

B. TECH EXAMINATION MANUAL



**UNIVERSITY INSTITUTE OF ENGINEERING & TECHNOLOGY,
CHHATRAPATI SHAHUJI MAHARAJ UNIVERSITY KANPUR**

Introduction

University Institute of Engineering and Technology (UIET) is an autonomous institute under Chhatrapati Shahu Ji Maharaj University, Kanpur.

The institute offers six B. Tech courses in the following streams:

1. B.Tech in Chemical Engineering
2. B.Tech in Computer Science and Engineering
3. B.Tech in Computer Science and Engineering (Artificial Intelligence)
4. B.Tech in Electronics and Communication Engineering
5. B.Tech in Information Technology
6. B.Tech in Mechanical Engineering

The academic session which is divided into two semesters begins in the third week of July every year and ends in the third week of May in the following year.

An Academic Calendar is prepared each year mentioning the proposed dates of all the academic events during the academic session. The Academic Calendar contains dates for: Registration, Late Registration, Commencement of Classes, Last day of classes, Semester Recess, Quiz weeks, Mid-Semester and End-Semester Examinations.

A student is expected to register for five/six courses in every semester through the process of academic registration. Each course has a certain number of contact hours (lectures and tutorials) and may contain a certain number of laboratory hours per week. Depending upon the number of contact hours and laboratory hours, the weightage of the course (number of credits) is decided.

The Examination system at this Institute follows a continuous process of evaluation normally based on quizzes, one mid-semester examination and one end-semester examination in addition to performances in home assignments, laboratory assignments, course project(s), course presentation(s), etc.

Two committees are appointed by the Director after due approval from the Vice Chancellor for conduct of B. Tech examination and, for academic monitoring and preparation of the B. Tech results, respectively. These are:

- (1) Examination Committee - Responsible for conduct of B. Tech examination
- (2) Academic Performance Evaluation Committee - Responsible for preparation and evaluation of the B. Tech results

Examination and Distribution of marks

Each course in the B. Tech curriculum must have a minimum of 40 lecture hours. Mid-semester examination will be held after approximately 20 lecture hours and End-semester examination will be held after completion of at least 40 lecture hours.

The duration of each End-semester examination (theory) will be of three hours and duration of each Mid-semester examination (theory) will be of one and a half hours.

The courses of the B. Tech curriculum can be divided into

- (i) Courses having only theory component
- (ii) Courses having both theory and laboratory components
- (iii) Courses having only laboratory component
- (iv) Course for evaluating Summer training/Internship
- (v) Seminar courses
- (vi) Project courses

The distribution of marks for academic evaluation for each of these courses is as follows:

- (i) Distribution for marks for courses having only theory component

Quizzes (at least two) /Assignments/Presentations	15
Regularity in Attendance	05
Mid-semester examination	30
End-semester examination	50

- (ii) Distribution of marks for courses having both theory and laboratory components

Quizzes (at least two) /Assignments/Presentations	15
Regularity in Attendance	05
Mid-semester examination	20
End-semester examination	40
Laboratory component	20

- (iii) Distribution of marks for courses having only laboratory component

Lab Quizzes	20
Regularity in Attendance	10
Laboratory Performance	20
Mid-semester lab examination	20
End-semester lab examination	30

- (iv) Distribution of marks for courses evaluating Summer training/Internship

Attendance	05
Project Work	10
Presentation and Viva voce	20
Project Report	15

(v) Distribution of marks for Seminar courses

Attendance	10
Presentation	20
Quality of material	10
Ability to answer queries	10

(vi) Distribution of marks for Project courses

Regularity in work/Attendance	05
Mid semester presentation/report and viva voce	25
End-semester report	30
End-semester viva voce	40

Based on a weighted average of the marks obtained in End-semester and Mid-semester examinations, attendance, quizzes and other assignments/presentations during the semester, a letter grade will be awarded in each course in which a student has registered.

