

# **Examinations Manual**

**SR20 Regulations**

**(2021-2022)**



*Giving Wings to Thoughts*

**St. Peter's Engineering College (Autonomous)**

**(Approved by UGC, AICTE and Affiliated to JNTUH, Hyderabad)**

**Dhulapally, Hyderabad – 500 100**

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## **INSTITUTION VISION & MISSION**

### **Institute Vision**

To be a renowned educational institution that moulds students into skilled professionals fostering technological development, research and entrepreneurship meeting societal needs.

### **Institute Mission**

IM1: Making students knowledgeable in the field of core and applied areas of Engineering to innovate technological solutions to the problems in the society. .

IM2: Training the students to impart the skills in cutting edge technologies, with the help of relevant stake holders.

IM3: Fostering conducive ambience that inculcates research attitude, identifying promising fields for entrepreneurship with ethical, moral, and social responsibilities.

## **INTRODUCTION**

St.Peter's Engineering College, established in the year 2007 at Hyderabad (Telangana), is an AICTE approved "BMQR" ISO 9001 CERTIFIED Engineering Institute, affiliated to Jawaharlal Nehru Technological University, Hyderabad (JNTUH). We are affiliated with Undergraduate courses in Computer Science & Engineering, Electronics and Communication Engineering, Electrical & Electronics Engineering, Mechanical Engineering and Civil Engineering, Information Technology, CSE ( AI& ML), Computer Science and Design(CSD), Artificial Intelligence and Data Sciences (AI&DS) and Post Graduate courses in Electrical and Electronics Engineering, Computer Science & Engineering and have a track record of outstanding performances of its pass-outs in different spheres. The Examination Cell of SPEC is a confidential section with the responsibility of conduction of examinations Internal Examination, Internal Evaluation and display of results, maintenance of student records for all courses offering by SPEC.

## **OBJECTIVE OF THE CELL**

The exam cell coordinates with JNTUH regarding all matters related to the University examinations. The COE also coordinates along with the Principal regarding all the proceedings of the Exam cell. Any information either received or required to be sent to the University is being dealt within the cell. Any circular, guidelines, office order, notifications received by the college is processed in the cell; reply thereof prepared and after Principal's signature dispatched to the University.

## EXAMINATION COMMITTEE

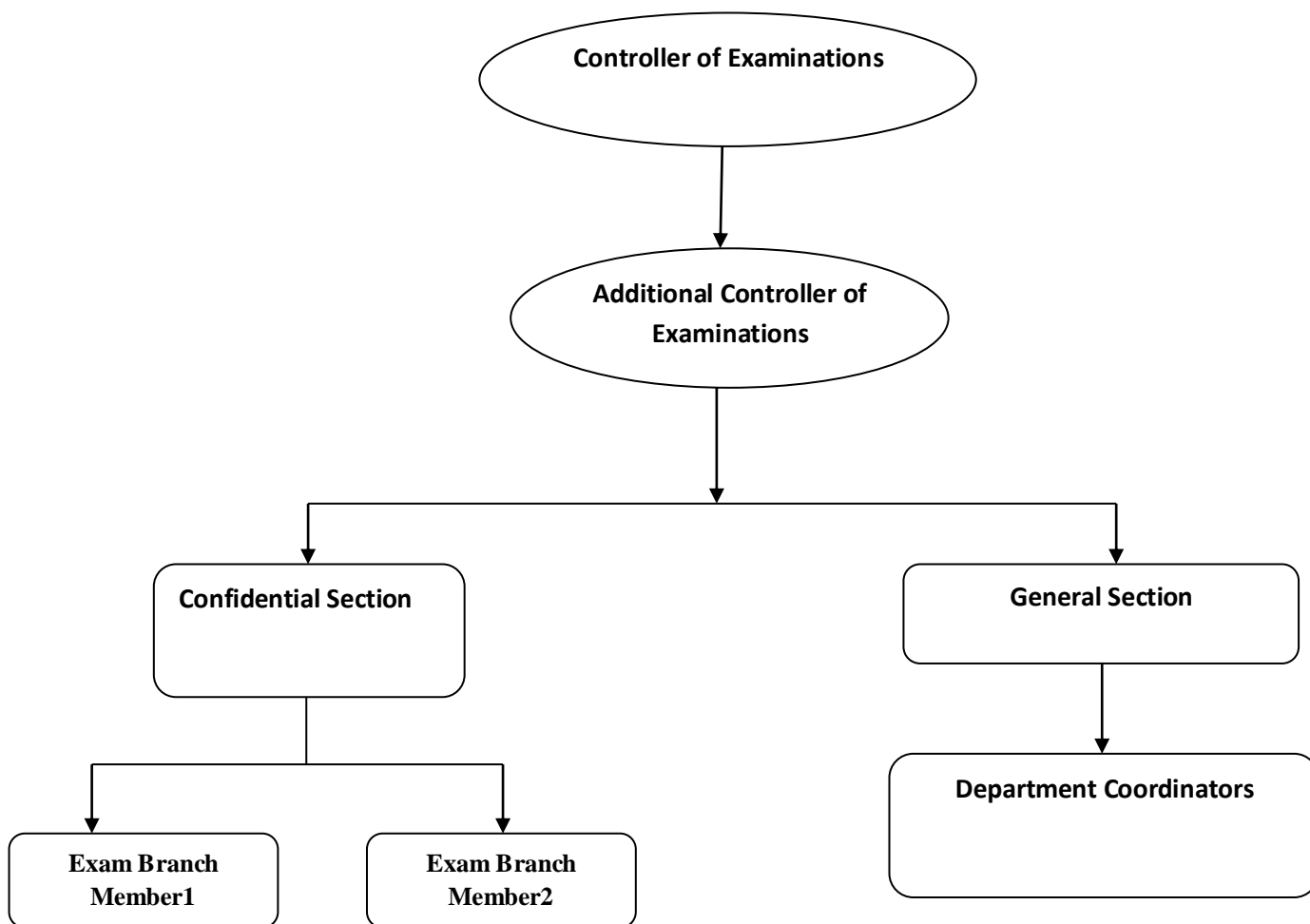
The examination committee shall consist of the Controller of Examinations, Additional Controller of Examinations, and other faculty nominated by the Principal.

S.No	Name of the staff	Designation	Department	Position Held
1.	Dr.C.Venkata Siva Rama Prasad	Associate Professor	CIVIL	Controller of Examinations
2.	Mr.Ravi Chandra	Asst. Professor	ECE	Additional Controller of Examinations - 1
3.	Mr. Harith Reddy	Asst. Professor	CSE	Coordinator
4.	Mr. Satya Nagendra	Asst. Professor	CSE	Coordinator
5.	Mr. S. Veeraiah	Asst. Professor	CSE	Member
6.	Mr. Kailash Krishna	Asst. Professor	EEE	Member
7.	Mr. Muni Krishna	Asst. Professor	CE	Member
8.	Mr.Yesuratnam	Asst. Professor	MECH	Member
9.	Mr. I.Obulesu	Asst. Professor	ECE	Member
10.	Mr.Siva Prasad	Asst. Professor	CSE	Member
11.	Mr. Vinayak	Asst. Professor	IT	Member
12.	Mr. Venkat Reddy	Asst. Professor	H&S	Member

### **The following are the functions of the examination committee**

- a. To formulate the policies of the examination and evaluation
- b. To act as an advisory body of the matters relating to the conduct of examinations.

## ORGANIZATIONAL STRUCTURE



## ACTIVITIES OF THE CELL

<b>S.No</b>	<b>Functionalities</b>	<b>PO Mapped</b>
1	Examination Cell shares exam related information to all stakeholders.	PO10
2	Examination cell prepares Circulars for students regarding Exam Fee Collection, the last date of fee Collection, modalities of payments of fine etc.	PO10,PO11
3	Examination Cell takes all precautions while preparing Examination Time table, Invigilation duty chart, seating plans for the students in the Examination halls, smooth conduct of Examinations etc.	PO2,PO9,PO8
4	Examination Cell mobilizes the proper staff during the Examination time, and assigning them duty as per the duty chart already prepared	PO2,PO10,PO8
5	Examination cell takes necessary steps for distribution of Answer sheets to the concerned teachers after completion of the exam and receiving the answer sheets, award list, and preparing in the desired format to send them to University.	PO6,PO8,PO10
6	Examination Cell staff collects Marks Memos of various examinations from the University and they distribute them to the corresponding students.	PO8,PO10
7	Examination cell analyzes all examination results and in consultation with the Principal, prepares the report thereof for submission to appropriate authorities for follow up action.	PO2,PO10,PO5
8	Examination Cell keeps all records pertaining to examinations.	PO12
9	Examination Cell staff addresses grievances of administration, faculty, staff and students on all examination related issues.	PO8,PO6,PO10

## **INFRASTRUCTURE**

<b>S.No</b>	<b>Item</b>	<b>Quantity</b>
1	Server	01
2	Barcode Readers	01
3	Xerox Machines	03
4	Printer	03
5	Systems	10
6	UPS	01
7	Surveillance Cameras	02
8	Scanners	02
9	CC Camera	03
10	Paper Cutter	01
11	Generator	01

## **EXAMINATION CALENDAR**

The examination cell, based on the JNTUH academic calendar, will prepare a time-table for events to be conducted like Internal Theory Examinations and Internal and External lab examinations, evaluation etc. Identification of subject experts is done in communication with respective HOD for Question paper setting and evaluation. The COE acts as a Chief Superintendent of examination. The notification shall also include the tentative dates of theory examinations, which shall be followed by issue of notification of Academic Calendar of JNTUH for Affiliated Colleges for theory examinations & tentative dates of Practical examinations. All the above mentioned contents of the Notification shall be prominently displayed for information of the candidates. If a holiday is declared after the announcement of the time table, the examination date shall not be postponed or cancelled.

### **TIMEFRAME**

<b>S.No</b>	<b>Item</b>	<b>Time frame</b>
1	Roll list	Prepared & circulated atleast one week before the commencement of the semester.
2	Syllabus to be covered as per the Internal Examination and any deviation from each and every individual faculty	It is mandatory to cover the syllabus atleast one week before the examinations.
3	Question paper pattern in OBE format including Bloom's Level of Learning and with CO mapping	To be circulated to the departments in the 2 <sup>nd</sup> week of semester
4	Individual faculty Paper setting with OBE	Before one week of the examination.
5	Selection of the Common Question paper by COE.	One day before the examination
6	Key and Scheme of Evaluation with OBE	The Next day after the examination.
7	Decoding after the evaluation of the scripts.	4 <sup>th</sup> Day after the Examination and next day of the completion of the evaluation.
9	Evaluated Answer scripts to be distributed to students	5 <sup>th</sup> Day of the completion of the Examination.
10	Lab examination - Slot Preparation and Time table to be	Before 10 days of the 1 <sup>st</sup> lab examination

	received from dept coordinators	
11	Question Paper setting for Lab Examinations	one week before the examinations.

## **ROLES AND RESPONSIBILITIES**

### **THE CHIEF SUPERINTENDENT**

The Head of the Institution (HOI) shall be the Chief Superintendent having thorough knowledge of examination system.

- a. The HOI is responsible for the planning, scheduling and conduct of all examinations.
- b. The HOI appoints the COE and ACEs for the smooth functioning of all examination activities.
- c. The HOI can visit and inspect the examination section at anytime.
- d. The HOI ensures enough manpower for the smooth conduct of examinations and convenes meetings for the publication of results.
- e. During the examinations Chief Superintendent ensures that
  - i. Only teaching staff are appointed as invigilators.
  - ii. Subject teachers should not be posted as invigilators in the examination halls where the students are writing / write the examination in that subject.
  - iii. Seating arrangement is to be made in such way that two or more different branches are to be accommodated in each room and ensure that there should not be the same subject / branch student in all sides (i.e., in front, backside, both left and right sides).
  - iv. COE verify all bar coded OMR pre-printed answer booklets are correct well before the commencement of Examinations. No blank answer booklet shall be issued to the students.
  - v. For any discrepancy found in OMR Answer Booklets/Hall Tickets/Name/Photo on Hall Tickets the HOI instructs the COE for rectification before commencement of the Examinations.
  - vi. Proper account of answer booklets is maintained by COE.
  - vii. The packing of answer booklets branch wise, subject wise in separate bundles along with D-Form is taken care by the COE in coordination with concerned ACE on day to day basis.
  - viii. A Team of HODs/Senior Professors/Squad makes a surprise visit to the examination Halls during the conduct of Examinations.

### **THE CONTROLLER OF EXAMINATIONS**



The Controller of Examinations is the officer-in-charge responsible in the process of pre-examination, during-examination and post-examination related work of all programs. He shall discharge his duties under the superintendence, direction and guidance of the Director / Principal. He is a well disciplined, committed, trustworthy individual who exercises his functions with due diligence. He motivates his staff members to discharge their respective academic / administrative duties effectively with his leadership qualities.

