assessing both the answer book
- 2. separately and to report if the examinee has actually used unfair means in view of the material collected.
- 3. COE notifies the dates to students indulged in UFM cases for present before the UFM Committee constituted by the Director.
- 4. COE calls the meeting of UFM Committee and the cases of the use of unfair means at the exam as reported by the center superintendent along with the report of the examiner are examined by a Committee.
- 5. The Committee after examining the cases, recommends the action taken in each case and submit the recommendations to the Director





- 6. The recommendations approved by the Director are notified to the students.
- 7. The results of such students is prepared as per the approved recommendation and displayed to students on their IMS account.

VI. Criteria for Evaluation

(i) Theory Course Proficiency

As per the scheme of B. Tech Proficiency in Course is a part of end semester assessment and carries maximum marks 10. For evaluating this component, the following guidelines are to be followed.

- 1. Two activities are proposed to be conducted under this component, namely: (i) Course end seminar and (ii) One-minute paper writing (iii) Outcome based on development of product/research/paper publication aligned with the course
- 2. These activities are to be conducted at the end of the semester, may be during the last week of semester teaching.
- 3. Two/three days should be allocated for this component and must be notified to the students well in advance.
- 4. The distribution of marks for the above activities may be 5:3:2 for awarding the marks.

a) Guidelines for conduction of Course End Seminar

- i. Each student must be asked to prepare presentation not more 5 slides on his/her learning about the course. The slides must reflect the conclusive aspect of the course.
- ii. The presentation must be before the course faculty.
- iii. The faculty will map the course outcomes with presented contents for indirect CO assessment also.

b) Guidelines for the conduction of one-minute paper writing

- i) The students are required to write their basic understanding from the course. (What students have learnt from the course/will they be able to apply, if yes, where?)
- ii) This activity will be considered as a part of indirect assessment tool as well, for calculating course outcomes indirectly.
- c) Guidelines for the evaluation of 'development of product/research /paper publication aligned with the course
 - i. Development of Hardware/prototype/software product
 - ii. Development of an experiment
 - iii. Publication/presentation of a research paper in conference/Journal
 - iv. Course specific application towards community and society

(ii) Skill Based Mini Project

| Evaluation | Activity | Weighta | Remarks |
|---|--|---------|--|
| After Mid- Semester Examination-I | Mid-term Evaluation-I Oral evaluation based on brief presentation of synopsis/outline of project, identification of expected outcomes etc. | 10 | Evaluation (based on rubrics) through presentation, viva, etc. |





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| Before Mid- | Mid-term Evaluation-II | 10 | Evaluation (based on rubrics) |
|----------------|--|----|---------------------------------------|
| Semester | Compilation of final results/outcomes, final | | through presentation, of final |
| Examination-II | presentation & report as per format provided | | results/report/ outcomes & viva. etc. |
| | by the department | | viva, etc. |

(iii) Seminar

Current Topics are assigned to students beyond the syllabi based on courses being learnt during the semester. Presentations are made by the students on the assigned topic and are assessed based on following rubrics:

| Criteria | | | Scale | | | Mar |
|---|---|---|---|---|--|-----|
| and | 4 (90-100%) | 3 (80-90%) | 2 (60-70%) | 1 (50-40%) | 0 (<40%) | ks |
| Presentation skill (10) | clear and clear but not confidently made is neither clear nor organized but organized nor organized | | ➢ Communicate | Not presented on scheduled day Fails to communicate | | |
| Information delivered (10) | Maximum information is covered with latest updates | Latest information is missing | Some Information need to be added | Incomplete information | Irrelevant information | |
| Response to technical questions (10) | Answered all questions with justification | Answered all questions without proper justification | Answered 50% questions only | Answered less than 50% questions | Not answered any question | |
| Time management (05) | Adequate | Adequate but Missed some information | Adequate but missed many information | Inadequate due to improper organization | Inadequate with improper organization and missed information | |
| & Ethical values (05) | Follow professional ethics like anti- plagiarism, citing references, positive response to suggestions | Follow professional ethics like anti- plagiarism, citing references, partial response to suggestions | Follow professional ethics like anti- plagiarism, not citing references, careless response to suggestions | Insincerely following professional ethics like anti- plagiarism, citing references, negative response to suggestions | Absence of ethical values | |
| Report (10) | Submitted report in required format on the day of presentation | Submitted report with minor errors on the day of presentation | Submitted report with few major errors on the day of presentation | Submission of report within a week | Late submission (after a week) | |
| | | | | | Total marks | |