Grading system

The Institute follows a relative grading system. There are five regular letter grades. The following table gives the correspondence between letter grades and the grade points assigned to them:

Letter Grade	Grade Point
A	10
B	8
C	6
D	4
F	2

Based on the letter grades obtained by the student and the number of credits of each course, the Semester Performance Index (SPI) and Cumulative Performance Index (CPI) are calculated for each student at the end of each semester.

Semester Performance Index

The Semester Performance Index (SPI) describes the performance of the student in the courses of a particular semester.

If the grade points of the letter grades awarded to a student in five courses are denoted by g_1, g_2, g_3, g_4, g_5 , and the weightage(number of credits) of the courses by w_1, w_2, w_3, w_4, w_5 , respectively, the SPI will be computed as follows:

$$SPI = \frac{w_1g_1 + w_2g_2 + w_3g_3 + w_4g_4 + w_5g_5}{w_1 + w_2 + w_3 + w_4 + w_5}$$

Cumulative Performance Index

The Cumulative Performance Index (CPI) is used to describe the overall performance of a student up to and including the latest semester. It will be computed in a similar manner from the grade points of all the grades the student has received since the beginning of the program.

$$CPI = \frac{w_1g_1 + w_2g_2 + w_3g_3 + w_4g_4 + \dots}{w_1 + w_2 + w_3 + w_4 + \dots}$$

F grade in a course means ‘failed’ in that course and the student shall have to repeat the same course. The student must appear for all examinations (quizzes, mid-semester, end-semester) when he/she is repeating the course. Once a course has been repeated by the student, the letter R will be associated with the new grade obtained in the Grade Sheet to indicate that the course was repeated.

A student may be awarded a grade "I" (Incomplete) if he/she has missed the End Semester Examination (Theory and/or Practical) with prior permission (granted only for unavoidable situations) but has otherwise been regular. Not appearing in the final examination does not entitle a student to an automatic “I” grade.

All "I" grades awarded by instructors must be converted by them to appropriate letter grades (A, B, C, D, F) and communicated to the APEC office whenever the course is offered again. In case of “I” grade, the student will have to appear in the missing component(s) and his/her marks in other components will be carried forward for the purpose of awarding grade.

For any course, all the answer scripts including but not restricted to quizzes, Mid-semester, and End-semester examinations should be shown to the students normally within a period of two weeks after the exam for the course.

All the queries made by a student concerning the evaluation of his/her answer-script should be clarified by the Instructor-in-charge.

Any change of grade, if found necessary, must be sent together with proper justification by the instructor-in-charge to the APEC office in the prescribed form within one week from the announcement of the grades by APEC. In all such cases, approval is needed from the Director or her/his nominee.

The project grades of the graduating students must be submitted before the last date for the submission of grades of the end semester examination. An "I" grade for a project may be given only under exceptional circumstances with valid evidence to support the case.

Special provision for graduating students

If a graduating student has only one pending 'F' grade at the end of eight semesters and has a CPI \geq 5.00, a special End Semester Examination may be conducted in the month of July/August. The students of previous batches can also avail this opportunity to graduate if they have only one pending 'F' grade.

A student's grades shall be recorded on a permanent Academic Record Chart. A copy of the Academic Record Chart will be issued to the students as Intermediate Grade Sheet after each semester. The SPI and CPI are recorded on this grade sheet.

Graduation requirement and Divisions awarded

A student will be deemed to have completed the requirements for graduation if he/she has

- a) Passed all prescribed courses
- b) Cleared minimum credit requirement for graduation. The minimum credit requirement for graduation in B. Tech program is 170 credits
- c) CPI \geq 5.00
- d) Cleared all dues of the Institute, hostel, library etc.
- e) No case of indiscipline pending against him/her

A B. Tech. student with a CPI below 5.00 OR having any pending F grades will not be deemed to have graduated.

