ORDINANCES

for

Bachelor of Technology Programs
(Based on NEP-2020)

Faculty of Engineering and Information Technology
(Effective from Session 2024-2025)

DEFINITIONS OF KEY WORDS:

1. **Choice Based Credit System (CBCS)**: It is the system formulated by the UGC in 2015. The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses). Under the CBCS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of minimum number of credits to be completed by the students.

2. **Academic Year**: Two consecutive (one odd + one even) semesters constitute one academic year.

3. **Semester:** Each semester will consist of 15-16 weeks of academic work equivalent to 90 actual teaching days. In a bi-semester system, an academic year consists of two semesters. The odd semesters may be scheduled from June/July to November/ December, and even semester from December/January to April/May.

4. **Program**: A program, hereinafter, shall mean an academic program leading to award of a degree, diploma or certificate. It comprises a fixed set of core (compulsory) Courses and some choice based (optional) Courses with a minimum Credit requirement.

5. **Course:** A course, usually referred to as 'paper', is a component of a program, comprising one or a combination of some academic forms of instructions such as lectures, tutorials, laboratory work, field work, outreach activities, project work, vocational training, viva, seminars, term papers, assignments, presentations, self-study etc. or a combination of some of these. All courses should define learning objectives and students' learning outcomes. Each course is to be identified by a unique course code and course title.

6. **Credit:** Credit defines the quantum of work-load for a course. Generally, one hour of theory or one hour of tutorial or two hours of laboratory work, per week for a duration of a semester result in the award of one credit.

7. **Grade Point**: It is a numerical weight allotted to each letter grade on a 10-point scale.

8. **Letter Grade:** It is an index of the performance of students in a course. Grades are denoted by letters O, A, B, C, D, E, P, F and Ab.

9. **Credit Point:** It is the product of grade point and number of credits for a course.

10. **SGPI:** The Semester Grade Performance Index (SGPI) of a student in a Semester is the weighted average of the Grade Points secured by the student in all the Credit Courses that he/she registered in that Semester.

11. **CGPI:** The Cumulative Grade Performance Index (CGPI) of a student in a program is the accumulated weighted average of the Grade Points secured by the student in all the Credit Courses that he/she registered in the current and previous semesters.

INTEGRAL UNIVERSITY, LUCKNOW

Ordinances for Bachelor of Technology Program

1. Admission

1.1 Admission to B.Tech. 1st semester and B.Tech. 3rd semester (for diploma holder candidates only) will be made as per the requirement prescribed by the Academic Council of Integral University, Lucknow (here-in after called University).

1.2 The University may admit an additional 10% of students if there is a decrease in the expected number of second-year students due to failures in first year or withdrawals from the University.

2. Eligibility

The eligibility criteria for admission to B.Tech. programs are given in Annexure I.

3. Attendance

3.1 The attendance of learners shall be reckoned from the date of their registration in the class.

3.2 Each learner is normally required to attend all the lectures, tutorials and lab, etc. However, a minimum attendance of 75% will be necessary. However, the Dean of Engineering & IT may relax this minimum requirement due to medical or other genuine reasons.

3.3 Attendance for participation in prescribed functions such as NCC, NSS, inter-university sports and events, educational tours, field work, training, and curricular/co-curricular activities sponsored by the University shall be credited towards the aggregate attendance.

3.4 If a learner is continuously absent from classes without proper application and sanction for a period of 30 days, or if their cumulative attendance is less than 30%, appropriate action shall be taken against them, which may include striking off their names from the rolls. Such learners may apply for readmission upon recommendation from the Dean Engineering & Information Technology.

3.5 A learner who fails to achieve the prescribed minimum attendance as per the provisions of article 3.2 above shall not be allowed to appear in the Continuous Assessment and the End of Semester Examinations.

4. Change of Branch of Study

4.1 A learner in the first year may be allowed to change the branch of the study within 15 days from the start of first semester classes, based on the 10+2 exam merit at the time of admission.