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(iv) Self-Study

The students take the course under Self Study as approved by the BOS of their respective department. These courses are from the list of MOOC courses offered during the semester. If the student qualifies the examination conducted by MOOC offering agency, then same marks will be awarded as scored.

On the other hand, a student is not able to qualify the examination/not registered for examination then; marks will be awarded based on the following criteria:

| Criteria | % Marks |
|-----------------------|--------------|
| Assignment submission | 40% |
| Mid Term Examination | 40% (MM: 20) |
| Attendance | 20% (MM: 05) |

(v)Novel Engaging Courses (NEC)

| Criteria | % Marks |
|-----------------|--------------|
| Course Specific | 50% (MM: 25) |
| Quiz/Assignment | 40% (MM: 20) |
| Attendance | 10% (MM:05) |





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(vi) Practical courses (Assessment and Evaluation through Rubrics)

| Criteria | Poor 0 pts Marks: <15 | Fair 2 pts Marks: 15-20 | Good 4 pts Marks: 20-25 | V Good 5 pts Marks: 25-28 | Excellent 6 pts Marks: 28-30 | Marks awarded |
|--|---|---|---|---|---|------------------|
| Following Procedure / direction (6 marks) | Lacks the appropriate knowledge of the lab procedures. Has no idea what to do. Often requires help from the teacher to complete basic procedures. | Demonstrates general knowledge of lab procedures. Has some idea of what to do. Asks questions to teacher that is answered in the procedure, more than once. | Demonstrates good knowledge of the lab procedures. Will ask peers for help with problems in lab procedures, before asking the teacher. Works to follow each step before moving on to the next step. | Demonstrates sound knowledge of lab procedures. Will discuss with peers to solve problems in procedures. Carefully follows each step and checks them off as they are completed. | Demonstrates superb knowledge of the lab procedures. Willingly helps other students to follow and understand procedures. Thoroughly and carefully follows and checks off each step before moving on to next step and encourages other group members to do the same. | |
| Lab Techniques / use of equipment/ instruments/ analytical skill (6 marks) | Measurements, skills or techniques are incomplete, inaccurate and/or imprecise. | Measurements, skills or techniques are somewhat inaccurate and very imprecise. | Measurements, skills or techniques are mostly accurate. | Measurements, skills or techniques are accurate with reasonable precision. | Measurements, skills or techniques are both accurate and precise and may show innovation. | |
| Safety/ethical aspects (6 marks) | Proper safety precautions are consistently missed; using equipment not for intended purpose. | Proper safety precautions are often missed, as listed at left; | Proper safety precautions are generally used, | Proper safety precautions are consistently used. | Proper safety precautions are consistently used. Thinks ahead to ensure safety and reminds other group members to do the same. | |
| Viva Voce (6 marks) | Not able to answer any question satisfactorily | ➤ able to answer 25% question satisfactorily | able to answer 50% question satisfactorily | ➤ able to answer 75% question satisfactorily | > able to answer all question satisfactorily | |
| Observations/ Result (6 marks) | Poor documentation Observations are incomplete or not included. No result obtained. | Documented but not presented up to mark Observations are incomplete or recorded in a confusing way. No result obtained. | Documented Observations are generally complete. Analysis of observation is not satisfactory. | Documented Observations are thorough. Analysis of observation is satisfactory but Result is not calculated correctly | Documented Observations are very thorough and may recognize possible errors in data collection. Result is correct | |