Duties and Responsibilities of Controller of Examinations (COE) are to:

#### **A) General**

1. Prepare rules and regulations relating to courses of study, syllabi and examinations for approval by the appropriate authority and also recommend for reforms, time to time.
2. Liaison with affiliating bodies at regular intervals and make necessary payments.
3. Prepare and adhere to academic calendar and also maintain bulletin board.
4. Plan and schedule the examination process.
5. Recommend on changes in schedules with due reason to the HOI.
6. Delegate and supervise the activities of the personnel working in the Examination branch.
7. Coordinate with HODs for smooth functioning of examination system.
8. Prepare Budget for maintenance of examination cell and support to audit.
9. Arrange for student certificate verification by TSCHE / JNTUH / Any other statutory body.
10. Maintain end to end automated secured student database and upload necessary data to affiliating bodies.
11. Maintain files and documentary evidences in prescribed format for various inspections.
12. Provide semester wise list of promoted, readmitted / re-registered and detained / discontinued students before commencement of semester.
13. Procure necessary confidential and non-confidential stationery.
14. Procure Question Banks, identify Examiners for Theory, Practical, Comprehensive viva-voce and Project evaluation courses.
15. Take disciplinary action against the candidates, paper- setters, examiners, moderators, or any other persons connected with examinations and were found guilty of malpractices.
16. Declare the results and issue relevant certificates.
17. Arrange graduation ceremony for successful graduates.
18. Provide information regarding genuineness of certificates for external verification.

19. Make necessary arrangements for conduct of various examinations of Government / Private Boards.
20. Perform any other tasks as assigned by the Director / Principal.

## **B) Pre-Examination**

1. Issue notification for online payment of prescribed Examination fees.
2. Provide access for online registration of Semester End Examination as per schedule.
3. Release schedule of examinations for theory and practical.
4. Procure bar-coded answer booklets and ensure accuracy of the student details.
5. Identify and correspond with competent question paper setters well in advance for SEE.
6. Procure four sets of question papers per subject based on blooms taxonomy from two different question paper setters.
7. Release the list of condonation and detention students and provide access for payment of condonation fee after ensuring the genuineness.
8. Generate Hall Tickets and provide access to concerned ACE for downloading.
9. Approve nominal rolls, seating plan and list of invigilators.
10. Appoint Moderators / Observers / Invigilators / Examiners / Evaluators / Scrutinizers for Theory / Practical / Project and provide necessary guidelines.

## **C) During –Examination**

1. On the day of practical examination, provide examination material, monitor the conduct of examination and ensure uploading of marks on the same day.
2. On the day of theory examination, pick one question paper from set of 2, per subject which is approved by principal.
3. Arrange for moderation, printing and bundling of the selected question paper for distribution as per seating plan.
4. Arrange for distribution of bundled Answer Booklets, Nominal Rolls and Seating Plan to respective invigilator(s).
5. Ensure timely distribution of Question Papers to the examination halls.
6. Ensure timely collection of absentees' statement along the nominal rolls, unused booklets, question papers and prepare the report (D-Form) for the same.
7. Ensure smooth conduct of examination as per the time schedule.

8. Arrange for distribution of necessary resources to the students, based on the requirement.
9. Arrange for meeting with malpractice prevention committee as and when any malpractice case is reported.
10. Arrange for collection and bundling of answer booklets soon after the completion of examination.

#### **D) Post-Examination**

1. Arrange for segregation, scanning, verification of answer booklets and generation of bundle key for digital evaluation.
2. Assign the bundles to appointed evaluators along with evaluation guidelines and ensure smooth conduct of evaluation process.
3. Arrange for scrutiny of evaluated bundles and generate the consolidated marks.
4. Consolidate internal and external marks obtained in theory / practical / seminars / project.
5. As member secretary, conduct meeting with result declaration committee, as per the committee's discretion apply moderation / normalization / grafting and publish the results.
6. Release notification for recounting / revaluation and complete the process within the stipulated time.
7. Arrange for the issue of Grade Cards / CMM / Provisional / other necessary certificates.
8. List out the academic toppers and gold medalists as per academic rules and regulations.
9. Release the consolidated remuneration bill(s) of all examinations, after approval.
10. Maintain all relevant files and documents with authenticity.

#### **THE ADDITIONAL CONTROLLER OF EXAMINATIONS**

Two Additional Controllers of Examinations assist the Controller of Examinations in the process of pre-examination, during-examination and post-examination related work of all programs.

**Additional Controller of Examinations – I (ACE – I)** is responsible for the conduct of pre-examination, during-examination and post-examination related work of first & second years of B.Tech. Programs. He shall discharge his duties under the superintendence, direction and guidance of the COE.

**Additional Controller of Examinations – II (ACE – II)** is responsible for the conduct of pre-examination, during-examination and post-examination related work of third & fourth years of B.Tech. and all M.Tech. Programs. He shall discharge his duties under the superintendence, direction and guidance of the COE.

Duties and Responsibilities of ACE – I and ACE – II are to:

**A) General**

1. Arrange for automation of student profile.
2. Ensure the course registration process of students before commencement of the semester.
3. Collect and file the class work time tables from the respective HOD's.
4. Collect and maintain the cumulative monthly attendance database department wise.
5. Propose budget(s) for procurement of confidential and non-confidential materials.
6. Co-ordinate with HODs regarding deputation of faculty for examination work.
7. Prepare and submit remuneration bills to COE for approval and payment.
8. Ensure generation of e-hall-tickets and provide access to students by uploading in website.
9. Prepare appointment / relieving orders to various examiners.
10. Perform any other tasks as assigned by the COE / Principal / Director.

**B) Pre-Examination**

***I) Continuous Internal Examinations (CIE):***

1. Prepare and display mid-term examination time tables for theory and practical as per academic calendar.
2. Collect the question banks for each theory subject based on blooms taxonomy from respective faculty within stipulated time.
3. Collect assignment marks before the commencement of mid-term examinations from respective departments.
4. Prepare nominal rolls, seating plan and list of invigilators.
5. Arrange the required stationery for theory and practical as per seating plan.

***II) Semester End Examinations (SEE):***

1. Prepare notification for online payment of prescribed Examination fees for approval of COE.
2. Ensure online registration of students for SEE as per schedule.
3. Provide the list of non-registered students for SEE to the respective HODs for necessary action.

4. Prepare the schedule of examinations for theory and practical.
5. Arrange bar-coded answer booklets and ensure accuracy of the student details.
6. Collect the two sets of question papers per subject from the identified paper setters well in advance for SEE.
7. Prepare the list of students who fall under condonation and detention category, forward the same to the concerned HODs through COE and monitor the online payment of condonation fee after ensuring the genuineness.
8. Arrange for distribution of Hall Tickets after receiving NOC in prescribed format.
9. Prepare nominal rolls, seating plan and list of invigilators.
10. Coordinate with the appointed Moderator / Observer / Examiners / Evaluators for Theory / Practical / Project.

### **C) During-Examination**

1. On the day of practical examination, issue examination material, monitor the smooth conduct of examinations and ensure uploading of marks on the same day.
2. On the day of theory examination, arrange for printing of required number of copies of selected question paper set, per subject.
3. Give necessary instructions to all the staff members involved in examination work
4. Allot invigilators to examination halls and issue bundled Answer Booklets, Nominal Rolls and Seating Plan to respective invigilator(s).
5. Arrange for timely distribution of Question Papers to the examination halls.
6. Arrange for timely collection of absentees' statement along with the nominal rolls, unused booklets, question papers and prepare the report (D-Form) for the same.
7. Ensure smooth conduct of examination as per the time schedule.
8. Arrange for distribution of necessary legitimate resources to the students based on the requirement.
9. Report case(s) of malpractice to COE, if any.
10. Ensure preparation of detailed scheme of evaluation for each subject.

### **D) Post-Examination**

1. Collect and bundle the answer booklets, subject wise and regulation wise.
2. Prepare action taken report for malpractice case(s) based on committee recommendations.
3. Arrange for segregation, scanning, verification of answer booklets and generation of bundle key for digital evaluation.

4. Grant bundle evaluation access to each appointed evaluator along with scheme of evaluation.
5. Monitor the scrutiny of evaluated bundles and generate the consolidated marks.
6. Consolidate internal and external marks obtained in theory / practical / seminars / project.
7. Generate pre-result and/or final result sheets and submit to COE.
8. Verify and print Grade Cards / CMM / Provisional / other necessary certificates with approval of COE after completion of recounting / revaluation process.
9. Prepare the list of the academic toppers and the gold medalists and submit to COE.
10. Maintain all relevant files and documents with authenticity.

## **THE SUPPORTING STAFF**

IT Support Staff, Office Assistants (Operations) and Office Assistant (Services) of Examination Cell assist each Additional Controller of Examinations in the process of pre-examination, during-examination and post-examination related work of all programs.

Duties and Responsibilities of IT support staff are:

### **A) Coordinators**

#### **i) General**

1. Provide access for upload and update of student profile.
2. Provide access to students for course registration before commencement of the semester.
3. Maintain the cumulative monthly attendance database department wise.
4. Generate list of promoted, readmitted / re-registered and detained / discontinued students before commencement of semester.
5. Co-ordinate with all supporting staff.
6. Process remuneration bills and submit to respective ACE.
7. Perform any other tasks as assigned by the ACE / COE / Principal / Director.

#### **ii) Pre-Examination**

1. Upload examination fee payment notification in web-portal.
2. Provide access to students for online payment of examination fees.
3. Upload examination time tables for theory and practical in web-portal.
4. Generate the list of condonation and detention students.
5. Generate list of students who paid examination fees after due date.
6. Generate answer booklets with barcode on each page along with OMR sheet for each registered student.
7. Generate hall-tickets, nominal rolls and seating plans.

8. Generate award lists for practical examinations.

### **iii) During-Examination**

1. Provide access to upload the practical examination marks on the same day only.
2. On the day of theory examination, download and print the master copy of moderated question papers.
3. Generate D-Forms.

### **iv) Post-Examination**

1. Provide access for scanning, verification of scanned answer booklets and generation of bundle key for digital evaluation.
2. Grant bundle evaluation access to appointed evaluators along with scheme of evaluation.
3. Update the progress of evaluation subject-wise and examiner wise to ACE / COE.
4. Provide access for scrutinizers after completion of evaluation process.
5. Consolidate internal and external marks obtained in all subjects after the scrutiny.
6. Generate pre-result sheets and submit to COE for approval.
7. Upload the results in web-portal after approval.
8. Provide access for registration of revaluation / challenge valuation to the students.
9. Provide access for processing of revaluation / challenge valuation.
10. Generate final result sheets after revaluation / challenge valuation.
11. Generate and grant permission for printing of Grade Cards / CMM / Provisional / other necessary certificates with approval of ACE / COE.
12. Prepare the list of the academic toppers and the gold medalists and submit to COE.
13. Maintain all relevant files and digital resources in secured environment.

## **B) Office Assistants (Operations):**

### **i) General**

1. Prepare and submit the correspondence letters to all affiliating bodies through proper channel.
2. Prepare examination related appointment and relieving orders for internal and external examiners, observers, scrutinizers, paper setters, evaluators, invigilators etc.
3. Upload and update the student profiles.
4. Collect department wise cumulative attendance on monthly basis and forward the same to IT support staff.

5. Provide the list of promoted, readmitted / re-registered and detained / discontinued students before commencement of the semester to the concerned HODs.
6. Circulate all notices related to examinations among the staff and the students.
7. Co-ordinate with all examinations staff.
8. Collect remuneration bills and submit the consolidated bills to respective ACE.
9. Perform any other task as assigned by the ACE / COE / Principal / Director.

#### **ii) Pre-Examination**

1. Prepare examination fee notification and time-tables for circulation among staff and students.
2. Prepare the list of students who paid examination fees after due date.
3. Print and display the list of condoned and detained students.
4. Issue answer booklets, nominal rolls, question paper and award list for all practical examinations.
5. Print hall-tickets, nominal rolls, seating plans and bar-coded answer booklets.
6. Issue hall tickets to the students.
7. Display seating plan at conspicuous places.
8. Arrange nominal rolls and answer booklets as per seating plan.
9. Prepare the list of invigilators as per the number of examination halls.

#### **iii) During-Examination**

1. Issue seating plan, nominal rolls, answer booklets and statement of unused booklets to each invigilator half an hour before the commencement of examination.
2. Collect unused answer booklets, unused question papers, absentees' statement and nominal rolls after half an hour from the commencement of examination.
3. Prepare D-Forms and malpractice cases, if any.

#### **iv) Post-Examination**

1. Print consolidated internal marks list and submit to HODs for verification.
2. Upload marks of Practical examinations on the same day of examination.
3. Collect answer booklets as per D-Form, bundle them subject wise and regulation wise.
4. Scan, verify each answer booklet and store them in server for digital evaluation.
5. Bundle the hard-copies of all answer booklets and keep in the safe custody.
6. Co-ordinate and assist the evaluator(s) and the scrutinizer(s).
7. Print external marks obtained in all subjects after the scrutiny for verification.
8. Print pre-result sheets and submit to COE for approval.



9. Display consolidated student result sheets in letter grades on notice board after approval.
10. Prepare notification for recounting / revaluation and display after approval.
11. Print final result sheet after the completion of recounting / revaluation process.
12. Print memorandum of Grades / CGM / Provisional / other necessary certificates in the presence of ACE / COE.
13. Print the list of the academic toppers and the gold medalists and submit to COE.
14. Maintain all relevant files and digital resources in secure environment.