4.2 A learner in the second year may be allowed to change their branch against the vacant seats based on their academic performance in the first year, subject to the guidelines framed by the University from time to time.

4.3 After the change of the branch of study, the number of learners in a branch shall not exceed the intake capacity prescribed by the University for that branch, and the number of learners in the parent branch shall not be less than 50% of the intake capacity prescribed by the University.

4.4 Change of branch facility is not applicable to lateral entry candidates who were admitted in second year.

5. Duration

5.1 Total duration of the B.Tech. Program shall be 4 years, each year comprising two semesters. Each semester shall have normally 90 working days, or as prescribed by the University.

5.2 A learner, who has failed twice in the 1st year shall not be allowed to continue the studies further in the program the learner was admitted. However, a learner who has not appeared due to genuine reasons or has not been permitted to appear in the examination in 1st and/or 2nd semester of the first year may be allowed for one more attempt to appear in the examination upon the approval of the competent authority.

5.3 The maximum duration allowed for a learner admitted in the 1st or 3rd semester to complete the B. Tech Program shall be 7 (seven) and 6 (six) effective study years, respectively. If a learner at any stage of the study is found unable to complete it within the said study period, the learners shall not be allowed to continue their studies further.

6. Entry and Exit Option

Entry-Exit options will be decided as per regulatory body guidelines on technical programs as and when it is available.

7. Curriculum (B. Tech. Program)

7.1 The 4-year curriculum has been divided into 8 semesters and shall include lectures, tutorials, practical, seminars, projects and industrial training/internship as defined in the scheme of instructions, examinations and executive instructions issued by the University.

7.2 The curriculum will also include such other curricular, co-curricular and extra -curricular activities as may be prescribed by the University from time to time.

7.3 The details of four variants of B. Tech. programs offered by the university to the learners are given below:

Table 1: Variants of Four-Year B. Tech Program

Sl. No.	Program	Variant	Optimal Credit Required*				Remarks
			Basic Degree	Minor	Research	Total	
1	B. Tech	B. Tech	165	-	-	165	Course Structure in line with NEP 2020
2	B. Tech with Minor	B. Tech with Minor	165	17	-	182	The course structure is aligned with NEP 2020, offering multi-disciplinary learning.
3	B. Tech with Research	B. Tech with Research	165	-	17	182	A set of research courses is offered by the department
4	B. Tech with Minor & Research	B. Tech with Minor & Research	165	17	17	199	The course structure is aligned with NEP 2020, offering multidisciplinary learning and research courses offered by the department.

** Credit distribution may vary for programs and collaborative based industrial programs upto 15%.*

i. **B. Tech:** It refers to the students mainstream of a program where they have been admitted and are pursuing their B.Tech. program. It shall correspond to a set of program-specific courses aggregating to the stream of their B.Tech. program as specified in Table 1.

ii. **B. Tech with Minor:** It refers to a set of few minor courses in a particular multi- disciplinary stream other than the one where the student is admitted and pursuing his
B. Tech program that contributes to and complements the overall development of a student in addition to the total optimum credit hours required for the basic B. Tech program. A learner may be allowed to register for this variant of the B. Tech program after the first year.

iii. **B. Tech with Research:** This refers to a set of Research Courses to be offered by the department where the student has been admitted and pursuing his B. Tech program in addition to the total optimum credit hours required for the basic B. Tech program. A learner may be permitted to register for this variant of the B. Tech program after second year

iv. **B. Tech with Minor and Research:** It refers to a set of few minor courses from the department other than the department where a learner is admitted and a set of research courses to be offered by the department where the students has been pursuing his B. Tech program in addition to the total optimum credit hours required for the basic B. Tech program.

Note: - Student will not be permitted to change minor courses or research courses after registration.

7.4 Credit System

Each B.Tech. Program will have a curriculum in which every course will be assigned certain credits reflecting its weight and contact periods per week.