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Marks Outstanding Excellent Good Fair **Criteria of Evaluation** Awarded & Weightage **Type and Relevance** Able to apply skills in such a \triangleright Unable to identify \geq the Able to apply the skills Able to identify the skills of Project (10%) manner that it fulfils the skills relevant to the relevant to the objectives of relevant to the objectives objectives of project. objective of project. of project but not able to project but needs improvement in apply properly. application. \succ The objectives of the project ➤ Some lack of clarity in \checkmark Unable to find specific Objective and motivation of \triangleright **Problem Statement** are clearly stated. objectives/ purpose. the project are not clear or details (10%)The motivation for pursuing the \geq The motivation for pursuing \geq described. project and its relevance is the project is somewhat clearly stated clear. > Prior work is acknowledged \triangleright Little attempt is made to **Related work**/ With some minor > Some related work > by referring to sources for Literature Review exceptions, references are described, but unclear as to acknowledge the work of assumptions, exact with author, journal, others. Most references (10%)theories. how they relate to the quotations, and findings. volume number, project or the link to the that are included are page \triangleright References are exact with project is questionable number, and year. inaccurate or unclear journal, author. volume number, page number, and year ➤ Time frame ≻ Time frame ≻ Time \succ Time frame not properly **Project Management** frame properly properly properly specified, but not being (05%) specified and being specified, but not being specified and Infollowed and appropriate appropriate distribution followed Distribution of followed and uneven distribution of project work project work un-even distribution of project of project work work and no synchronization **Team Work & Time** > Adequate Adequate but missed some > Inadequate due to improper \triangleright Inadequate with improper \geq organization and missed management (05%) information organization information V Follow professional ethics Ethical values (20%) Follow professional ethics like Follow professional ethics > following Insincerely plagiarism, like anti-plagiarism, citing like anti-plagiarism, not anticiting professional ethics like references, positive response to references, partial response citing references, careless anti- plagiarism, citing to suggestions response to suggestions suggestions references, \geq negative response to suggestions

(iii) Rubrics for Dissertation work/ Major Project/Minor Project

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| Report (20%) | A | Submitted report in required format on the day of presentation | · · | Submitted report with minor errors on the day of presentation | Submitted report with few major errors on the day of presentation | | Submission of report within a week | |
|-----------------------------|---|--|-----|---|--|---|--|--|
| Presentation (20%) | A | Contents of presentations are appropriate and well arranged | A | Contents of presentations are appropriate but not well arranged | Contents of presentations are not appropriate but well presented | A | Contents of presentations are not appropriate and not well delivered | |
| Overall Rating/ Comments | | | | | | | | |

(iv) Guidelines for the evaluation of Professional Development Course

| Categories | Performance Indicators | Marks Assigned |
|--|---|---|
| Institute Level* (C1) | Participation in Institute level technical events such as quizzes, extemporary, debate, student volunteers, seminar, industrial visits, local chapters (IET, IEEE, ISTE, IETE) etc. | 02 Marks for each participation (maximum 08) |
| State Level* (C2) | Participation in State level technical events, such as Robotics, Coding challenge, societal/social welfare activities, Cultural cum technical fest, technical symposium, volunteers, hackathon, sports etc. | 03 marks for each participation (Maximum 09) |
| National level* (C3) | Participation in National level events such as hands on workshop, national level seminar, national conference, Entrepreneurship, model making, techno culture fest, national youth festival, research conclave, project competition, volunteers, sports festival, <i>Qualified GATE/CAT/ IIT-JAM/NET/SET/JRF/GATE/GMAT/CAT/ GRE/ and any other national level examination/</i> etc. | 05 marks for each participation (Maximum 10) |
| Participation in Department Level committees (C4) | OBE coordinators, Members of Board of Studies, departmental placement committee, departmental alumni cell, Class representatives, any other relevant department committee (<i>Certificate will be issued from HoD/departmental coordinator</i>) | 05 marks for participation (Maximum 05) |
| Participation in Institute Level committees (C5) | Institutional Placement cell as volunteers, Gender champions, Members of anti-ragging committees, Hostel mess committees, Office bearers in innovation and start-up cells, Club working committees, Student Mentors, Members of IQAC, any other relevant institute level committee (<i>Certificate will be issued from respective coordinator</i>) | 06 marks for participation (Maximum 06) |
| MOOC's** (C6) | Successfully completed technical certification course in any MOOC's platform such as (<i>NPTEL/SWAYAM/EdX/Coursera/Class Central etc.</i>) | 06 marks for each course (Maximum 12) |