Division shall be awarded to a student on the basis of his/her final result, i.e., after the completion of eight semesters or later whenever the student has fulfilled the criteria for graduation. The division is awarded on the following basis:

CPI greater than or equal to 7.50 - First division with distinction

CPI greater than or equal to 6.50 - First division

CPI greater than or equal to 5.00 but less than 6.50 - Second division

Duties and Responsibilities of Examination Committee

1. An Examination Committee comprising of a Convener, a Deputy Convener, and eight faculty members shall be appointed by the Director after approval from the Vice Chancellor for conduct of B. Tech examinations.
2. The Examination committee shall be responsible for orderly and timely conduct of the B. Tech Mid-semester and End-semester examinations.
3. The Examination committee shall be responsible for preparing the examination scheme both for B. Tech Mid-semester and End-semester examinations as per the dates mentioned in the Academic Calendar.
4. The examination scheme shall be displayed to the students 10 days prior to the start of the examination.
5. The Convener of the Examination Committee shall maintain a database of students and shall ensure maintenance of the records related to the examinations.
6. The Convener or Deputy Convener of the Examination Committee shall be present at the centre for the entire duration of the examination and shall be responsible for the smooth conduct of the examinations.
7. The Convener of the Examination Committee or a member of the Examination Committee (as appointed by Convener) shall be responsible for collection of question papers at least a week prior to start of examinations. They will be responsible for photocopying and sealing of question papers.
8. The Examination Committee shall appoint Invigilators for conduct of the examination. Invigilation duties shall be assigned to all faculty members and technical staff of the institute.
9. The Convener of the Examination Committee shall ensure that the invigilators so appointed are made aware of their duties and responsibilities beforehand. He/She shall closely monitor and supervise their activities.
10. The Examination Committee shall ensure that only those candidates who are in possession of admit cards are permitted to enter the examination hall.
11. In the event of non-possession or loss of Admit card the Convener of the Examination Committee is empowered to permit the candidate to appear in the examination after verifying the identity and eligibility of the candidate for that particular day. The candidate must, however, have a duplicate Admit Card issued from APEC at the earliest.
12. The Examination Committee shall ensure that candidates are not in possession of cell phones, smart watches, electronic equipment, books, paper chits or any other material which may be used for copying.
13. The Examination Committee/Invigilator shall seize any such equipment if found with any candidate. He shall also seize the answer book of such a candidate indulging in any kind of malpractice. The candidate may be issued a fresh copy to continue his/her examination.

14. In case any candidate is found using any unfair means, he/she shall be booked for malpractice. The candidate found guilty of using unfair means during exam will be supplied with a copy of the charge sheet immediately in the prescribed format (UFM Form) to submit his/her written reply on the charge. The material recovered must be duly signed by the student.
15. If the candidate refuses to give his/her statement on the spot and/or refuses to sign the material recovered or leaves the centre without giving his/her statement or if he/she is found guilty of showing disorderly conduct, a disciplinary action can be taken against him/her.
16. The UFM Form will be signed by the invigilator and counter signed by the Convener of the Examination Committee along with their comments. The Unfair Means form and the seized answer booklets shall be packed, marked and sent separately to the Unfair Means Committee for further action.
17. On completion of the examination, the Examination Committee shall ensure that the answer scripts, verification sheets and attendance sheets are received from each invigilator. The number of answer scripts shall be tallied with the attendance data, and the answer scripts shall be packed and superscribed with details of the course, subject and paper code, date of examination and signature of the room invigilators.
18. The Examination Committee shall hand over the packed answer scripts along with a copy of the question paper to the course instructor once the examination of the course is over. A record of this shall also be maintained by the Convener of the Examination Committee.

Duties and Responsibilities of Invigilators

1. Faculty members/Technical Staff assigned invigilation duties must reach the Examination Control Room 30 minutes before the commencement of the examination. They shall collect answer booklets, question papers (in sealed envelopes), verification sheets and attendance sheets from the Examination Control Room.
2. The invigilators must reach the assigned examination room 15 minutes before the commencement of the examination with the examination material.
3. After reaching the examination room, if the invigilators find something is written either on the black board or on the wall of the room or on the chair assigned to the candidate to sit, they must ensure that everything is wiped out before the commencement of the examination.
4. The invigilators shall ensure seating arrangements in the examination room as per the seating plan. Seating plans must be displayed at the entrance of the room.
5. The invigilators should distribute the answer booklets to the candidates after ensuring that the answer booklet has the identifying number assigned to it.
6. The invigilators shall examine the admit card of the candidates. No candidate without admit card shall be allowed in the examination hall without the permission of the Examination Committee. No candidate shall be allowed to appear in the examination of the subjects not mentioned in the admit card.

