NSRIT

ACADEMIC RULES & REGULATIONS

2023

Academic Rules and Regulations

2023

(Applicable for the students admitted during 2023 – 2024)

Undergraduate Programs

Rigid free curriculum design in accordance with NEP 2020

NSRIT

Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)
Sontyam, Andhra Pradesh 531173
(An Autonomous Institute, Affiliated to JNTU - Gurajada, Vizianagaram, AP)
Accredited by NAAC with 'A' Grade

Pages i to xxiii

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Year of Introduction	2023
Approved	VIII Meeting of Academic Council
Date of Approval	October 21, 2023

Sign and Seal of the Chairman (ACM)

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The Vision

To promote societal empowerment and become an institution of excellence in the field of engineering education and research

The Mission

- To develop the students into outstanding professionals through innovative Teaching - Learning process
- To uphold research through long term Academia - Industry interaction
- To inculcate ethical standards and moral values

Academic Regulations for Undergraduate Certificate, Diploma, Advanced Diploma and B.Sc. in Engineering, B. Tech. (Regular), B. Tech. (Minor) & B. Tech. (Honors)

(For all the candidates admitted from the Academic Year 2023 – 2024 onwards)

B. Tech. (Regular: 160 Credits | Lateral Entrants at the end of the second year after 10 + 3 Years (Diploma): 120) | B. Tech. (Honors: 175 Credits | Lateral Entrants: 135) | B. Tech. (Minor: 160 Credits | Lateral Entrants: 120) | B. Tech. Undergraduate Certificate: 50 | Diploma: 90 | Advanced diploma: 50 (lateral entrants) | B. Sc. In Engineering: 120

1. Preliminary Definitions and Nomenclature

In this regulation, unless the context otherwise requires:

a. **Degree**: The academic award conferred upon a student on successful completion of a programme designed to achieve the defined attributes. It is referred to as Under-Graduate (UG) Degree that is B.Tech. degree

b. **Program**: The cohesive arrangement of courses, co-curricular and extracurricular activities to accomplish predetermined objectives leading to the awarding of a degree. It also means specialization or discipline of B.Tech.

c. **Course**: Theory, Practical or Theory-cum-Practical subject studied in a semester, like Engineering Mathematics, Physics, etc.

d. **"University"** means Jawaharlal Nehru Technological University – Gurajada, Vizianagaram (JNTU – GV)

e. **"Institute"** means Nadimpalli Satyanarayana Raju Institute of Technology (NSRIT)

f. **"NEP 2020"** means National Education Policy 2020

2. Eligibility for Admission

2.1. Admission to the B. Tech. (Regular, Honors, Minor, Undergraduate Certificate, Diploma and B. Sc. In Engineering) shall be made subject to the eligibility and qualifications as prescribed by Andhra Pradesh State Council for Higher Education (APSCHE), Government of Andhra Pradesh. The total number of seats as per the approved annual intake is categorized into two categories viz. Convenor Quota (Cat. – A) and Management Quota (Cat. – B) with a ratio of 70:30 (G. O. No. 52). The admission under Cat. – A shall be done based on the merit score secured through state-wise common state common entrance test i.e., AP Engineering Agricultural, Pharmacy Common Entrance Test (AP – EAPCET). The allotment pertaining to Cat. – B admission, the merit list based on 10+2 shall be taken as a benchmark in compliance with the norms issued by APSCHE. For B. Tech. 8 consecutive academic years from the date of joining

2.2. With regard to the students admitted through Lateral Entry Scheme, the students shall be admitted directly into semester III of the second year of B. Tech. programs. Under this scheme 10% seats of the sanctioned intake will be available in each program of study as supernumerary seats. Admissions to this 2 year B. Tech. lateral entry programme will be through Andhra Pradesh Engineering Common Eligibility Test (ECET). The maximum period to complete B. Tech. under lateral entry scheme is 6 consecutive academic years from the date of joining

3. **Duration and Medium of Instruction of the Program**

Program of Study	Duration	Total Credits at Exit
Undergraduate Certificate	One year	50
Diploma	Two years	90
Advanced Diploma	Two years	50 (Lateral Entrants)
B.Sc. in Engineering	Three years	120
B. Tech. (Regular)	Four years	160
B. Tech. (Minor)	Four years	160 (Inclusive of 12 Credits)
B. Tech. (Honors)	Four years	175