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4. Standard Operating Procedure for for Result Preparation & Declaration

- i. The scheme of Exam is fed in ECS server and sent to Department for the verification before the preparation of the result.
- ii. Any change if suggested by the department is incorporated in the scheme and processing of result preparation is initiated as follows:
- iii. COE collects the information of feeding of marks of various courses offered during the semester for regular as well as Ex-students.
- iv. COE allotted the name of the faculty on IMS for feeding the marks as per the recommendation sent by the HODs.
- v. Faculty members feed the marks of continuous assessments and end term practical examination through IMS server and also submit the hard copy of the same duly forwarded by the HODs.
- vi. Marks are taken for the consideration of result preparation only after receiving the certificate from HOD that all marks are correctly fed on IMS.
- vii. The process of result preparation is made after compiling the marks of end term valuation of PP and AO mode examination from service provider for valuation and after matching decoded answer books.
- viii. The marks of End semester examination conducted through MCQ mode are collected from the service provider through which examinations were conducted.
- ix. The result is finally processed and prepared with the technical support of the CRISP, a service provider for ECS.
- x. The Tabulation Report (TR) is generated and checked by the Exam officials and put up before the Result Declaration Committee for their approval.
- xi. The approved Result is sent for the declaration to the University for Declaration.
- xii. After formal declaration of result by the university, the result is posted to the students' IMS account for their reference.
- xiii. Mark sheets are printed through ECS server and checked before final approval.
- xiv. Signed mark sheets are dispatched to the department for disbursement.

I. Criteria for Result Preparation

A. End Term Valuation of Theory Courses

The scheme of exam for UG programs include following components for the courses. For B. tech and B. Arch programs the minimum pass marks for End Term valuation is 31% and 40% respectively including End Semester Examination and Proficiency in course both.

B. MOOC Courses

a. Direct Credit Transfer

(i) For the courses opted under MOOC, the equivalent credit weightage are given to the students, for the credits earned in online exam on SWAYAM/NPTEL platform and other similar platforms as approved by the authorized bodies (BoS, AC etc.), in the credit plan of the program.





 (ii) Policy for credit equivalence and transfer for the courses opted from SWAYAM/NPTEL/University of Central Florida (UCF)/RGPV Bhopal/Institutional (MITS) MOOC/other MOOC (Massive Open Online Courses) platforms, is as follows:

| Duration of MOOCs | Credit Transfer | | |
|-------------------|-----------------|--|--|
| 04 Week Course | 01* | | |
| 06 Week Course | 02** | | |
| 08 Week Course | 03** | | |
| 12 Week Course | 04** | | |

* The 01 credit courses can be opted only under seminar/self-study/professional development purposes.

** The 02, 03 & 04 credit courses can be opted under DEs/OCs and for additional courses for Honors/Minor Specialization.

(iii) Criteria to qualify the SWAYAM-NPTEL Examination as per NPTEL guidelines

| | Average | Weightage of | Final |
|---------------|---------------------------------------|--------------------------|--------------|
| Criteria | Weightage of | Weightage of examination | |
| | Assignment Score score | | |
| | 25% of the average | 75% of proctored | |
| | of best assignments examination score | | |
| | out of 100 | out of 100 | |
| Maximum Marks | 25 | 75 | 100 |
| Minimum marks | 10 | 30 | 40 (55 marks |
| | | | for Ph D |
| | | | program) |

Note: As per guidelines if student scored (<40) is declared failed in exam.

b. Institute Level MOOC Exam

The normalization of the marks is carried out for the exam conducted at Institute level for the courses offered through MOOC platform, for the students who failed in NPTEL exam as per the following criteria:

Normalization factor(α) = $\frac{Average \ marks \ in \ the \ subject \ under \ consideration \ in \ NPTEL \ examination \ for \ pass \ students \ only}{Average \ marks \ in \ the \ subject \ under \ consideration \ for \ the \ exam \ conducted \ at \ institute \ level}$

Modified marks awarded for institute level exam = (marks obtained by a student at the institute level exam) * α

C. Natural Sciences & Skills

Some courses (3000001- Engineering Physics, 3000002–Engineering Chemistry, 3000003– Environmental Engineering and 3000004 – Language) are offered in various programs form I-IV semester under **Natural Sciences and Skills** Category.