In addition to theory and laboratory courses, there may be other courses such as seminar, colloquium, project, industrial training/internship, etc., which will be assigned credits as per its contributions to the program without regard to contact periods.

7.5 Course Categories

The curriculum for each branch of study will contain courses from the following categories having credits in the ranges given below in such a way that the total credits will be equal to that required for the award of B.Tech. degree as specified in clause 7.3.

(a) Basic Science Courses (BSC) 12-28 credits
(b) Professional Core Courses (PCC) 48-94 credits
(c) Engineering Science Courses (ESC) 10-28 credit

(d) Professional Elective Courses / Open Elective Courses (PEC/OEC) 20-40 credits
(e) Humanities, Social Sciences & Management Courses (HSSM) 8-16 credits
(f) Internship/ Project Courses (IPC) 16-24 credits
(g) Mandatory Course MC-No credits

Note: Credit ranges shall be adjusted suitably for collaborative-based industrial programs

7.6 The Curriculum Structure

The curriculum for each branch of study will contain a list of all courses, with each course having a course category, course number, course title, number of credits assigned, number of contact periods per week, and the marks assigned to various components of evaluation.

7.7 Approval of the Curriculum

The curriculum of B.Tech. programs will be prepared by the department concerned and endorsed by the Board of Studies of the department. It will then be tabled at the Faculty Board for further endorsement. Once endorsed by the Faculty Board, it will be tabled in the Academic Council for approval. After approval, the curriculum will be implemented. The same procedure shall be used for any modification in the curriculum.

8. EXAMINATION/ASSESSMENT AND GRADING

8.1 Components of Evaluation

The evaluation of learners in a course shall be a continuous process and it is based on their performances in the End of Semester Examinations, Continuous Assessment.
The weightages of End of Semester Examination (ESE) and Continuous Assessment (CA) for awarding of Grades shall be as per Annexure II.

8.2 Grading of Performance

8.2.1 Letter Grade and Grade Point Allocation

The Credit and Grading system will be effective from the academic year 2024-25 for Faculty of Engineering & Information Technology. For each course, based on the combined performance in all assessments in a particular semester as per the curriculum/syllabus, the learner is awarded a letter grade. These letter grades not only indicate a qualitative assessment of the learner's performance but also carry a quantitative (numeric) equivalent called the Grade Point. The letter grades and their equivalent grade point applicable for B. Tech programs are given below:

Table 2: Letter Grade and Grade Point

Percentage of Marks Obtained	Letter	Grade Points	Performance
85.00 – 100.0	O	10	Outstanding
80.00 – 84.99	A	9	Excellent
75.00 – 79.99	B	8	Very Good
65.00 – 74.99	C	7	Good
60.00 – 64.99	D	6	Fair
55.00 – 59.99	E	5	Average
40.00 – 54.99	P	4	Pass
Less than 40.00	F	0	Fail
Absent	Ab	0	Absent

Note: SGPI & CGPI is calculated as per guideline provided in Annexure III

8.3 Award of Grades

A learner will be declared **PASS** if,

- A learner shall secure at least 35% of total marks in the End of Semester Theory Examination and 35% of total marks in the End of Semester Practical Examination separately.

- Additionally, the learner shall achieve an overall combined score of at least 40% (ESE + CA) in that course.
- There is no minimum pass percentage in the continuous assessment of any course/ paper.

8.4 Carry Forward of Marks

8.4.1 In case of a learner who does not secure at least 35% marks in the End of Semester theory Exam or 35% of total marks in the End of Semester Practical Examination or at least 40% overall marks (ESE+CA) in any course, then the learner has to reappear in the End of Semester Examination of that course. However, the marks of the Continuous Assessment shall be carried over for that course. In special cases, the learner may be allowed to reappear in the Continuous Assessment subject to the approval of the competent authority.