The program duration for the award of degree in B. Tech. (Regular, Honors and Minor) will be of 4 academic years and each academic year will have two semesters. In case, if the student is unable to complete the program in the above said stipulated duration, he/she shall be permitted to complete the program of study within 8 consecutive academic years from the year of admission into B. Tech. program. For the students admitted through lateral entry scheme the duration of the program is 3 years and 6 years if the student fails to complete the program of study in the stipulated duration of 3 years. The student who fails to meet the requirements for the award of B. Tech. program during the above said extended duration shall forfeit the degree in B. Tech. program of study. The medium of instruction during the program of study is English.
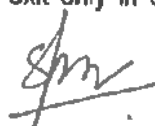
Academic Calendar

As already mentioned, each academic year will have two semesters. Each academic year, an academic calendar will be issued indicating the duration of Instruction Period, Mid-Term Tests, Semester End Examinations, Practical Examinations and eventually evaluation. Normally each semester will have sixteen weeks of instruction exclusive of mid-term tests, practical examinations and two weeks for semester end examinations. In total, each semester will span for a maximum duration of 16 – 20 weeks.

4. **Multiple Entry & Multiple Exit Requirement (ME - ME)**

The academic regulation provides complete flexibility to leverage the option of ME – ME. The student can have the exit after the completion of first two-, four- consecutive semesters or at both levels. If a student wants to take exit at any level as mentioned above or he/she intend to earn the degree viz., Undergraduate Certificate, Diploma, Advanced Diploma and B. Sc. in Engineering. He/She need to pursue two certification courses each of two credits from the courses available in the curriculum along with one Job Specific Internship / OJT / Apprenticeship with 6 credits, in case if he/she prefers to exit at the end of the first year and second year of study.

In accordance with The Gazette of India, the notification issued by UGC pertaining to the Academic Bank of Credits (ABC) vide File No. 14-31/2018 (CPP – II) dated 28th July, 2021, New Delhi, Page No. 14, Clause 11, the time duration for the entry and exit is as per norms, provided the duration of the course or programme is of two-years or more (Four semesters or more). In case if he/she earns additional credits through National service schemes/ (or) from higher learning institutes (or) higher educational Institutes of repute taking necessary approval during the exit period. He/she should accumulate the credits in ABC if he/she wants to consider for the approval of the degree. A student will be allowed to enter/re-enter only at the odd semester and exit only in even semester. Re-entry at

various levels as lateral entrants in academic programmes will be purely based on the earned credits and proficiency tests conducted at the institute level.

5. **Programs of Study**

   NSRIT offers eight programs of three- and four-year engineering programs duration leading to B. Sc. (Engineering) and Bachelor of Technology (B. Tech.) respectively as follows

   i.   Civil Engineering (CE)
   ii. Computer Science and Engineering (CSE)
   iii. Computer Science and Engineering - Artificial Intelligence and Machine Learning – CSE (AI&ML)
   iv. Computer Science and Engineering – Data Science - CSE (DS)
   v.   Electronics and Communication Engineering (ECE)
   vi. Electronics Engineering - VLSI Design and Technology[1] (EVT)
   vii. Electrical and Electronics Engineering (EEE)
   viii. Mechanical Engineering (ME)

6. **Structure of Programs**

   6.1. Categorization of Courses

   Each program shall have a common curriculum framework with well defined educational objectives, program outcomes, Program Specific Outcomes, courses outcomes as per the philosophy of Outcome Based Education (OBE) in line with the Vision and Mission of the department offering the program and in turn in accordance with the Vision and Mission of the Institute. The program structure comprise of theoretical courses, practical courses, theory-cum-practical courses, MOOCs, summer and full semester internship, skill oriented courses, project work, seminars and other relevant courses meeting industry requirements. Also, the curriculum is framed with Choice Based Credit System (CBCS). The courses of a particular program are categorized as follows:

   a. Foundation courses
   b. Professional core courses relevant to the chosen program of study
   c. Professional electives
   d. Open electives
      i. Inter-Disciplinary Electives
      ii. Trans-Disciplinary Electives
   e. On Job Training
   f. Skill Oriented Courses (SOC)and Industry Connect Courses (ICC)
   g. Mandatory Courses (MC) as prescribed by AICTE / UGC
   h. Project, Seminar and Internship
   i. Vocational Courses

   The outcome based competitive curriculum is prepared in line with the core values of NEP 2020, streaming out single phased education and enabling the learners to tailor their curriculum as per his/her choice of interest. The academic regulation provides flexibility to deliver the courses of national interest like Constitution of India in native languages of the state of Andhra Pradesh. Further the examination can also be facilitated to drop the responses in the same way as mentioned above. In this connection the learners may be given with the choice of selecting the

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[1]One time admission during the academic year 2023 - 2024 only as per EoA (AICTE) 2023-2024

language of medium either in English or native language of Andhra Pradesh of the above said courses.