### **C) Office Assistants (Services):**

1. Maintain all students' individual files / records / certificates submitted at the time of admission in safe custody.
2. Issue and receive certificates related to students after getting approval.
3. Provide needful information to the students.
4. Issue duplicate Hall Tickets based on genuine request by student.
5. Issue Bonafide certificate, Bus Pass, Custodian certificate, Course Completion Certificate and Medium of Instruction Certificate.
6. Issue Memorandum of Grades, Consolidated Grade Memo, Provisional Certificate and Transfer Certificate after receiving no dues certificate.
7. Perform any other task as assigned by the ACE / COE / Principal / Director.

### **Department Coordinators**

Department Coordinator from each department shall give instructions to their Staff members regarding the following activities

- Preparation of the question papers
- Fortnight attendance
- Marks submission
- Marks uploading in University and College Portal.

### **Code of Conduct**

#### **Guidelines for Students during Examination**

1. Check the Answer Book thoroughly before filling in the details. The defective answer book may be returned to the invigilator.
2. Please check the details of yours particulars in the OMR Sheet. ie. Name, Hall Ticket No., Examination and Papers etc.
3. Ensure that the OMR Barcode Sheet is properly secured to the Answer Booklet given.

4. You are prohibited from writing on or tampering the Barcode as they may affect marks allotted to you.
5. Candidates are prohibited from:
  - a. Writing their H.T.Nos in any part of the answer booklet.
  - b. Writing their names in any part of the answer booklet.
  - c. Addressing the examiner in any manner whatsoever in the answer booklet. If they do so, their answers will not be valued.
  - d. Writing religious symbols.
  - e. Bringing Electronic Gadgets.
6. Before beginning to answer any question, the candidates should write the correct number of that question. They should complete the answer for any question and commence writing answer for the succeeding question. Answer written at different places for the same question will not be valued.
7. Answers should be written on both sides of the paper.
8. Do not write in the margin.
9. No loose sheets of paper will be allowed in the examination room; no paper must be detached from or attached to the answer booklets.
10. Answer must be legibly written.
11. This answer booklet should be returned to the Invigilator before leaving the examination hall.
12. Students should stay in the Examination Hall at least for half-an-hour from the commencement of the Examination.
13. No Additional Answer Booklet Will Be Supplied.

### **Attendance Guidelines**

1. A student shall be eligible to appear for the semester end examinations, if student acquires a minimum of 75% of attendance in aggregate of all the subjects/ courses (excluding attendance in mandatory courses Environmental Science, Professional Ethics, Gender Sensitization Lab, NCC/NSO and NSS) for that semester.
2. Shortage of attendance in aggregate up to 10% (65% and above, and below 75%) in each semester may be condoned by the college academic committee on genuine and valid grounds, based on the student's representation with supporting evidence.
3. A stipulated fee shall be payable towards condoning of shortage of attendance.
4. Shortage of attendance below 65% in aggregate shall in **no** case be condoned.
5. **Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examinations of that semester. They get detained and their registration**

**for that semester shall stand cancelled. They will not be promoted to the next semester.**

They may seek re-registration for all those subjects registered in that semester in which student was detained, by seeking re-admission into that semester as and when offered; in case if there are any professional electives and/ or open electives, the same may also be re-registered if offered. However, if those electives are not offered in later semesters, then alternate electives may be chosen from the **same** set of elective subjects offered under that category.

6. A student fulfilling the attendance requirement in the present semester shall not be eligible for readmission into the same class.

### **Invigilator Guidelines**

1. Report at Exam Branch at least 30 minutes before the time of commencement of Examination. (i.e. 9.30 am for forenoon Exam & 1.30 pm for afternoon Exam). Collect the seating arrangement, examination stationary and be present at the respective hall to which you are allotted atleast 20 minutes prior to the commencement of examination.
2. The candidates should be present in the examination halls before the commencement of examination i.e. before 10.00 AM for forenoon session, no candidate should be allowed after the commencement of the Examination the invigilators should ensure that they would not carry any material except Hall Ticket into the halls.
3. Fill up the entries at the bottom of the nominal roll and affix your signature.
4. Please ensure to collect the answer book from the candidates before they leave the examination hall.
5. At end of examination collect the answer scripts from the candidates and arrange them as per the increasing order of Hall Ticket numbers and handover top the officer-in-charge of examinations.

### **MALPRACTICE RULES**

Candidates are prohibited from writing their names and register number, in any place other than indicated. Invocation to Gods or any other marks of identification shall not be written anywhere in the answer book. Candidates shall not bring into the examination hall any book, portion of book, manuscript or paper of any description. They shall not copy or communicate with anyone inside or outside the hall or exchange answer books. Candidates shall not be in possession of cell phones, programmable calculators, pen scanners, blue tooth equipment or any other equipment which may be used for any kind of malpractice. Candidates violating these instructions shall be subjected to physical check and verification by authorized persons. If found to be indulging

in malpractice the candidate shall be booked for malpractice and sent out of the examination hall immediately. The answer book shall be seized, marked as “malpractice case” and signed by the COE and the candidate is booked and sent separately to the COE office.

## **REGISTRATION OF THE STUDENTS**

The semester attendance has to be finalized by the HOD concerned before one week of the course of the semester as per the academic regulations.

a. The student, who falls short of prescribed percentage of attendance (65% and above below 75%) on medical grounds, has to apply to the Head of the department concerned for condonation along with medical certificate and the prescribed fee. On the recommendation of the Head of the department, the Principal will forward the condonation of the attendance and such list to be sent

two weeks in advance before the issue of Hall Tickets. Students whose shortage of attendance is not condoned in any semester are not eligible to take their end examination of that class and their registration shall be cancelled.

b. Shortage of attendance below 65% in aggregate shall in no case be condoned. The list of the Detained candidates duly signed by the Principal shall be displayed on the notice board by the departments and a copy of the same to be sent to the examination cell before two weeks of the course of the semester.

c. The notification, calling for applications for registration to comprehensive examination at the end of the semester, is issued at least two weeks before the commencement of examinations. A clear one week time is to be given for payment of fees and submission of application. Another five days time is to be given for payment of fees with fine. The notification should be also displayed on college website.

d. Students appearing for comprehensive examination will have to register their names for the examination in the prescribed application form by paying the prescribed fee. The application forms are to be kept available in the examination cell.

e. The SPEC (Student registration) dealing with the examination application shall verify the candidate's name, parent's name, class, section, semester, subject(s), subject code(s) for which registration is sought and the amount of fees paid.

f. List of students, along with courses registered for the examination, have to be prepared. A copy of the list of students is to be sent to Chief Superintendent of the examinations, JNTUH, at least three days before the commencement of examinations for making appropriate arrangements through Controller of Examinations.

g. Hall tickets are to be prepared in duplicate by the Exam Cell Assistants. In case any student loses his/her original hall-ticket, a copy of hall-ticket will be issued such hall tickets will be stamped as “Duplicate”.

h. The original hall tickets are to be sent to the departments at least two days before the commencements of examinations. Departments will arrange to issue the students at least one day before the examinations.

## PROMOTION RULES

### B.Tech ASR20 Regular Students Promotion Conditions

S. No.	Promotion	Conditions to be fulfilled
1	First year first semester to first year second semester	Regular course of study of first year first semester with 75% of Attendance
2	First year second semester to second year first semester	(i) Regular course of study of first year second semester with 75% of Attendance  (ii) Must have secured at least 19 credits out of 38 credits i.e., 50% credits up to first year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
3.	Second year first semester to second year second semester	Regular course of study of second year first semester with 75% of Attendance
4	Second year second semester to third year first semester	(i) Regular course of study of second year second semester with 75% of Attendance  (ii) Must have secured at least 47 credits out of 79 credits i.e., 60% credits up to second year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
5	Third year first semester to third year second semester	Regular course of study of third year first semester with 75% of Attendance
6	Third year second semester to fourth year first semester	(i) Regular course of study of third year second semester with 75% of Attendance

		(ii) Must have secured at least 72 credits out of 120 credits i.e., 60% credits up to third year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
7	Fourth year first semester to fourth year second semester	Regular course of study of fourth year first semester with 75% of Attendance

### **B.Tech ASR20 Lateral Entry Scheme Students Promotion Conditions**

S. No.	Promotion	Conditions to be fulfilled
1	Second year first semester to second year second semester	Regular course of study of second year first semester with 75% of Attendance
2.	Second year second semester to third year first semester	(i) Regular course of study of second year second semester with 75% of Attendance  (ii) Must have secured at least 25 credits out of 41 credits i.e., 60% credits up to second year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
3	Third year first semester to third year second semester	Regular course of study of third year first semester with 75% of Attendance
4	Third year second semester to fourth year first semester	(i) Regular course of study of third year second semester with 75% of Attendance  (ii) Must have secured at least 49 credits out of 82 credits i.e., 60% credits up to third year second semester from all the relevant regular and supplementary examinations, whether the student takes those examinations or not.
5	Fourth year first semester to fourth year second semester	Regular course of study of fourth year first semester with 75% of Attendance

A student

- (i) shall register for all courses/subjects covering 160 credits as specified and listed in the course structure,
- (ii) fulfills all the attendance and academic requirements for 160 credits,
- (iii) earn all 160 credits by securing SGPA  $\geq$  5.0 (in each semester), and CGPA (at the end of each successive semester)  $\geq$  5.0,
- (iv) **passes all the mandatory courses**, to successfully complete the under graduate programme.

The performance of the student in these 160 credits shall be taken into account for the calculation of 'the final CGPA (**at the end of under graduate programme**), and shall be indicated in the grade card of IV year II semester.

A student eligible to appear in the semester end examination for any subject/ course, but absent from it or failed (thereby failing to secure 'C' grade or above) may reappear for that subject/ course in the supplementary examination as and when conducted. In such cases, internal marks (CIE) assessed earlier for that subject/ course will be carried over, and added to the marks to be obtained in the SEE supplementary examination for evaluating performance in that subject.

A student **detained in a semester due to shortage of attendance may be re- admitted in the Same semester in the next academic year for fulfillment of academic requirements. The academic regulations under which a student has been readmitted shall be applicable. However, no grade allotments or SGPA/ CGPA calculations will be done for the entire semester in which the student has been detained.**

A student **detained due to lack of credits, shall be promoted to the next academic year only after acquiring the required academic credits. The academic regulations under which the student has been readmitted shall be applicable to him.**

### **EXAMINATION PROCESS**

a. Controller of Examinations will prepare the schedule of Internal Examinations and the same will be communicated to all HODs concerned, faculty and students through website, etc., HODs of the concerned Departments ensure circulation of Schedule of Mid-examinations the faculty concerned and arrange for reading out in the class rooms and display in the departmental notice boards. Two mid examinations for each theory course will be conducted as per JNTUH academic regulations.

- b. The Exam Branch Assistants gives the estimation of answer scripts to the Examination Cell (Autonomous) sufficient to conduct each Internal Exam and internal lab exam in all the subjects four weeks before the commencement of Internal Exams.
- c. Course(Subject) teachers prepare Question Bank for Internal Examinations as per the guidelines given in the Academic Regulations for Question paper setting and mail them to [questionbank@stpetershyd.com](mailto:questionbank@stpetershyd.com), [examautonomous@stpetershyd.com](mailto:examautonomous@stpetershyd.com) 20 days before the schedule of the first and second Internal Examination. The Additional Controller with the help of Subject Experts shall prepare 3 sets of question papers one week before the Internal-examination schedule.
- d. The examination cell makes ready the required material before the examination schedule.
- e. The examination cell prepares the duty chart of invigilators and sends to departments concerned three days before the Examination.
- f. The Controller of examination will open one of the sets and record the same in certificate of opening the packet containing question paper sets. Then the set will be handed over to the Additional COE for printing the required copies and arranging for distribution to the examination halls.
- g. The invigilators collect the answer scripts hall-wise and other examination material 30 minutes before the scheduled time of Internal Exam.
- h. The examination cell hands over question papers to the invigilators in the examination hall before 5 minutes beginning of the examination. The invigilators distribute the same to the candidates.
- i. The invigilators collect the answer scripts and submit the same and unused answer scripts to Exam branch.
- j. The answer scripts collected from invigilators to be packed according to their subject/class strength and handed over to the Additional COE (Evaluation) along with question paper and D-FORM/absentee statement.
- k. Additional COE (Evaluation) validate matching of answer scripts received with D-forms Received and makes ready the answer scripts subject/class bundles, question papers and evaluation marks statements to provide to the subject teachers for valuation.
- l. The Subject Experts allotted by Additional COE should collect the answer scripts from the examination cell on the day of examination soon after its completion or on the next day; evaluate them and answer scripts, distribute the scripts for personal verification of the students in the class and register the marks in their subject registers. The filled in marks statements signed by the subject teacher concerned and HOD as well as answer scripts should be submitted to the Additional COE (Evaluation) within six days from the scheduled date of examination.