In view of the above, following guidelines are followed for result preparation of such course offered under **Natural Sciences and Skills**

- i. Only grade is assigned in the result (from I-IV Semester) of these courses and such courses will not be considered for SGPA or CGPA calculation from I to IV semester.
- ii. In addition to above, a cumulative grade will be also assigned in VI semester result considering marks of all courses mentioned in this category (Natural Sciences and Skills) with 0.5 Credit weightage each. However, cumulative grade will not be assigned to the students if they have not scored passing grade in these courses offered during I-IV semester, rather 'Fail in W/X/Y/Z Course' will be mentioned.
- iii. The results of these courses will not be taken into consideration for semester/year promotion

D. Result of Honors and Minor Specialization

The procedure for preparation of Honors or Minor Specialization result is as follows:

- i. Scheme of Honors and Minor Specialization is fed in the ECS server along with the regular VIII semester scheme.
- ii. COE notifies the B. Tech VIII semester students regarding opting for Minor specialization or Honors courses before registering for VIII semester Examination. (The students who opts for Honors and Minor Specialization must have earned 20 additional credits by qualifying the courses approved by the BOS of the respective offered through MOOC platform).
- iii. The marks of such candidates are collected from the department and considered for result preparation.
- iv. An additional TR and marksheet is generated for the students have qualified the criteria for award of degree with Honors and Minor Specialization.





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5. Annexure-I (Guidelines for Setting Questions Papers Conducted Through Different Mode)

A. PEN & PAPER MODE EXAMINATION

a) Total Questions to be answered by candidate shall be only five (one from each unit) out of which a, b, c parts are compulsory and d and e part will have an internal choice for Maximum Marks 70, where as a and b are compulsory and c and d will have internal choice for Maximum Marks 50 (applicable from 2020 admitted batch).

| Unit | Question No. Max. Marks: 70 | | Max Marks: 50 | |
|------------|------------------------------|---------------|---------------|--|
| Unit – I | t – I Question 1 (a) 2 Marks | | 2 Marks | |
| | Question 1 (b) | 2 Marks | 2 Marks | |
| | Question 1 (c) | 3 Marks | 6 Marks OR | |
| | Question 1 (d) 7 Marks | | 6 Marks | |
| | OR | OR | | |
| | Question 1 (e) | 7 Marks | NA | |
| Unit – II | Same as above | Same as above | Same as above | |
| Unit – III | Same as above | Same as above | Same as above | |
| Unit – IV | Same as above | Same as above | Same as above | |
| Unit - V | Same as above | Same as above | Same as above | |

b) The format of question paper is as follows:

c) The maximum marks and minimum passing marks are given below :

| Course | Maximum Marks | Minimum Pass Marks |
|-------------------------|---------------|--------------------|
| B.Tech. | 70/60 | 22/19 |
| B.Arch. | 100/50 | 40/20 |
| M.E./M.Tech/MUP/MCA/MBA | 70/60 | 28/24 |

- d) The question Paper should be well balanced and if possible, the paper should contain approximately 30% theory questions and remaining related to Analytical/Numerical etc.
- e) Course outcome(s) and Bloom's level should be mentioned for each question in the question paper. Care should be taken that all Course outcome(s) are covered.
- f) The weightage to difficulty level of questions may be as per the following guidelines:

| S. No. | S. No. Estimated difficulty level of question | |
|--------|---|------|
| 1 | Easy (Knowledge/Remembrance | 30% |
| 2 | Average (Understanding/Applying) | 50% |
| 3 | Difficult (Applying/Analyzing/Evaluating) | 20% |
| | Total | 100% |