8.4.2 Assessment will be conducted as per the process defined by the University.

8.4.3 The facility of back paper/carryover will be available to the students for the papers of the odd semester only in the odd semester and papers of even semester only in the even semester.

8.5 Promotion of learner

8.5.1 A learner will always be promoted from the current odd semester to the next even semester, irrespective of the result of the current odd semester.

8.5.2 Promotion from the current even semester to the next odd semester i.e. from current year to next year is subjected to the condition that learner must have earned at least 40% of the total required credits from the previous years.

8.5.3 For promotion from the second year to the third year, it is necessary to pass all the required courses of the first year.

8.5.4 For promotion from the third year to the fourth year, it is necessary to pass all the required courses of the second year.

9. Re-Registration

A learner who has not been promoted to a higher class will have to repeat the whole year, upon re-registration and paying the prescribed fees.

10. Result

If a learner passes all the examinations and fulfills all the requirements for the award of degree, their result will be shown as **Passed** mentioning "Letter Grade" obtained by the learner.

(a) The division awarded will be based on the CGPI. Numerical percentage will be calculated by the following formula.

$y=6.5\times x + 25$

Where y is percentage & x is CGPI

The division will be awarded as mentioned in Table 3

Table 3: Division Classification Based on Percentage Scores

Division	Percentage Range
First Division (Honours)	75% and above
First Division	≥ 60% but < 75%
Second Division	< 60% but ≥ 40%
Fail	Less than 40%

(b) Ranks/Positions will be determined at the end of even semesters. Only those students who fulfill the following conditions will be eligible for ranks/positions:

i. They do not have any break in their studies.
ii. They have passed every scheduled course in first attempt.
iii. They have passed every course on time as per the curriculum.
iv. They have earned credits as per the schedule given in the curriculum.
v. They have not been given any academic concessions, such as improvement of their grades in any course after passing the course.

The learners who violate any of the above conditions will not be awarded any rank/position. The ranks/positions will be determined on the basis of CGPI.

11. Grace Marks:

11.1 A learner may be awarded grace marks up to a maximum total of 12 marks distributed across a maximum of four courses in each academic year, provided they can be declared to have passed the academic year by the award of these marks.

11.2 The grace marks shall be added to the aggregate marks.

11.3 Grace marks shall be awarded in carryover/special examinations.

12. Scrutiny:

12.1 Scrutiny shall be allowed in only theory papers for which the candidate has to apply within 15 days after declaration of semester result.

12.2 Re-evaluation is not permitted.

13. Cancellation of Admission

The admission of a learner at any stage shall be cancelled if:

(i) The learner is not found qualified as per AICTE/ State Government norms and guidelines or the eligibility criteria prescribed by the University.

OR

(ii) The learner is found unable to complete the course within the stipulated time as prescribed in clause 5.

OR

(iii) The learner is found involved in creating indiscipline in the University.

OR

(iv) The learner is found involved in any criminal case or has given any false statement

14. Migration from any other University

A learner may be able to transfer credits to another program within the University or may be able to transfer credit towards a program from a different University/Institution. Credit transfer depends on whether the accumulated credit is relevant to the program to which the learner wants to transfer.

No-Objection Certificate (NOC) is required from University/Institute for migration

The Academic Council shall have the absolute power to relax or amend any provision provided in the ordinances.

ANNEXURE-I

For admission of learners through IUET:

(a) For B. Tech in (Civil Engineering, Mechanical Engineering, Electronics and Communication Engineering, Electrical Engineering, Electrical & Computer Science Engineering and Computer Science and Engineering.)

Candidates who have passed '10+2' from any recognized Board or equivalent examination with at least 45% marks (including all subjects) and with Mathematics and Physics as compulsory subjects, along with one of the following subjects Chemistry, Biotechnology, Computer Science, or Biology are eligible for admission to the 1st year of the B.Tech. program offered by the university.