## ACADEMIC REGULATIONS FOR QUESTION PAPER SETTING

The Question Bank (with Bloom's Taxonomy) must comprise as per the description given below and it has to be submitted to [questionbank@stpetershyd.com](mailto:questionbank@stpetershyd.com), [examautonomous@stpetershyd.com](mailto:examautonomous@stpetershyd.com) by the subject handling Faculties.

### INTERNAL 1

**The Descriptive Question Bank must be of the following Format:**

Questions	Unit-1	Unit-2	Unit-3
2-Mark Questions	5	5	3
3-Mark Questions	5	5	3
5-Mark Questions	5	5	3
10-Mark Questions	5	5	3

**The Objective Question Bank must be of the following Format:**

Unit	MCQ
1	40
2	40
3	20

### INTERNAL 2

**The Descriptive Question Bank must be of the following Format:**

Questions	Unit-3	Unit-4	Unit-5
2-Mark Questions	2	5	5
3-Mark Questions	2	5	5
5-Mark Questions	2	5	5
10-Mark Questions	2	5	5

**The Objective Question Bank must be of the following Format:**

<b>Unit</b>	<b>MCQ</b>
<b>3</b>	20
<b>4</b>	40
<b>5</b>	40

### **EXTERNAL QUESTION PAPER SETTING**

The question Paper-setters are requested to comply with the following instructions and guidelines while setting the Question papers.

1. The papers setters shall not disclose his/her appointment and shall not make any correspondence regarding any matter connected with the examination.
2. Paper setter shall submit his/her willingness/ unwillingness to the authority within three days from the date of receipt of letter as paper setter.
3. The maximum marks for the question paper is 70 Marks and the duration of the examination is 3 hours.
4. Paper-setters shall prepare two sets as per the syllabus enclosed.
5. The Paper-setters shall strictly adhere to the syllabus and the model paper enclosed.
6. Question paper is a password protected document. The password is present in email sent.
7. The question paper will have Part- A and Part - B. The candidate has to answer all questions in Part-A and FIVE questions (Choice is given for each question) in Part-B.
8. The paper setters shall note that the Part - A is compulsory. It should contain TEN short answer questions (each question carries 2 marks) covering all five Units of the syllabus. Thus Part - A carries altogether 20 marks. The questions are to be set in such a way that they should be specific and require a maximum of 4 to 5 line answers only.
9. The remaining five questions, namely question no: 2 to 6 in Part - B (may contain preferably one or two parts) should cover entire syllabus of all five units framed from prescribed textbooks. These questions have a weightage of TEN marks each. The questions should be set without any ambiguity.
10. The paper setters shall indicate clearly the marks allotted to each part of the question.
11. The question papers are to be planned in such a way that a candidate of certain ability with good preparation can reasonably be expected to answer the required number of questions within the timeframe of 3 hours allotted.
12. Every question set shall be clear and definite in language and meaning.

13. Special care must be taken while writing mathematical signs and indexing figures.
14. The paper setter shall draw the Figures/Drawings/Circuit diagrams wherever necessary and label the diagrams indicating dimension etc. clearly and properly.
15. The paper setter shall indicate clearly on the question paper, the need of any code book or data sheet required by the candidate for answering the questions.
16. The Paper Setter shall map the questions corresponding to course outcomes given in the syllabus copy.
17. The paper setter shall map the Bloom's taxonomy levels as per the table given below.

Level-1	-	Recall (Remembering)	--Fundamental Knowledge	-	60%
Level-2	-	Understanding			
Level-3	-	Applying	--Knowledge on		
Level-4	-	Analysing	Application & Analysis	-	30%
Level-5	-	Evaluating			
Level-6	-	Creating	--Critical Thinking	-	10%

18. Two sets of question papers in soft copy and remuneration bill (scanned Copy) must be sent to the e-mail [coe.spec@stpetershyd.com](mailto:coe.spec@stpetershyd.com).
19. Please mention subject code in the subject line while sending the mails.

## **BLOOM'S TAXONOMY**

The Question sets must adhere to the Bloom's taxonomy that distributes questions and marks according to their level of complexity.

### **REVISED Bloom's Taxonomy Action Verbs**

<b>Remember</b>	<b>Understand</b>	<b>Apply</b>	<b>Analyze</b>	<b>Evaluate</b>	<b>Create</b>
Cite	Add	Acquire	Analyze	Appraise	Abstract
Define	Approximate	Adapt	Audit	Assess	Animate
Describe	Articulate	Allocate	Blueprint	Compare	Arrange
Draw	Associate	Alphabetize	Breadboard	Conclude	Assemble
Enumerate	Characterize	Apply	Break down	Contrast	Budget
Identify	Clarify	Ascertain	Characterize	Counsel	Categorize
Index	Classify	Assign	Classify	Criticize	Code
Indicate	Compare	Attain	Compare	Critique	Combine
Label	Compute	Avoid	Confirm	Defend	Compile
List	Contrast	Back up	Contrast	Determine	Compose
Match	Convert	Calculate	Correlate	Discriminate	Construct
Meet	Defend	Capture	Detect	Estimate	Cope
Name	Describe	Change	Diagnose	Evaluate	Correspond

Outline	Detail	Classify	Diagram	Explain	Create
Point	Differentiate	Complete	Differentiate	Grade	Cultivate
Quote	Discuss	Compute	Discriminate	Hire	Debug
Read	Distinguish	Construct	Dissect	Interpret	Depict
Recall	Elaborate	Customize	Distinguish	Judge	Design
Recite	Estimate	Demonstrate	Document	Justify	Develop
Recognize	Example	Depreciate	Ensure	Measure	Devise
Record	Explain	Derive	Examine	Predict	Dictate
Repeat	Express	Determine	Explain	Prescribe	Enhance
Reproduce	Extend	Diminish	Explore	Rank	Explain
Review	Extrapolate	Discover	Figure out	Rate	Facilitate
Select	Factor	Draw	File	Recommend	Format
State	Generalize	Employ	Group	Release	Formulate
Study	Give	Examine	Identify	Select	Generalize
Tabulate	Infer	Exercise	Illustrate	Summarize	Generate
Trace	Interact	Explore	Infer	Support	Handle
Write	Interpolate	Expose	Interrupt	Test	Import
	Interpret	Express	Inventory	Validate	Improve

	Observe	Factor	Investigate	Verify	Incorporate
	Paraphrase	Figure	Layout		Integrate
	Picture graphically	Graph	Manage		Interface
	Predict	Handle	Maximize		Join
	Review	Illustrate	Minimize		Lecture
	Rewrite	Interconvert	Optimize		Model
	Subtract	Investigate	Order		Modify
	Summarize	Manipulate	Outline		Network
	Translate	Modify	Point out		Organize
	Visualize	Operate	Prioritize		Outline
		Personalize	Proofread		Overhaul
		Plot	Query		Plan
		Practice	Relate		Portray
		Predict	Select		Prepare
		Prepare	Separate		Prescribe
		Price	Subdivide		Produce
		Process	Train		Program
		Produce	Transform		Rearrange

		Project			Reconstruct
		Provide			Relate
		Relate			Reorganize
		Round off			Revise
		Sequence			Rewrite
		Show			Specify
		Simulate			Summarize
		Sketch			
		Solve			
		Subscribe			
		Tabulate			
		Transcribe			
		Translate			
		Use			

Definitions	I.Remember	II.Understand	III. Apply	IV. Analyze	V. Evaluate	VI. Create
<b>Bloom's Definition</b>	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting,	Solve problems to new situations by applying acquired knowledge,	Examine and break information into parts by identifying motives or causes. Make	Present and defend opinions by making judgments about information,	Compile information together in a different way by combining elements in

		giving descriptions, and stating main ideas.	facts, techniques and rules in a different way.	inferences and find evidence to support generalizations.	validity of ideas, or quality of work based on a set of criteria.	a new pattern or proposing alternative solutions
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### **Supplementary Theory / Practical Examinations**

- a. The supplementary examinations are conducted twice in a year at the end of odd and even semesters.
- b. The semester end supplementary examinations shall be conducted till the next regulation comes into force for that semester, after the conduct of the last set of regular examinations under the present regulation. Thereafter, supplementary examinations will be conducted in the equivalent courses.

### **Advanced Supplementary Examinations for UG Programs**

- a. Candidate(s), who failed in IV-B.Tech.-II-Semester (end semester in the programme) can appear for advanced supplementary examination which will be conducted within one month after the results.
- b. However, those candidates who fail even in advanced supplementary examinations shall appear for subsequent examination along with regular candidates at the end of the respective semester.

### **Permission for Scribe**

- a. Candidates in need of scribe should apply with genuine reasons and following evidences
  - Medical Certificate issued by a Civil Surgeon working in a Government Hospital.
  - Photo of the student / candidate highlighting the inability to appear for the examination.
  - The Particulars of proposed scribe i.e., name, address, qualifications, photo and present occupation. The scribe should not exceed B.Tech or other Programme.
  - A letter from the scribe stating that he / she is willing to act as scribe.
  - A copy of the certificate of scribe's qualification along with recent photograph duly attested by the head of the institution.



- b. The COE then verifies the details of the scribe, approves the same as per norms and provides a separate room and invigilator for all the examinations.

### **Answer booklet safecustody**

The answer booklets are to be stacked in racks with proper ventilation, free from termites/ pests. Information about each answer-booklet in a bundle is kept for ease of retrieval at a later stage as per requirement. The answer booklets storage area is required to be fumigated and aired periodically for preservation without any damage. The Examination in-charge shall be responsible for accounting and proper storage of answer booklets till destruction.

### **Destruction of AnswerBook**

The answer booklets will be preserved for a minimum a period of five years. Once clear instructions are issued by the Principal, all evaluated answer books will be destroyed by shredding after 8 years from the date of admission into the programme. A certificate is issued by the Controller of Examinations, indicating details of answer books that have been shredded.

## **ISSUE OF CERTIFICATES**

### **Issue of Memorandum of Grades**

There is a provision to issue of memorandum of grades after the completion of every semester without paying any fee to the examination cell. The memorandum of grades is printed on grade sheets with multiple security features.

- a. After the announcement of results and revaluation results, the controller of examinations should arrange for the printing of memorandum of grades.
- b. The grades obtained by the student and the credits allocated to the course are generated through the software server installed in the examination cell.
- c. Before printing the memorandum of grades, the data viewed on the screen should be compared and checked with the data on results sheets.
- d. A record of memorandum of grades must be maintained.
- e. While issuing the memorandum of grades to the student, the signature should be obtained as an acknowledgement.

### **Issue of Consolidated GradeMemo and Provisional Certificate**

There is a provision to issue Consolidated Grade Memo (CGM) and Provisional Certificate (PC) immediately after the completion of graduation. The consolidated grade memo consists of the grades secured by the student in all courses in each semester, overall CGPA, equivalent percentage of the programme and class awarded for the student in the programme. The Provisional Certificate contains class corresponding to the CGPA.

### **Correction of Name in Memorandum of Grades / Consolidated GradeMemos / Provisional Certificate**

There is a provision to make corrections in memorandum of grades / consolidated grade memo / Provisional Certificate, if any discrepancy in the name is reported by a student, such corrections will be carried out in original memorandum of grades / consolidated grade memo / Provisional Certificate as the case may be.

### **Issue of Duplicate Memorandum of Grades**

There is a provision of issuing duplicate memorandum of grades if any student loses the memorandum of grades issued to him/her. The candidate has to apply in prescribed format and pay the prescribed fee. Such memorandum of grades may be oriented prominently as "DUPLICATE".

### **Issue of Duplicate Consolidated GradeMemos / Provisional Certificate**

There is a provision of issuing duplicate consolidated grade memo / Provisional Certificate, in cases where the Grade cards are lost or mutilated. The candidate has to lodge a complaint to local police station of the area where it was lost and submit the original copy of acknowledgement of complaint, application for the issue of the same along with the relevant documents through the office of the Principal, to the office of the Controller of Examinations. Such consolidated grade memo / Provisional Certificate may be oriented prominently as "DUPLICATE".

## **Issue of Transcripts**

A transcript is also an official document containing the performance of a student, course taken by the student, the credits earned and the grades awarded. A student can obtain transcripts by submitting the application through online with prescribed fee along with photo copies of all the grade cards issued to the student after thorough verification by COE.

## **Graduation Ceremony**

There will be an annual graduation ceremony in which the institution awards the Provisional Degree Certificates to the students who have completed their prescribed academic requirements in each program of study and the same is recommended to JNTUH for the award of the degree. The Prizes, Medals and Ranks to the meritorious students will also be issued during the graduation ceremony.

## **Procurement of Stationery**

The Controller of examination procures the required stationery for examinations of each academic year well in advance, with prior approval of the Head of the Institution. The procured stationery will be kept in the examination cell store room and log for the same is maintained.

## **COMMITTEES FOR EXAMINATION PROCESS**

The following committees are framed for the smooth functioning of examination activities.

1. Examination Committee
2. Question Paper Moderation Committee
3. Malpractice Prevention Committee
4. Results Processing & Declaration Committee

## **Examination Committee**

The members of the examination committee are

- i) The Head of the Institution- Chairman.
- ii) Three Senior Faculty Members.
- iii) The Controller of Examinations - Member Secretary.
- iv) Additional Controllers of Examinations.