7. The invigilators shall check and verify all the entries to be made by the students at the main page of answer booklet, especially the roll number and paper code, and then put signature at the designated location on the main page.
8. The invigilators should also ensure that there is no written paper or improper examination material, inside and outside the examination room, on the windows and at the entrance.
9. A close search of the examinees must be done by the Examination Committee members/ invigilators before allowing them to enter the room at the entrance of the examination room.
10. After commencement of examination, the candidates who are late may be admitted by the room invigilators on the permission of the Examination Committee. But, in no case, admission should be given to any of the examinees who appear half an hour late after the commencement of examination.
11. The following announcements must be made in the examination room by the invigilators before the commencement of each examination
 - a) The candidate must check the material brought with him doesn't fall within the ambit of improper means.
 - b) The candidate should write his roll number at the designated place on the answer book and not in any other place
 - c) The candidate should not write anything on the question paper apart from his/her roll number
 - d) All answers must be written in a single answer booklet. No supplementary sheets will be provided. The candidate should write answers to questions on both sides of the pages of the answer book
 - e) No portion or part of the answer booklet shall be detached by the student
12. Invigilators must ensure that except calculator, no electronic devices like mobile, electronic diary, programmable watch, etc., are allowed in the examination hall. Design data charts, steam tables and textbooks (in case of open book examinations) may be allowed after proper instructions from the Convener of the Examination Committee.
13. The invigilators must ensure that if the student has been provided a graph paper, semi log paper etc., then the student should write his/her roll number on it.
14. The invigilators are required to roam in the examination room regularly during the examination period and be alert so that no candidate should use improper material. Use of cell phones by invigilators is prohibited.
15. The room invigilators will not allow any candidate to leave the examination before 60 minutes from the start of the examination.
16. The invigilators will not in any case redress any misprint or error in the question papers. If there is any misprint or error in the question papers, the invigilator shall immediately inform the

Convener of the Examination Committee. The necessary action will be taken by the Convener of the Examination Committee.

17. Invigilators are required to ensure, (i) no candidate is permitted to use the washroom (under normal circumstances) in the first hour of the commencement of the examination and 15 minutes before the examination is over, (ii) only one candidate should be allowed to go at a time.

Duties and Responsibilities of Flying Squad

1. The Flying Squad team shall be appointed by the Convener of the Examination Committee.
2. The Flying Squad team shall visit each of the Examination rooms every day of the examination.
3. The Flying Squad team is empowered to physically check any candidate suspected of using unfair means. In case the squad chief is a male then the assistance of a lady invigilator may be taken to check a lady candidate. If the squad chief is a female, a male invigilator would be asked to check a male candidate.
4. In case of any malpractice, the Flying Squad team is empowered to seize the Admit Card and the answer booklet of the candidate and hand over the same to the Convener of the Examination Committee for further necessary action.
5. The Flying Squad team shall report any discrepancies/malpractices observed to the Convener of the Examination Committee/Director

Instructions for the Candidates

1. The candidates must carry their Admit Cards for each examination. They must ensure that the subjects for which they are registered are mentioned in the Admit Card.
2. In case the original Admit card is lost, the candidate must have a duplicate copy issued from APEC Office after following the proper procedure.
3. The candidate must reach the Examination Room 10 minutes prior to the commencement of the examination and occupy his/her assigned seat as per seating plan.
4. No candidate will be admitted after half an hour of the commencement of examination on any day.
5. Seating plan with roll numbers will be displayed outside each building and each room where examinations are to be held.
6. The candidate must carefully fill the entries such as Roll No, Subject name, Subject Code, Date on the front page of the answer booklet in the designated spaces.
7. The candidate must read the instructions carefully given on the Question Paper before answering the paper.