(b) For B.Tech. (Biotechnology, Biomedical, and Food Technology)

Candidates who have passed '10+2' from any recognized Board or equivalent examination with at least 45% marks (including all subjects) and with Mathematics/Biology and Physics as compulsory subjects, along with one of the following subjects Chemistry, Biotechnology, or Computer Science are eligible for admission to the B. Tech Program.

(c) For admission to B.Tech. 3rdSemester:

A candidate who has passed 3/4 years diploma (with 50% marks) from recognized educational body of the country like the Board of Technical Education/AICTE/ recognized University in Engineering/Technology is eligible for direct admission to 3rd semester in any branch of Engineering/Technology.

(d) NRI/left over seats shall be filled on the basis of qualifying examination provided the candidate meets the eligibility criteria.

Note: Guidelines for admission may differ for collaborative-based industrial programs.

The Academic Council shall have power to amend or repeal the eligibility criteria laid down in clause 2, if required.

Annexure-II

The weightages of Continuous Assessment Exam and End of Semester Exam for awarding of Grades shall be as follows. However, collaborative-based industrial programs may have their own guidelines

(i) **Theory Type of Courses:** This type of course includes lecture or/and tutorial classes.

Continuous Assessment	End Semester Exam	Total
50%	50%	100 %

(ii) **Theory and Practical Type of Courses:** This type of course includes lecture and/or tutorial & practical classes.

Theory Part	Practical part	Total
75%	25%	100 %

The weightage of Continuous Assessment and the End of Semester exam for theory part shall be 50% each. The weightage of Continuous Assessment and the End of Semester exam for practical part shall be 50% each.

(iii) **Practical Type of Courses:** This type of course includes either practical or one lecture & practical classes.

Continuous Assessment	End Semester Exam	Total
50%	50%	100%

(iv) **B. Tech Project**

The B. Tech Project evaluation shall be carried out by the concerned Department. The weightage of assessment is as follow:

Continuous Assessment	End Semester Exam	Total
50 %	50 %	100%

(v) **Seminar/ Summer Training/ Industrial Training/ Project**

This course has only Continuous Assessment component and No End of Semester examination component. The weightage of assessment is as follow.

Continuous Assessment	Total
100 %	100%

(vi) **Mandatory Courses:**

This course has only End of Semester Exam component and No Continuous Assessment component, The weightage of assessment is as follow

End Semester Exam	Total
100 %	100%

Note: Continuous Assessment marks shall be awarded based on tests, quizzes, assignments, attendance, day-to-day performance in laboratory sessions, viva voce, experiments conducted, presentations, report writing, and submission, etc., and shall be assessed using rubrics system. The breakdown of marks for continuous assessment components will be implemented according to the approved evaluation scheme.

Annexure-III

Computation of SGPI and CGPI

The Semester Grade Performance Index (SGPI) of a student in a semester is the weighted average of the Grade Points secured by the student in all the Credit Courses that he/she registered in that semester, irrespective of whether he/she could or could not complete the courses. The SGPI of a student in a semester shall be calculated on the UGC's 10-point scale by finding the ratio of sum of the product of the number of credits with the grade points scored by the student in all the courses in that semester to the sum of the number of credits of all the courses attended by the student in that semester.

$$SGPI = \frac{\Sigma_{i=1}^{n} \Sigma(C_i G_i)}{\Sigma_{i=1}^{n} \Sigma(C_i)}$$

Where:

n = number of courses in a current semester

C_i = number of credit hours of i^{th} course in a current semester G_i = Grade point of i^{th} course in the current semester

SGPI is rounded off to 2 decimal points.