**Duties and Responsibilities:** The committee shall ensure

- a. Proper organization of paper setting, moderation, conduct of examination, digital evaluation, results processing, declaration of results and all examination related works.

- b. Timely execution of examination schedules.
- c. The smooth conduct of examination under strict vigilance.
- d. Suitable punishment based on the recommendations of the Malpractice Prevention Committee for students.
- e. Appropriate punishment for faculty, paper setters, examiners, moderators, valuers, referees, staff or any other persons, connected with the examination activities on sue motto basis.
- f. Examination reforms from time to time.
- g. To hold meetings at least twice in the semester and as the case may be.

### **Question Paper Moderation Committee**

The questions / question papers received from the question paper setters shall be moderated by the committee in the office of the Controller of examinations confidentially before the commencement of that examination. The members of the question paper moderation committee consists of

- i) Controller of Examinations.
- ii) Additional Controllers of Examinations.
- iii) Subject Expert with approval of chief superintendent.
- iv) Observer as appointed by the chief superintendent.

### **The moderators shall observe the following guidelines:**

- a. Check the course code, course name, time allotted, number of questions, distribution of marks, total marks, instructions given to the students.
- b. Keep the level of language of questions moderate which the candidates can understand and ensure that the question paper can be attempted in the given time.
- c. Ensure that the question papers are free from typographical and grammatical errors.
- d. Ensure that the questions are evenly distributed over the entire syllabus in accordance with the scheme of examination.
- e. Ensure that the desired course outcomes which are mentioned in the syllabus are being met in the question paper both at the level of the particular course and the problem level.
- f. Ensure that questions are not repeated.
- g. All above corrections need to be acknowledged on hard copy of the question paper and instructed for printing.

## Malpractice Prevention Committee - Students

The committee shall examine the student's malpractice and indiscipline cases occurred, while conducting the examinations and recommend appropriate punishment to the examination committee after taking explanation from the student and concerned invigilator as per the malpractice rules mentioned below. The committee consists of

- i) Controller of Examinations - Chairman
- ii) Addl. Controller of Examinations - Convener
- iii) Observer - Member
- iv) Subject Expert - Member
- v) Head of the Department of which the student belongs to - Member
- vi) The Invigilator concerned - Member

### **Punishments to paper setter/examiner/moderator/evaluator/teacher/other persons involved in unfair means / malpractice**

In every case, where a person performing examination duty is found using or attempting to use unfair means / malpractice at the examination following punishment may be imposed by examination committee. The Committee shall recommend punishment after due consideration of the type of use of unfair means / malpractice and remarks of the COE.

<b>Sl. No.</b>	<b>Allegation</b>	<b>Punishment</b>
1	Providing assistance to any candidate or any other person in any unauthorized manner in examination hall.	Debarring from any subsequent examination(s) up to a maximum of three examinations including the re-examination.
2	Taking assistance from any other person in unauthorized manner for confidential work.	
3	Deliberately disclosing confidential things	
4	Assisting the candidate for smuggling in/out, replacing an answer-book or its any continuation sheet during examination.	
5	Assisting the candidate for getting impersonated by any other person in the examination.	
6	Any other case of use of unfair means.	
7	Leaving examination hall in any unauthorized manner	Debarring from any subsequent examination / examinations up to a maximum of five examinations

		including the re-examination.
8	Remaining absent in any unauthorized manner for examination duty.	Debarring from any subsequent examination / examinations up to a maximum of five examinations including the re-examination.
9	Using indecent and/or abusive language against the higher authorities during examination.	Debarring from any subsequent examination/examinations up to a maximum of five examinations including the re-examination and additional monetary fine.
10	Any other case of negligence of duty.	

## **PREPARATION OF CONSOLIDATED INTERNAL MARKS STATEMENT AND VERIFICATION**

- a. The Additional COE should prepare the consolidated marks statements for each Internal Examination section-wise. The same has to be sent to the HODs concerned for verification by subject teachers. The verified consolidated Internal Examination mark's statements signed by the Evaluators, departmental examination coordinator and HOD is to be submitted to the COE.
- b. Assignments marks should be submitted to the COE Office. Lab Handling Faculty have to submit Laboratory internal question paper, answer scripts, absentees' statement and award list duly signed by the examiner and HOD to COE Office at the end of the internal lab examinations.
- d. The COE prepares the consolidated statement of marks of internal examinations (I- Internal, II- Internal examinations, Assignments and lab Internals as per academic regulations) and the same will be sent to the respective HODs to facilitate students and concerned faculty for verification purpose. Any discrepancy may be brought to the notice of the COE for rectification.
- e. The representations from the students with regard to discrepancies in the award of marks of the Internal Examinations in a subject(s) must be sorted out by the Additional COE in the presence of Evaluators in next two days and necessary corrections be made in the consolidated marks statement.

## **CONDUCT OF END SEMESTER LAB EXAMINATIONS**

- a. End Semester lab examinations will be conducted after the last working day of the semester (as per the Academic Calendar).
- b. The responsibility of the End Semester lab examination conduct lies with the respective HOD and the supervision of COE.
- c. End Semester lab examinations will be conducted by the teacher concerned and lab external examiner. The examination cell will receive three names of external lab examiners to conduct end lab examinations duly approved by HOD and the Principal.

d. The COE will appoint external examiners. The Exam Cell informs the concerned examiner the time and number of students appearing and obtain his/her consent to the examiner. The Internal examiners will be appointed by the HODs concerned and inform to the Controller of the Examinations.

e. The concerned HOD of the Department should prepare the time-table batch wise with respect to the equipment available in the department and forward the same to the examination cell.

g. After the examination, the examiners should submit the marks awarded in Award List and absentees statements in sealed covers in the examination cell to the COE Office.

## **INTERNAL & END SEMESTER ASSESSMENT**

### **FOR UG STUDENTS**

#### **Evaluation - Distribution and Weightage of Marks**

The performance of a student in each semester shall be evaluated Subject-wise (irrespective of Credits assigned) for a maximum of 100 marks for Theory/Seminar/ Drawing/Design/ Industry Oriented Mini-Project etc. 30 Marks for CIE (Continuous Internal Evaluation) and 70 Marks for SEE (Semester End Examinations) and a Letter Grade corresponding to the % marks obtained shall be given.

#### **Weightage of Theory Subject**

For theory subjects the distribution shall be 30 marks for Continuous Internal Evaluation (CIE) and 70 marks for the Semester End- Examination (SEE).

#### **Continuous Internal Evaluation (CIE)**

For theory subjects, during the semester there shall be 2 Internal examinations. Each Internal examination is conducted for 30 marks and average is considered.

#### **Descriptive – 1 Hour 30 minutes for 30 marks.**

The question paper consists 3 Questions from 3 Units with a choice. First and second questions are from unit 1 and 2 in Internal 1, from Unit 4 and 5 in internal 2 these question carries 10 marks. Third question is from unit 3 and carries 5 marks.

First Internal examination shall be conducted for 50% of syllabi and second Internal Examination shall be conducted for remaining 50%. Three videos must be submitted before the commencement of Internal Examination.

The marks secured by the student in I and II Internal examinations are considered and the AVERAGE of the two Internal examinations shall be taken as the final marks secured by the student

towards Continuous Internal Evaluation in the theory subject. If he/she is absent for any test, he/she will be awarded zero marks for that test.

### **Semester End- Examination (SEE)**

The Semester End Examination will be conducted for 70 marks. The question paper in Part A consists of 10 questions with 2 marks each and Part B contains 5 questions with either/or choice carrying 10 marks each. ( $10 \times 2 = 20 + 5 \times 10 = 50$   $20 + 50 = 70$ )

### **Weightage of Practical Subject**

For theory subjects the distribution shall be 30 marks for Continuous Internal Evaluation (CIE) and 70 marks for the Semester End- Examination (SEE).

### **Continuous Internal Evaluation (CIE)**

The marks for continuous evaluation may be distributed among various components like class work performance, Lab records, Quizzes, skill tests/ assignments/ mini projects. This is to be informed to students and supervisor before commencement of the dissertation work by the Faculty Advisor.

For practical subjects there shall be a continuous evaluation during the Semester for 30 marks. Out of the 30 marks for internal evaluation, day-to-day work in the laboratory shall be evaluated for 10 marks and internal practical examination shall be evaluated for 15 marks and viva voce for 5 marks conducted by the other laboratory teacher.

### **Semester End- Examination (SEE)**

The Practical End Semester Examination shall be conducted with an external examiner and the other laboratory teacher for 70 marks. The external examiner shall be appointed by the Principal from the panel of examiners recommended by Controller of Evaluation and Board of Studies in respective Branches.

### **Drawing Examinations**

For the subject having design and / or drawing, (such as Engineering Graphics, Engineering Drawing, and Machine Drawing), the distribution shall be 30 marks for Internal Evaluation (10 marks for day-to-day work and 20 marks for internal tests) and 70 marks for Semester End Examination. There shall be two internal tests in a semester and the average of these two internal marks shall be considered for the award of marks for internal evaluation.



### **Mini Project**

The mini project and its report shall be evaluated in IV year I Semester at the time of practical exams. The mini project shall be submitted in report form and should be presented before the committee, which shall be evaluated for 100 marks. The committee consists of an External Examiner, Head of the department, the supervisor of mini project and a senior faculty member of the department.

### **Major Project Work**

Out of a total of 100 marks for the major project work, 30 marks shall be for Internal Evaluation and 70 marks for the End Semester evaluation. The End Semester evaluation (viva-voce) shall be conducted by committee. The committee consists of an external examiner, Head of the Department, the supervisor of project and a senior faculty member of the department. The topics for industry oriented mini project, seminar and project work shall be different from each other. The evaluation of project work shall be conducted at the end of the IV year II Semester. The internal evaluation shall be on the basis of two seminars given by each student on the topic of his project.

The Departments have to evolve rubrics for evaluation of Project work. The marks may be distributed among various components like selection of topic, problem statement, literature review, methodology, oral and written presentation of the work done and performance in viva-voce examination

The laboratory records and internal test papers shall be preserved as per the University rules and produced before the Committees of the University as and when asked for.

### **Non Credits Evaluation**

For Non Credit subjects the distribution shall be 100 marks for the Semester End-Examination (SEE).

The Semester End Examination will be conducted for 100 marks. The question paper consists of 8 questions where each question should contain a/b or a/b/c or a/b/c/d from different units. Out of 8 questions any 5 questions should be answered and carrying 20 marks each.

For non credit courses, 'Satisfactory' or "Not Satisfactory" is indicated instead of the letter grade and this will not be counted for the computation of SGPA/CGPA

### **MOOCS/SWAYAM Courses:**

Meeting with the global requirements, to inculcate the habit of self learning and in compliance with UGC guidelines, MOOCS (Massive Open Online Courses) have been introduced as electives.

Course content for the selected MOOCS shall be drawn from respective MOOCs links or shall be supplied by the department (NPTEL, edx and SWAYAM only) at the beginning of the IV B.Tech I semester. Assessment & Evaluation of the courses shall be done by the provider. Student has to submit the certificate of MOOCS given from the provider.

Equivalent creditsof elective will be awarded upon successful completion of each MOOCS/SWAYAM course. Students shall register the course title at their department office at the start of the semester against the courses that are announced by the department.

### **Grading Procedure**

Marks will be awarded to indicate the performance of student in each theory subject, laboratory / practical, seminar, UG mini project, Industry oriented MINI Project and UG major project.

As a measure of the performance of a student, a 10-point absolute grading system using the following letter grades (as per UGC/AICTE guidelines) and corresponding percentage of marks shall be followed:

<b>% of Marks Secured in a Subject/Course (Range of Marks)</b>	<b>LetterGrade (UGC Guidelines)</b>	<b>GradePo ints</b>
<b>Greater than or equal to 90%</b>	<b>O(Outstanding)</b>	<b>10</b>
<b>80 and less than90%</b>	<b>A+(Excellent)</b>	<b>9</b>
<b>70 and less than80%</b>	<b>A(Very Good)</b>	<b>8</b>
<b>60 and less than70%</b>	<b>B+(Good)</b>	<b>7</b>
<b>50 and less than60%</b>	<b>B(Average)</b>	<b>6</b>
<b>40 and less than50%</b>	<b>C(Pass)</b>	<b>5</b>
<b>Below 40%</b>	<b>F(FAIL)</b>	<b>0</b>
<b>Absent</b>	<b>Ab</b>	<b>0</b>

A student obtaining 'F' grade in any subject shall be deemed to have 'failed' and is required to reappear as a 'supplementary student' in the semester end examination, as and when offered. In such cases, internal marks in those subjects will remain the same as those obtained earlier.

A student who has not appeared for examination in any subject, 'Ab' grade will be allocated in that subject, and student shall be considered 'failed'. Student will be required to reappear as a 'supplementary student' in the semester end examination, as and when offered.

A letter grade does not indicate any specific percentage of marks secured by the student, but it indicates only the range of percentage of marks.

A student earns grade point (GP) in each subject/ course, on the basis of the letter grade secured in that subject/ course. The corresponding 'credit points' (CP) are computed by multiplying the grade point with credits for that particular subject/ course.