8. Only one answer booklet of 30 pages will be provided to each candidate for each examination. No supplementary sheets will be provided for any examination. The candidate must write on both sides of pages of answer booklet.
9. The candidate must not write anything on the question paper except Roll No.
10. All answers must be written with a blue/black pen. Pencils may be used only for diagrams.
11. Use of programmable calculator is not allowed. Design data charts, steam tables and textbooks (in case of open book examinations) will be allowed after proper permission from Course instructor/ Convener of the Examination Committee.
12. The candidate must not bring any cell phone, smart watch, wallet, electronic equipment, books, paper chits or any other material which may be used for copying.
13. A candidate found guilty of use of unfair means will be liable to severe action under the provisions contained in UFM rules.
14. The candidate found guilty of using unfair means during exam will be supplied with a copy of the charge sheet immediately in the prescribed format (UFM Form) to submit his/her written reply on the charge and to sign the material recovered from him/her.
15. If the candidate refuses to give his/her statement on the spot and/or refuses to sign the material recovered or leaves the centre without giving his/her statement or if he/she is found guilty of showing disorderly conduct, disciplinary action can be taken against him/her.
16. The UFM Form will be signed by the invigilator and counter signed by the Convener of the Examination Committee along with their comments. This Unfair Means form and the seized answer booklets shall be packed, marked and sent separately to the Unfair Means Committee for further action.
17. During the course of examination, the candidates shall be under the discipline and control of the Examination Committee and shall obey all orders issued by the Convener, Examination Committee in all matters relating to the Examinations.
18. The candidate is required to show the examination admit card to invigilator/Examination Committee /Flying squad or other Institute/University authority when asked. The candidate is also required to sign on the verification sheet/attendance sheet during examination.

APPENDIX

Guidelines for Preparation of question paper

- (i) Format for End-semester question paper
- (ii) Format for Mid-semester question paper

DEPARTMENT OF ----- ENGINEERING
UNIVERSITY INSTITUTE OF ENGINEERING AND TECHNOLOGY, CSJM UNIVERSITY, KANPUR

Subject Name (Subject Code)

Semester: 2021-22 (Odd Semester)

Year: 1st Year (2K21)

End Semester Examination

Time: 3 h

Maximum marks: 50

All questions are compulsory

Section A

10 marks (10 questions of 1 mark each)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Section B

20 marks (5 questions of 4 marks each)

- 1.
- 2.
- 3.
- 4.
- 5.

Section C

20 marks (2 questions of 10 marks each, Each question should have two parts)

- 1.(a)
 - 1 (b)

 - 2.(a)
 - 2.(b)
-

PLEASE NOTE: All End semester papers will have maximum marks of 50.

In some subjects (ones having lab component), the weightage for End-Semester is 40%. For such courses, the marks obtained by the student (out of 50) will be multiplied by 4/5, to get the marks out of 40 and used for final grade preparation.

DEPARTMENT OF ----- ENGINEERING
UNIVERSITY INSTITUTE OF ENGINEERING AND TECHNOLOGY, CSJM UNIVERSITY, KANPUR

Subject Name (Subject Code)

Semester: 20XX-XX (Odd/Even Semester)

Year: 1st/2nd/3rd/4th Year (2KXX)

Mid Semester Examination

Time: 1.5 h

Maximum marks: 30

All questions are compulsory

Section A

9 marks (9 questions of 1 mark each)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Section B

9 marks (3 questions of 3 marks each)

- 1.
- 2.
- 3.

Section C

12 marks (2 questions of 6 marks each, Each question can have parts)

- 1.(a)
 - 1 (b)

 - 2.(a)
 - 2.(b)
-

PLEASE NOTE: All Mid semester papers will have maximum marks of 30.

In some subjects (ones having lab component), the weightage for Mid-Semester is 20%. For such courses, the marks obtained by the student (out of 30) will be multiplied by 2/3, to get the marks out of 20 and used for final grade preparation.