The Cumulative Grade Performance Index (CGPI) of a student in a program is the accumulated weighted average of the Grade Points secured by the student in all the Credit Courses that he/she registered in the current and previous semesters. The CGPI of a student shall be calculated on the UGC's 10-point scale by finding the ratio of sum of the product of the number of credits and SGPI of the student in the current and previous semester to the sum of the number of credits in the current and previous semesters.

$$CGPI = \frac{\Sigma_{m=1}^{r} \Sigma C_m (SGPI)_m}{\Sigma_{m=1}^{r} \Sigma(C_m)}$$

Where:

C_m= number of credit hours in the m^{th} semester (current & previous semesters)

$(SGPI)_m$ = Semester Grade Point Index in the m^{th} semester (current & previous semesters)

r = number of semesters

CGPI is rounded off to 2 decimal points.

Annexure-IV

PROGRAM NAME…….

……EMESTER EXAMINATION, 2024-25

Course Name……..

Course Code……

Time : **3:00 hrs.** Max. Marks : **75**

Note : (i) The question paper contains **Four** Sections.

(ii) Section-A is compulsory. Section-B, C and D contains internal choice.

SECTION-A ***(MCQs / Fill-up the Blanks / Very Short Answer Questions)***

(Knowledge & Understanding Based Questions)

1.	Attempt **ALL** parts of the following questions:		**1 x 10 = 10**
	(a)	**[BT-1/2, CO-.., PO…]**	
	(b)	**[BT-1/2, CO-.., PO…]**	
	(c)	**[BT-1/2, CO-.., PO…]**	
	(d)	**[BT-1/2, CO-.., PO…]**	
	(e)	**[BT-1/2, CO-.., PO…]**	
	(f)	**[BT-1/2, CO-.., PO…]**	
	(g)	**[BT-1/2, CO-.., PO…]**	
	(h)	**[BT-1/2, CO-.., PO…]**	
	(i)	**[BT-1/2, CO-.., PO…]**	
	(j)	**[BT-1/2, CO-.., PO…]**	

SECTION-B ***(Short Answer Questions)***

(Application Based Questions)

2.	Attempt any **FOUR** of the following questions:		**2½ x 4 = 10**
	(a)	**[BT-3, CO…,PO...]**	
	(b)	**[BT-3, CO…,PO...]**	
	(c)	**[BT-3, CO…,PO...]**	
	(d)	**[BT-3, CO…,PO...]**	
	(e)	**[BT-3, CO…,PO...]**	
	(f)	**[BT-3, CO…,PO...]**	

SECTION-C ***(Long Answer Questions)***

(Analyses and Evaluation Based Questions)

3.	Attempt any **ONE** of the following questions:		**7 x 1 = 7**
	(a)	**[BT-4/5, CO…, PO…]**	
	(b)	**[BT-4/5, CO…, PO…]**	
4.	Attempt any **ONE** of the following questions:		**7 x 1 = 7**
	(a)	**[BT-4/5, CO…, PO…]**	
	(b)	**[BT-4/5, CO…, PO…]**	
5.	Attempt any **ONE** of the following questions:		**7 x 1 = 7**
	(a)	**[BT-4/5, CO…, PO…]**	
	(b)	**[BT-4/5, CO…, PO…]**	
6.	Attempt any **ONE** of the following questions:		**7 x 1 = 7**
	(a)	**[BT-4/5, CO…, PO…]**	
	(b)	**[BT-4/5, CO…, PO…]**	
7.	Attempt any **ONE** of the following questions:		**7 x 1 = 7**
	(a)	**[BT-4/5, CO…, PO…]**	
	(b)	**[BT-4/5, CO…, PO…]**	

SECTION-D ***(Descriptive Answer Questions)***

(Evaluation, Design and Creativity Based Questions)

8.	Attempt any **ONE** of the following questions:		**10 x 1 = 10**
	(a)	**[BT-4/5/6, CO…, PO…]**	
	(b)	**[BT-4/5/6, CO…, PO…]**	
9.	Attempt any **ONE** of the following questions:		**10 x 1 = 10**
	(a)	**[BT-4/5/6, CO…, PO…]**	
	(b)	**[BT-4/5/6, CO…, PO…]**	