**Credit points (CP) = grade point (GP) x credits .... For a course**

The student passes the subject/ course only when GP \* 5 ('C' grade or above) The semester grade point average (SGPA) is calculated by dividing the sum of credit points ( $\Sigma CP$ ) secured from all subjects/ courses registered in a semester, by the total number of credits registered during that semester. SGPA is rounded off to two decimal places. SGPA is thus computed as

$$SGPA = \{ \sum_{i=1}^N C_i G_i \} / \{ \sum_{i=1}^N C_i \} \dots\dots\dots \text{For each semester.}$$

where 'i' is the subject indicator index (takes into account all subjects in a semester), 'N' is the no. of subjects 'registered' for the semester (as specifically required and listed under the course structure of the parent department), C is the no. of credits allotted to the i th subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that ith subject.

The cumulative grade point average (CGPA) is a measure of the overall cumulative performance of a student in all semesters considered for registration. The CGPA is the ratio of the total credit points secured by a student in all registered courses in all semesters, and the total number of credits registered in all the semesters. CGPA is rounded off to two decimal places. CGPA is thus computed from the I year II semester onwards at the end of each semester as per the formula.

$$CGPA = \{ \sum_{j=1}^N C_j G_j \} / \{ \sum_{j=1}^N C_j \} \dots\dots\dots \text{For all S Semesters registered.}$$

(I.E., Upto and inclusive of S semesters , S\*2)

where 'M' is the total no. of subjects (as specifically required and listed under the course structure of the parent department) the student has 'registered' i.e., from the 1st semester onwards up to and inclusive of the 8 th semester, 'j' is the subject indicator index (takes into account all subjects from 1 to 8 semesters), C is the no. of credits allotted to the jth subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that jth subject. After registration and completion of first year first semester, the SGPA of that semester itself may be taken as the CGPA, as there are no cumulative effects

### Illustration of calculation of SGPA

Course/Subject	Credits	Letter Grade	Grade Point	Credits Points
Course 1	3	A	8	3 X 8 = 24
Course 2	3	B+	7	3 X 7 = 21
Course 3	3	B	6	3 X 6 = 18
Course 4	3	A	8	3 X 8 = 24
Course 5	3.5	C	5	3.5 X 5 = 17.5
Course 6	1.5	A	8	1.5 X 8 = 12
Course 7	1.5	O	10	1.5 X 10 = 15
Course 8	2	O	10	2 X 10 = 20
	<b>20.5</b>			<b>154.5</b>

$$\text{SGPA} = 154.5/20.5 = 7.53$$

## Illustration of calculation of CGPA

Semester	Credits	SGPA	Credits * SGPA
Semester I	20.5	7.24	20.5 X7.24 = 148.42
Semester II	17.5	6.48	17.5X6.48 = 113.4
Semester III	20.5	7.43	20.5X7.43 = 152.315
Semester IV	20.5	8.21	20.5X8.21 =168.305
Semester V	20.5	7.65	20.5X7.65 =156.825
Semester VI	20.5	6.42	20.5X6.42 =131.61
Semester VII	21	7.75	21X7.75 =162.75
Semester VIII	19	8.25	19X8.25 =156.75
Total Credits	160	Total	1190.375

$$\text{CGPA} = 1190.375/160 = 7.43$$

For merit ranking or comparison purposes or any other listing, only the 'rounded off' values of the CGPAs will be used. For calculations listed in regulations SGPA to CGPA, performance in failed subjects/ courses (securing F grade) will also be taken into account, and the credits of such subjects/ courses will also be included in the multiplications and summations.

After passing the failed subject(s) newly secured letter grades will be taken into account for calculation of SGPA and CGPA. However, mandatory courses will not be taken into consideration.

### Passing standards

A student shall be declared successful or 'passed' in a semester, if student secures a GP  $\geq 5$  ('C' grade or above) in every subject/course in that semester (i.e. when student gets an SGPA  $\geq 5.00$  at the end of that particular semester); and a student shall be declared successful or 'passed' in the entire under graduate programme, only when gets a CGPA  $\geq 5.00$  for the award of the degree as required. After the completion of each semester, a grade card or grade sheet (or transcript) shall be issued to all the registered students of that semester, indicating the letter grades and credits earned. It will show the details of the courses registered (course code, title, no. of credits, and grade earned etc.), credits earned, SGPA, and CGPA.

## Declaration of results

Computation of SGPA and CGPA are done using the procedure listed in SGPA to CGPA. For final percentage of marks equivalent to the computed final CGPA, the following formula may be used.

$$\% \text{ of Marks} = (\text{final CGPA} - 0.5) \times 10$$

## Award of degree

A student who registers for all the specified subjects/ courses as listed in the course structure and secures the required number of **160** credits (with CGPA  $\geq 5.0$ ), within 8 academic years from the date of commencement of the first academic year, shall be declared to have '**qualified**' for the award of the B.Tech. Degree in the chosen branch of Engineering as selected at the time of admission.

A student who qualifies for the award of the degree as listed above shall be placed in the following classes.

Students with final CGPA (at the end of the under graduate programme)  $\geq 8.00$ , and fulfilling the following conditions –

- (i) Should have passed all the subjects/courses in '**first appearance**' within the first 4 academic years (or 8 sequential semesters) from the date of commencement of first year first semester.
- (ii) Should have secured a CGPA  $\geq 8.00$ , at the end of each of the 8 sequential semesters, starting from I year I semester onwards.
- (iii) Should not have been detained or prevented from writing the end semester examinations in any semester due to shortage of attendance or any other reason, shall be placed in '**first class with distinction**'

Students with final CGPA (at the end of the under graduate programme)  $\geq 6.50$  but  $< 8.00$ , shall be placed in '**first class**'.

Students with final CGPA (at the end of the under graduate programme)  $\geq 5.50$  but  $< 6.50$ , shall be placed in '**second class**'.

All other students who qualify for the award of the degree (as per item 12.1), with final CGPA (at the end of the under graduate programme)  $\geq 5.00$  but  $< 5.50$ , shall be placed in '**pass class**'

### **Award of degree**

A student who registers for all the specified subjects/ courses as listed in the course structure and secures the required number of 160 credits (with CGPA  $\geq 5.0$ ), within 8 academic years from the date of commencement of the first academic year, shall be declared to have '**qualified**' for the award of B.Tech. degree in the chosen branch of Engineering selected at the time of admission.

A student who qualifies for the award of the degree as listed in item 12.1 shall be placed in the following classes.

A student with final CGPA (at the end of the under graduate programme)  $\geq 8.00$ , and fulfilling the following conditions - shall be placed in '**first class with distinction**'. However, the Students with final CGPA (at the end of the under graduate programme)  $\geq 6.50$  but  $< 8.00$  shall be placed in '**first class**'.

Students with final CGPA (at the end of the under graduate programme)  $\geq 5.50$  but  $< 6.50$ , shall be placed in '**second class**'.

All other students who qualify for the award of the degree (as per item 12.1), with final CGPA (at the end of the under graduate programme)  $\geq 5.00$  but  $< 5.50$ , shall be placed in '**pass class**'.

A student with final CGPA (at the end of the under graduate programme)  $< 5.00$  will not be eligible for the award of the degree.

- (i) Should have passed all the subjects/courses in '**first appearance**' within the first 4 academic years (or 8 sequential semesters) from the date of commencement of first year first semester.
- (ii) Should have secured a CGPA  $\geq 8.00$ , at the end of each of the 8 sequential semesters, starting from I year I semester onwards.
- (iii) Should not have been detained or prevented from writing the semester end examinations in any semester due to shortage of attendance or any other reason.

A student not fulfilling any of the above conditions with final CGPA  $> 8$  shall be placed in '**first class**'.

## ACADEMIC REGULATIONS FOR PG STUDENTS

### Eligibility for Admissions

Admission to the PGPs shall be made subject to eligibility, qualification and specializations prescribed by the University from time to time, for each specialization under each M.Tech programme.

Admission to the post graduate programme shall be made on the basis of either the merit rank or Percentile obtained by the qualified student in the relevant qualifying GATE Examination/ the merit rank obtained by the qualified student in an entrance test conducted by Telangana State Government (PGECET) for M.Tech. programmes / an entrance test conducted by JNTUH/ on the basis of any other exams approved by the University, subject to reservations as laid down by the Govt. from time to time.

### M.Tech. Programme (PGP in E & T) Structure

The M.Tech Programmes in E & T of JNTUH are of Semester pattern, with **Four** Semesters consisting of **Two** academic years, each academic year having **Two** Semesters (First/Odd and Second/Even Semesters). Each Semester shall be of 22 weeks duration (inclusive of Examinations), with a minimum of 90 instructional days per Semester.

The student shall not take more than four academic years to fulfill all the academic requirements for the award of M.Tech. degree from the date of commencement of first year first semester, failing which the student shall forfeit the seat in M.Tech. programme.

UGC/AICTE specified definitions/descriptions are adopted appropriately for various terms and abbreviations used in these PG academic regulations, as listed below:

### Semester Scheme

Each Semester shall have 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)'. Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) are taken as 'references' for the present set of Regulations. The terms 'SUBJECT' and 'COURSE' imply the same meaning here and refer to 'Theory Subject', or 'Lab Course', or 'Design/Drawing Subject', or 'Mini Project with Seminar', or 'Dissertation', as the case may be.

### Credit Courses



All subjects/courses are to be registered by the student in a semester to earn credits which shall be assigned to each subject/course in an L:T:P:C (Lecture Periods:Tutorial Periods:Practical Periods:

Credits) structure based on the following general pattern:

- One credit for one hour/week/semester for theory/lecture (L) courses
- One credit for two hours/week/semester for laboratory/practical (P) courses or tutorials (T)

Other student activities like study tour, guest lecture, conference/workshop participations, technical paper presentations and mandatory courses (*Audit Courses*) will not carry any credits.

### **Course Registration**

Faculty Advisor or Counselor shall be assigned to each specialization, who will advise on the Post Graduate Programme (PGP), its Course Structure and Curriculum, Choice/Option for Subjects/ Courses, based on his competence, progress, pre-requisites and interest.

The Academic Section of the College invites 'Registration Forms' from students within 15 days from the commencement of class work through 'ON-LINE SUBMISSIONS', ensuring 'DATE and TIME Stamping'. The ON-LINE Registration Requests for any 'CURRENT SEMESTER' shall be completed BEFORE the commencement of SEEs (Semester End Examinations) of the 'PRECEDING SEMESTER'.

A Student can apply for ON-LINE Registration, ONLY AFTER obtaining the 'WRITTEN APPROVAL' from his Faculty Advisor, which should be submitted to the College Academic Section through the Head of Department (a copy of it being retained with Head of Department, Faculty Advisor and the Student).

If the Student submits ambiguous choices or multiple options or erroneous entries during ON-LINE Registration for the Subject(s)/Course(s) under a given/specified Course Group/Category as listed in the Course Structure, only the first mentioned Subject/ Course in that Category will be taken into consideration.

Subject/Course Options exercised through ONLINE Registration are final and CANNOT be changed, nor can they be inter-changed; further, alternate choices also will not be considered. However, if the

Subject/Course that has already been listed for Registration by the University in a Semester could not be offered due to unforeseen or unexpected reasons, then the Student will be allowed to have alternate choice either for a new Subject, if it is offered, or for another existing Subject (subject to availability of seats). Such alternate arrangements will be made by the Head of Department, with due notification and time-framed schedule, within the FIRST WEEK from the commencement of Class- work for that Semester.

### **Attendance Requirements**

The programmes are offered based on a unit system with each subject being considered a unit. Attendance is calculated separately for each subject.

Attendance in all classes (Lectures/Laboratories) is compulsory. The minimum required attendance in each theory subject (*also mandatory (audit) courses*) including the attendance of mid-term examination / Laboratory etc. is 75%. Two periods of attendance for each theory subject shall be considered, if the student appears for the mid-term examination of that subject. *This attendance should also be included in the fortnightly upload of attendance to the University. The attendance of mandatory (audit) courses should be uploaded separately to the University.* A student shall not be permitted to appear for the Semester End Examinations (SEE), if his attendance is less than 75%.

A student's Seminar report and presentation on Mini Projects shall be eligible for evaluation, only if he ensures a minimum of 75% of his attendance in Seminar presentation classes on Mini Project during that Semester.

**Condoning of shortage of attendance** (between 65% and 75%) up to a maximum of 10% (considering the days of attendance in sports, games, NCC, NSS activities and Medical grounds) in each subject (Theory/Lab/Mini Project with Seminar) of a semester shall be granted by the College Academic Committee on genuine reasons.

A prescribed fee per subject shall be payable for condoning shortage of attendance after getting the approval of College Academic Committee for the same. The College Academic Committee shall maintain relevant documents along with the request from the student.

**Shortage of Attendance below 65% in any subject shall in no case be condoned.**

A Student, whose shortage of attendance is not condoned in any Subject(s) (Theory/Lab/Mini Project with Seminar) in any Semester, is considered as 'Detained in that Subject(s), and is not eligible to write Semester End Examination(s) of such Subject(s), (in case of Mini Project with Seminar, his/her Mini Project with Seminar Report or Presentation are not eligible for eval

uation)in that Semester; and he/she has to seek re-registration for those Subject(s) in subsequent Semesters, and attend the same as and when offered.