B. ASSIGNMENT + ORAL (AO) MODE EXAMINATION

These guidelines are to be followed by the faculty members / panel of faculty members conducting end semester theory exam in Assignment + Oral (A+O) mode

- a) The examination of the 'Assignment Question Paper' is conducted for 02 Hrs. duration or as recommended by BOS.
- b) The Assignment Question Paper will be distributed by the exam section and the solution will be submitted by the students to the concerned faculty members/ panel of faculty members going to conduct the Oral examination.
- c) The Mark distribution will be as follows:

| Max Marks | Weightage of Assignment Marks | Weightage of Oral Marks |
|---|----------------------------------|----------------------------|
| 60 for B. Tech I year (2020 admitted batch) | 40 | 20 |
| 50 (for B. Tech I year 2021 admitted batch and B. Tech II year and onwards for 2020 admitted batch) | 35 | 15 |

- d) The Assignment Question Paper will have Four (04) Questions. Out of the four questions, it is required to solve two (02) questions.
- e) The assignment part will cover the entire syllabus of the course and it must be framed on the basis of learning-teaching (discussion/exercises/workshop/hands on Lab sessions, etc.) activity conducted for the complete semester.
- f) There will be no theoretical / descriptive type questions in the Assignment Question Paper.
- g) The nature of questions should be to judge creative ability and innovativeness. Therefore, open ended problems need to be designed which can have multiple solutions / solution approaches. Moreover, the problems leading to small code segments/functions for newly created scenarios /context can also be given.
- h) Course outcome(s) and Bloom's level should be mentioned for each question in the question paper. Care should be taken that all Course outcome(s) are covered.
- i) The assignment paper is to be prepared on the basis of Bloom's cognitive levels/ learning levels, which at least reflects the ability of applying, analyzing and evaluating, as detailed below:

| Apply | | | |
|--|---|--|--|
| Skill demonstrated | Verbs | | |
| Use information Use Concepts, methods, laws, theories in new situations Solve problems using required skills or knowledge Demonstrate correct usage of a method, concept or procedure | Calculate, Predict, Apply, Solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify | | |





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| Analyze | | | | |
|--|---|--|--|--|
| Skill demonstrated | Verbs | | | |
| Break down a complex problem into parts Identify the relationships and interaction between the different parts of complex problem | Classify, Outline, Break down, categorize, analyze, infer | | | |

| Evaluate | | | |
|--|--|--|--|
| Skill demonstrated | Verbs | | |
| Use of definite criteria for judgment Verify value of evidence Assess value of theories, concepts Make choices based on reasoned argument Compare and discriminate between ideas Recognize subjectivity | Assess, decide, choose, rank, grade, test, measure, defend, recommend, judge, conclude, justify, compare, evaluate | | |

- j) The oral part (weightage 20/15 marks) will be evaluated by a panel of examiners. The oral exam will be based on the submitted answer sheet of the students and hence it will be conducted individually for each student and not in a batch.
- k) The viva voce/oral must have the primary focus on assessing the knowledge / skill set used towards the solution approach of the given problem (i.e. to check / judge the ability of the student).

C. MCQ BASED EXAMINATION

- a) Exam for this subject will be Multiple Choice Question (MCQ) based and is conducted through Institute MOODLE/ Outsourced Service Provider. <u>The Date and Time is Set as per the end Sem time table.</u>
- b) The number of questions set will be double the number of questions made available for attempt in each section.
- c) The distribution of marks for MCQ based examination is as follows:

| Sections | Bloom's Knowledge Level | End Sem Max marks | No. of questions | Weightage of Marks | Total Weightage of Marks |
|-----------|-------------------------------|---------------------|---------------------|-----------------------|--------------------------------|
| Section A | L1 & L2 | 75 (MOOC Courses) | 50 | 01 | 50 |
| Section B | L3 | | 10 | 1.5 | 15 |
| Section C | L4 and onwards | | 05 | 02 | 10 |
| Section A | L1 & L2 | 50/60 (Conventional | 25 | 01 | 25 |
| Section B | L3 | Mode Courses) | 10 | 1.5 | 15 |
| Section C | L4 and onwards | | 05 | 02 | 10 |