A student fulfills the attendance requirement in the present semester, shall not be eligible for readmission into the same class.

a) A student shall put in a minimum required attendance in at least **three theory subjects (excluding mandatory (audit) course)** in first Year I semester for promotion to first Year II Semester.

b) A student shall put in a minimum required attendance in at least **three theory subjects (excluding mandatory (audit) course)** in first Year II semester for promotion to second Year I Semester.

### **Academic Requirements**

The following academic requirements must be satisfied, in addition to the attendance requirements mentioned in item no. 5. The performance of the candidate in each semester shall be evaluated subject-wise, with a maximum of 100 marks per subject/course (theory/practical), based on Internal Evaluation and Semester End Examination.

A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/course, if he secures not less than 40% of marks (30 out of 75 marks) in the End Semester Examination, and a minimum of 50% of marks in the sum total of CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together; in terms of Letter Grades and this implies securing 'B' Grade or above in a subject.

A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to Mini Project with seminar, if student secures not less than 50% marks (i.e. 50 out of 100 allotted marks). The student would be treated as failed, if student (i) does not submit a seminar report on Mini Project or does not make a presentation of the same before the evaluation committee as per schedule or (ii) secures less than 50% marks in Mini Project with seminar evaluation. The failed student shall reappear for the above evaluation when the notification for supplementary examination is issued.

A student shall register for all subjects for total of **68** credits as specified and listed in the

course structure for the chosen specialization, put in the required attendance and fulfill the academic requirements for securing **68** credits obtaining a minimum of 'B' Grade or above in each subject, and all **68** credits securing Semester Grade Point Average (**SGPA**)  $\geq$  **6.0** (in each semester) and final Cumulative Grade Point Average (**CGPA**) (i.e., CGPA at the end of PGP)  $\geq$  **6.0**, and shall pass *all the mandatory (audit) courses* to complete the PGP successfully.

**Note:(1)**

**The SGPA will be computed and printed on the marks memo only if the candidate passes in all the subjects offered and gets minimum B grade in all the subjects.**

- (2) CGPA is calculated only when the candidate passes in all the subjects offered in all the semesters**

Marks and Letter Grades obtained in all those subjects covering the above specified **68** credits alone shall be considered for the calculation of final CGPA, which will be indicated in the Grade Card /Marks Memo of second year second semester.

If a student registers for extra subject(s) (in the parent department or other departments/branches of Engineering) other than those listed subjects totaling to **68** credits as specified in the course structure, the performance in extra subject(s) (although evaluated and graded using the same procedure as that of the required **68** credits) will not be considered while calculating the SGPA and CGPA. For such extra subject(s) registered, percentage of marks and Letter Grade alone will be indicated in the Grade Card/Marks Memo, as a performance measure, subject to completion of the attendance and academic requirements as stated in items 5 and 6.1-6.3.

When a student is detained due to shortage of attendance in any subject(s) in any semester, no Grade allotment will be made for such subject(s). However, he is eligible for re-registration of such subject(s) in the subsequent semester(s), as and when next offered, with the academic regulations of the batch into which he is re-registered, by paying the prescribed fees per subject. In all these re-registration cases, the student shall have to secure a fresh set of internal marks and Semester End Examination marks for performance evaluation in such subject(s), and SGPA/CGPA calculations.

A student is eligible to appear for the Semester End Examination in any subject, but absent from it or

failed (failing to secure 'B' Grade or above), may reappear for that subject at the supplementary examination as and when conducted. In such cases, his Internal Marks assessed earlier for that subject will be carried over, and added to the marks secured in the supplementary examination, for the purpose of evaluating his performance in that subject.

A Student who fails to earn **68** credits as per the specified course structure, and as indicated above, within **four** academic years from the date of commencement of his first year first semester, shall forfeit his seat in M.Tech. programme and his admission **shall stand cancelled**.

### **Evaluation - Distribution and Weightage of Marks (PG)**

The performance of a student in each semester shall be evaluated subject- wise (irrespective of credits assigned) for a maximum of 100 marks.

The performance of a student in each semester shall be evaluated Subject-wise (irrespective of Credits assigned) for a maximum of 100 marks for Theory or Seminar or Drawing/Design or Major Project or Practicals, etc. These evaluations shall be based on 30% CIE (Continuous Internal Evaluation) and 70% SEE (Semester End Examinations) and a Letter Grade corresponding to the % marks obtained shall be given.

### **Weightage of Theory Subject**

For theory subjects the distribution shall be 30 marks for Continuous Internal Evaluation (CIE) and 70 marks for the Semester End- Examination (SEE).

### **Continuous Internal Evaluation (CIE)**

For theory subjects, during the semester there shall be 2 Internal examinations. Each Internal examination is conducted for 30 marks.

### **Descriptive – 1 Hour 30 minutes for 30 marks**

The question paper consists of Part A & Part B where Part A has 5 questions of 3 marks each. (3\*5=15). Part B consists of 3 questions with either/or choice and each carries 5 marks. First Internal examination shall be conducted for 50% of syllabi and second Internal Examination shall be conducted for remaining 50%.

The marks secured by the student in I and II Internal examinations are considered and the AVERAGE of the two Internal examinations shall be taken as the final marks secured by the student

towards Continuous Internal Evaluation in the theory subject. If he/she is absent for any test, he/she will be awarded zero marks for that test.

### **Semester End- Examination (SEE)**

The Semester End Examination will be conducted for 70 marks. The question paper in Part A consists of 10 questions with 2 marks each and Part B contains 5 questions with either/or choice carrying 10 marks each. ( $10 \times 2 = 20 + 5 \times 10 = 50$   $20 + 50 = 70$ )

### **Weightage of Practical Subject**

For theory subjects the distribution shall be 30 marks for Continuous Internal Evaluation (CIE) and 70 marks for the Semester End- Examination (SEE).

### **Continuous Internal Evaluation (CIE)**

The marks for continuous evaluation may be distributed among various components like class work performance, Lab records, Quizzes, skill tests/ assignments/ mini projects. This is to be informed to students and supervisor before commencement of the dissertation work by the Faculty Advisor.

For practical subjects there shall be a continuous evaluation during the Semester for 30 marks. Out of the 30 marks for internal evaluation, day-to-day work in the laboratory shall be evaluated for 10 marks and internal practical examination shall be evaluated for 15 marks and viva voce for 5 marks conducted by the other laboratory teacher.

### **Semester End- Examination (SEE)**

The Practical End Semester Examination shall be conducted with an external examiner and the other laboratory teacher for 70 marks. The external examiner shall be appointed by the Principal from the panel of examiners recommended by Controller of Evaluation and Board of Studies in respective Branches.

### **Seminar**

There shall be a two seminar presentation in I year. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding of the topic, and submit it to the department. It 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 100 marks. There shall be no external examination for the seminar.

### **Comprehensive Viva-Voce**

There shall be a Comprehensive Viva-Voce in II year I semester. The Comprehensive Viva-Voce will be conducted by a committee consisting of Head of the Department and two Senior Faculty members of the department and is evaluated for 100 marks. The Comprehensive Viva-Voce is intended to assess the students understanding of the subjects he studied during the M. Tech. course. There will be no External Examiner for the Comprehensive Viva-Voce.

### **Major Project Work**

Out of a total of 300 marks for the major project work, 100 marks shall be for Project work Review I in II Year I semester and Project work Review II in II Year II semester for 100 marks at the End Semester evaluation. There is an External evaluation (viva-voce) shall be conducted by committee. The committee consists of an external examiner, Head of the Department, the supervisor of project and a senior faculty member of the department. The evaluation of project work shall be conducted at the end of the II year II Semester.

The Departments have to evolve rubrics for evaluation of Project work. The marks may be distributed among various components like selection of topic, problem statement, literature review, methodology, oral and written presentation of the work done and performance in viva-voce examination

### **Grading Procedure**

Marks will be awarded to indicate the performance of student in each theory subject, laboratory / practical's, seminar and major project. Based on the percentage of marks obtained (Continuous Internal Evaluation plus Semester End Examination, both taken together) as specified above, a corresponding letter grade shall be given.

As a measure of the performance of student, a 10-point absolute grading system using the following letter grades (as per UGC/AICTE guidelines) and corresponding percentage of marks shall be followed:

<b>% of Marks Secured in a Subject/Course (Class Intervals)</b>	<b>Letter Grade (UGC Guidelines)</b>	<b>Grade Points</b>
<b>Greater than or equal to 90%</b>	<b>O(Outstanding)</b>	<b>10</b>
<b>80 and less than 90%</b>	<b>A+(Excellent)</b>	<b>9</b>
<b>70 and less than 80%</b>	<b>A(Very Good)</b>	<b>8</b>
<b>60 and less than 70%</b>	<b>B+(Good)</b>	<b>7</b>
<b>50 and less than 60%</b>	<b>B(Average)</b>	<b>6</b>
<b>40 and less than 50%</b>	<b>C(Pass)</b>	<b>5</b>
<b>Below 40%</b>	<b>F(FAIL)</b>	<b>0</b>
<b>Absent</b>	<b>Ab</b>	<b>0</b>

A student obtaining 'F' grade in any subject shall be deemed to have 'failed' and is required to reappear as a 'supplementary student' in the semester end examination, as and when offered. In such cases, internal marks in those subjects will remain the same as those obtained earlier.

A student who has not appeared for examination in any subject, 'Ab' grade will be allocated in that subject, and student shall be considered 'failed'. Student will be required to reappear as a 'supplementary student' in the semester end examination, as and when offered.

A letter grade does not indicate any specific percentage of marks secured by the student, but it indicates only the range of percentage of marks.

A student earns grade point (GP) in each subject/ course, on the basis of the letter grade secured in that subject/ course. The corresponding 'credit points' (CP) are computed by multiplying the grade point with credits for that particular subject/ course.

**Credit points (CP) = grade point (GP) x credits .... For a course**

The student passes the subject/ course only when GP \* 5 ('C' grade or above) The semester grade point average (SGPA) is calculated by dividing the sum of credit points ( $\Sigma$ CP)



secured from all subjects/ courses registered in a semester, by the total number of credits registered during that semester. SGPA is rounded off to two decimal places. SGPA is thus computed as

$$SGPA = \{ \sum_{i=1}^N C_i G_i \} / \{ \sum_{i=1}^N C_i \} \dots\dots\dots \text{For each semester.}$$

where ‘i’ is the subject indicator index (takes into account all subjects in a semester), ‘N’ is the no. of subjects ‘registered’ for the semester (as specifically required and listed under the course structure of the parent department), C is the no. of credits allotted to the i th subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that ith subject.

The cumulative grade point average (CGPA) is a measure of the overall cumulative performance of a student in all semesters considered for registration. The CGPA is the ratio of the total credit points secured by a student in all registered courses in all semesters, and the total number of credits registered in all the semesters. CGPA is rounded off to two decimal places. CGPA is thus computed from the I year II semester onwards at the end of each semester as per the formula.

$$CGPA = \{ \sum_{j=1}^M C_j G_j \} / \{ \sum_{j=1}^M C_j \} \dots\dots\dots \text{For all S Semesters registered. (I.E., Upto and inclusive of S semesters , S*2)}$$

where ‘M’ is the total no. of subjects (as specifically required and listed under the course structure of the parent department) the student has ‘registered’ i.e., from the 1st semester onwards up to and inclusive of the 8 th semester, ‘j’ is the subject indicator index (takes into account all subjects from 1 to 8 semesters), C is the no. of credits allotted to the jth subject, and G represents the grade points (GP) corresponding to the letter grade awarded for that jth subject. After registration and completion of first year first semester, the SGPA of that semester itself may be taken as the CGPA, as there are no cumulative effects

**Illustration of calculation of SGPA**

Course/Subject	Credits	Letter Grade	Grade points	Credit Points
Course 1	3	A	8	3*8=24
Course 2	3	O	10	3*10=30
Course 3	3	B	6	3*6=18
Course 4	3	B	6	3*6=18
Course 5	2	A+	9	2*9=18
Course 6	2	B	6	2*6=12
Course 7	2	A	8	2*8=16
	18			136

$$\text{SGPA} = 136/18 = 7.55$$

### Illustration of calculation of CGPA

Semester	Credits	SGPA	Credits * SGPA
Semester I	18	7	18*7.5 = 135
Semester II	18	6	18*6 = 108
Semester III	12	6.5	12*6.5 = 78
Semester IV	20	6	20*6 = 120
	68		441

$$\text{CGPA} = 441/68 = 6.48$$

For merit ranking or comparison purposes or any other listing, only the ‘rounded off’ values of the CGPAs will be used. For calculations listed in regulations SGPA to CGPA, performance in failed subjects/ courses (securing F grade) will also be taken into account, and the credits of such subjects/ courses will also be included in the multiplications and summations.

After passing the failed subject(s) newly secured letter grades will be taken into account for calculation of SGPA and CGPA. However, mandatory courses will not be taken into consideration.

### Passing standards

A student shall be declared successful or ‘passed’ in a semester, if student secures a  $\text{GP} \geq 5$  (‘C’ grade or above) in every subject/course in that semester (i.e. when student gets an  $\text{SGPA} \geq 5.00$  at the end of that particular semester); and a student shall be declared successful or ‘passed’ in the entire under graduate programme, only when gets a  $\text{CGPA} \geq 5.00$  for the award of the degree as required. After the completion of each semester, a grade card or grade sheet (or transcript) shall be issued to all the registered students of that semester, indicating the letter grades and credits earned. It will show the details of the courses registered (course code, title, no. of credits, and grade earned etc.), credits earned, SGPA, and CGPA.

### Declaration of results

Computation of SGPA and CGPA are done using the procedure listed in SGPA to CGPA. For final percentage of marks equivalent to the computed final CGPA, the following formula may be used.

$$\% \text{ of Marks} = (\text{final CGPA} - 0.5) \times 10$$

### **Award of degree**

A student who registers for all the specified subjects/ courses as listed in the course structure and secures the required number of **88** credits (with CGPA  $\geq 5.0$ ), within 8 academic years from the date of commencement of the first academic year, shall be declared to have '**qualified**' for the award of the M.Tech. degree in the chosen branch of Engineering as selected at the time of admission.

A student who qualifies for the award of the degree as listed above shall be placed in the following classes.

Students with final CGPA (at the end of the under graduate programme)  $\geq 8.00$ , and fulfilling the following conditions –

- (iv) Should have passed all the subjects/courses in '**first appearance**' within the first 4 academic years (or 4 sequential semesters) from the date of commencement of first year first semester.
- (v) Should have secured a CGPA  $\geq 8.00$ , at the end of each of the 8 sequential semesters, starting from I year I semester onwards.
- (vi) Should not have been detained or prevented from writing the end semester examinations in any semester due to shortage of attendance or any other reason, shall be placed in '**first class with distinction**'

Students with final CGPA (at the end of the under graduate programme)  $\geq 6.50$  but  $< 8.00$ , shall be placed in '**first class**'.

Students with final CGPA (at the end of the under graduate programme)  $\geq 5.50$  but  $< 6.50$ , shall be placed in '**second class**'.

All other students who qualify for the award of the degree (as per item 12.1), with final CGPA (at the end of the under graduate programme)  $\geq 5.00$  but  $< 5.50$ , shall be placed in '**pass class**'

### **Result Announcement Policy**

The section dealing with the examination shall prepare a statistics of the result with details such as:-

01. Name of examination with month and year.
02. Number of candidates registered for the examination.
03. Number of candidates appeared for the examination.
04. Number of candidates secured the minimum pass mark prescribed for each part of the examination and the aggregate marks required for a pass and the number of candidates in each class.
05. Percentage of pass.

The CoE shall issue orders to publish the results. The results approved by the CoE shall be posted in the website.

### **Supplementary Examinations**

Candidates shall write the supplementary examinations conducted by the College along with regular examinations in November and April. Outgoing students (UG &PG) can appear for the supplementary examination in June, if they have a maximum of 2 papers to complete the degree.

### **Grievance Methodology**

The grievances regarding Internal Examinations shall be filed at the HoD office and HoD in turn forward to COE office within two working days of the publication of the consolidated results of concerned examination and the decision shall be taken within the next three working days.

### **Grievance Link :**

[https://docs.google.com/forms/d/e/1FAIpQLScGkELB\\_ovPPqbNGF8rXfpFkWZ6ra6gag5RDV3apAdl7eafQg/viewform](https://docs.google.com/forms/d/e/1FAIpQLScGkELB_ovPPqbNGF8rXfpFkWZ6ra6gag5RDV3apAdl7eafQg/viewform)

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## ANNEXURES

### MALPRACTICES RULES

#### DISCIPLINARY ACTION FOR / IMPROPER CONDUCT IN EXAMINATIONS

	<b>Nature of Malpractices/Improper conduct</b>	<b>Punishment</b>
	If the student:	
1. (a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which student is appearing but has not made use of (material shall include any marks on the body of the student which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(b)	Gives assistance or guidance or receives it from any other student orally or by any other body language methods or communicates through cell phones with any student or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the students involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2.	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the student is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the student has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The hall ticket of the student is to be cancelled and sent to the university.

3.	Impersonates any other student in connection with the examination.	The student who has impersonated shall be expelled from examination hall. The student is also debarred and forfeits the seat. The performance of the original student who has been impersonated, shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The student is also debarred for two consecutive semesters from class work and all university examinations. The continuation of the course by the student is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4.	Smuggles in the answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The student is also debarred for two consecutive semesters from class work and all university examinations. The continuation of the course by the student is subject to the academic regulations in connection with forfeiture of seat.
5.	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.
6.	Refuses to obey the orders of the chief superintendent/assistant superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the officer-in charge or any person on duty	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the student(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The students also are debarred

	in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer-in-charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the college campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7.	Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The student is also debarred for two consecutive semesters from class work and all university examinations. The continuation of the course by the student is subject to the academic regulations in connection with forfeiture of seat.
8.	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The student is also debarred and forfeits the seat.
9.	If student of the college, who is not a student for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the college expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The student is also debarred and

		forfeits the seat. Person(s) who do not belong to the college will be handed over to police and, a police case will be registered against them.
10.	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the student has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year.
11.	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the student has appeared including practical examinations and project work of that semester/year examinations.
12.	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the university for further action to award suitable punishment.	







# St.PETER'S ENGINEERING COLLEGE

(Sponsored by Shantha Educational Society)  
(Approved by AICTE, New Delhi, Affiliated to JNTUH)



Giving Wings to Thoughts

Academic year.....Semester..... Date of Feedback.....

Department..... Year ..... Student Name.....

## Feedback Form

1	Level of Question Paper	
2	Syllabus Coverage in Question Paper	
3	Question Paper mapped to OBE	
4	Timely distribution of Question Paper	
5	Time allocated for answering Question Paper	
6	Quality of Evaluation	
7	Quality of Scheme of Evaluation	
8	Declaration & Display of Results	
9	Response of Exam Cell Staff in Resolving Queries	
10	Approachability of Exam cell Staff.	

Give the Rating for the above Parameters as specified below

**1- Poor, 2- Satisfactory, 3- Good, 4-Very Good, 5-Excellent**

**MODEL EXTERNAL QUESTION PAPER**

**SR 20**

**Course Code: AS20-03ES01**

**St. PETER'S ENGINEERING COLLEGE (AUTONOMOUS)**

Maisammaguda, Dhulapally, Kompally, Medchal, Hyderabad - 500100.

**II B. TECH I SEMESTER REGULAR EXAMINATIONS, February 2022**

**ENGINEERING MECHANICS**

**(Common to CIVIL & MECHANICAL)**

**Time: 3hrs**

**Max. Marks:70**

Note: This question paper contains two Parts A and B.

Part A is compulsory which has 10 questions for 20 marks. Answer all questions in Part A.

Part B consists of 5 Questions each 10marks. Answer all questions in part B.

**Part-A**

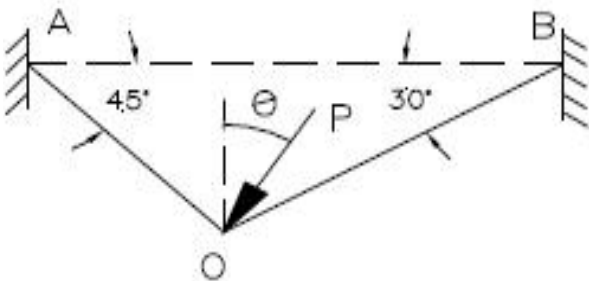
**ANSWER ALL THE QUESTIONS**

**[10 x 2= 20 Marks]**

		<b>20M</b>	<b>CO</b>	<b>BT</b>
1	Explain Lami's theorem with a neat sketch?	<b>2M</b>	<b>CO 1</b>	
2	Explain the Parallelogram law of forces?	<b>2M</b>	<b>CO 1</b>	
3	Define friction, Classify types of frictions	<b>2M</b>	<b>CO 2</b>	
4	Discuss about the coefficient of limiting friction	<b>2M</b>	<b>CO 2</b>	
5	Define principal axes and principal moment of inertia.	<b>2M</b>	<b>CO 3</b>	
6	Distinguish between centroid and center of gravity.	<b>2M</b>	<b>CO 4</b>	
7	Define D'Alembert's principle	<b>2M</b>	<b>CO 5</b>	
8	Illustrate the impulse momentum equation?	<b>2M</b>	<b>CO 5</b>	
9	Show that the mathematical definitions of velocity and acceleration.	<b>2M</b>	<b>CO 6</b>	
10	What is principle of conservation of energy	<b>2M</b>	<b>CO 6</b>	

**Part-B**

**[5 x 10 = 50 Marks]**

1	(i) a	Two forces of magnitude 50 KN and 80 KN are acting on a particle, such that the angle between the two is $135^\circ$ . If both the force are acting away from the particle, calculate the resultant and find its direction	<b>5M</b>	<b>CO1</b>	<b>BT</b>
	b	A force P is applied at 'O' to the string AOB as shown in fig. If the tension in each part of string is 50 N, Find the direction and magnitude of force P for equilibrium conditions.	<b>5M</b>	<b>CO1</b>	
					
		or			
	(ii)	Two identical rollers each of weight 50N are supported by an inclined plane and a vertical wall as shown in fig. Find the reactions at the points of supports	<b>10M</b>	<b>CO1</b>	

2	(i) a	A block of mass 0.1 kg is held against a wall applying a horizontal force of 5N on the block. If the coefficient of friction between the block and the wall is 0.5, the magnitude of the frictional force acting on the block is?	5M	CO2	
	b	Prove that the angle of repose is equal to the angle of friction.	5M	CO2	
		or			
	(ii)	A block overlaying a $10^\circ$ wedge on a horizontal floor, leaning against a vertical wall, and weighing 2000 N is to be raised by applying a horizontal force to the wedge as shown in figure 6. Assuming coefficient of friction for all contact surfaces is 0.25, determine the minimum horizontal force to be applied to raise the block.	10M	CO2	
3	(i) a	Discuss about the expression for finding mass moment of inertia of a cylinder of radius 'R' and height 'h' about its base.	5M	CO3	
	b	Discuss about the Polar moment of Inertia and state its significant	5M	CO4	
		or			
	(ii) a	Find the moment of inertia of the section shown in the figure about its horizontal centroidal axis.	10M	CO3	
4	(i) a	What is work energy principle?	5M	CO5	
	b	A car accelerates uniformly from a speed of 30 Km/Hr to a speed of 75 Km/Hr in 5 secs. Determine the acceleration of the car and the distance traveled by the car during 5 secs	5M	CO5	
		or			
	(ii)	The position of the particle is given by the relation $S=1.5t^3-9t^2-22.5t+60$ , where S is expressed in meters and t in seconds. Determine	10M	CO5	

		(i) the time at which the velocity will be zero (ii) the position and distance traveled by the particle at that time (iii) the acceleration of the particle at that time and (iv) the distance traveled by the particle from $t = 5s$ to $t = 7s$ .			
5	(i)	Suppose that you push on the 30.0-kg package in Figure 3 with a constant force of 120 N through a distance of 0.800 m, and that the opposing friction force averages 5.00 N. 1. Calculate the net work done on the package. 2. Solve the same problem as in part 1, this time by finding the work done by each force that contributes to the net force.	<b>10M</b>	<b>CO6</b>	
		or			
	(ii) a	Design work energy equation of rigid body and mention the meaning for all parameters used in the equation.	<b>5M</b>	<b>CO6</b>	
	b	A vibrating simple pendulum of period is placed in a lift which is accelerating downwards. what will be the effect on time period	<b>5M</b>	<b>CO6</b>	

\*\*\*\*\*ALL THE BEST\*\*\*\*\*

## Model Remuneration Bill format



# St. Peter's Engineering College

(UGC Autonomous)

Maisammaguda Village, Dhulapally, Opp. to Forest Academy, Hyderabad

### REMUNERATION BILL

Name of the Staff:

(Block

Letters) Designation

n :

Mobile Number

: Email Id:

Address :

Name of the Examination:

Course Name & Code:

Bundle Number:

Particulars of the Assignment		Quantity	Rate (Rs.)	Total (Rs.)
Paper Setting	No. of Sets		1000/-	
Key & Scheme of Evaluation	No. of Sets		250/-	
Paper Evaluation - External	No. of Papers		25/-	
Project/Thesis Viva Voce	No. of Students			
Others (Specify below)				
			Total:	

#### Details to be filled as per Bank Account

Name:	
Account Number:	
Bank Name:	
Branch Name:	
IFSC Code:	
Mobile Number:	

Received Sum of Rupees: \_\_\_\_\_

Certified that the above work for which remuneration claimed is completed and in case, the amount claimed is

found to be in excess than eligible, I will refund the excess amount, I also certify that all the details are correct.

Place: Hyderabad

Date:

Signature of the Claimant  
(Affix revenue stamp, if the claim exceeds

Rs.5000)FOROFFICE USE ONLY

The bill is passed for Rs: \_\_\_\_\_ (In words: ) Mode of Payment: Cash/ DD/ NEFT/ Cheque

Signature of

OA

Co-ordinator

CoE

Principal