6.2. Nomenclature of Credit Distribution

No.	Nature of Course	Credit	Nomenclature
1	Theory Course / Elective Course (Physical Lecture Hour)	1.0	1 Hour / Credit
2	Theory Course / Elective Course (Digital Lecture Hour)	0.5	0.5 Hour / Credit
3	Practical / Drawing Course	0.5	0.5 Hour / Credit
4	Internship / Idea Incubation / CSP	2.0	-
5	Full Semester Internship	6.0	-
6	Capstone Project	6.0	-
7	MOOCs / Digital learning	1.5	0.5 Hour / Credit
8	Skill Oriented Course / On Job Training	2.0 | 6.0	-
9	Health, Wellness, Yoga, Sports, NSS/NCC /Scouts & Guides/Community Service	0.5	-
10	Vocational Courses	2.0	-
11	Mandatory Course/Technical Paper Writing	0.0 | 2.0 | 3.0	-
12	Counseling/Mentoring	-	-
13	Sports/Hobby Clubs/Activities	-	-

6.3. Structure of Curriculum

Sem.	No. of Theory Courses	No. of Lab Courses, Internship, OJT / OC, Project / CE / CSP	Total Credits
I	6 (5 Theory + 1 SOC)	3/4 + 1 Health, Wellness, Yoga/NSS & NCC + Sports/Hobby Clubs/Activities	19.5/20.5
II	5 Theory	4/3 + 1 Health, Wellness, Yoga, Sports, NSS/NCC /Scouts & Guides/Community Service/Hobby Clubs/Activities	20.5/19.5
III	7 (5 Theory + 1 SOC + 1 MC)	3 + Sports/Hobby Clubs/Activities	20.0
IV	7 (5 Theory + 1 SOC + 1 MC)	3 + Sports/Hobby Clubs/Activities	22.0
V	7 (2 PC + 1 PE + 2 IE/TE + 2 SOC)	2 + 1 Internship # Onsite/Virtual / CSP + Sports/Hobby Clubs/Activities	22.0
VI	7 (3 PC + 2 PE + 1 IE/TE + 1 SOC)	1 + 1 Technical Paper Writing + Sports/Hobby Clubs/Activities	21.0
VII	8 (3 PC + 2 PE + 1 IE/TE + 1 SOC + 1 MC)	2 + 1 Internship # Onsite/Virtual	23.0
VIII	-	Full Semester Internship & Capstone Project	12.0
		Total Credits	160

6.4. Credit Distribution for each Category

No.	Category	Credits	
		Regular	Lateral
1	Foundation Courses	41.5	08
	Humanities and Social Science including Management (HS)	08	05
	Engineering Science (ES)	16.5	-
	Basic Sciences (BS)	17	03
2	Professional Core Courses (PC)	62.5	58
3	Electives	39	38
	Program / Professional Electives (PE)	13	13
	Open Electives (Inter-Disciplinary Electives/Trans-Disciplinary Electives)	12	12
	Skill Oriented Courses	14	13
4	Project, Seminar, CSP and Internship	16	16
5	Health, Wellness, Yoga, Sports, NCC/NSS/Scouts & Guides/Community Service	01	-
6	Mandatory Courses	Non Credit	Non Credit
Minimum credits to be earned for the award of the B. Tech. (Regular) degree		160	120

6.5. Course Classification

All the courses offered for the undergraduate program in Engineering & Technology (B.Tech. degree programs) are broadly classified as follows:

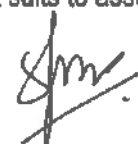| S. No.	Broad Course Classification	Course Category	Description
1.	Foundation Courses	Foundation Courses	Includes Mathematics, Physics and Chemistry; fundamental engineering courses; humanities, social sciences and management courses
2.	Core Courses	Professional Core Courses (PC)	Includes courses related to the discipline/department/branch of engineering parent
3.	Elective Courses	Professional Elective Courses (PE)	Includes elective courses related to the parent discipline/department/ branch of Engineering
		Open ElectiveCourses (OE)	Elective courses which include interdisciplinary and transdisciplinary courses or courses in an area outside the parentdiscipline/ department/ branch of Engineering
		Domain specific skill enhancement courses (SEC)	Interdisciplinary / Job - Oriented / Domain Courses which are relevant to the industry
4.	Project, Internships & Community Service Project	Project	Capstone Project
		Internships	Summer Internships – Community based and Industry Internships; Industry Oriented Full Semester Internship
5.	Audit Courses	Mandatory non-credit courses	Covering courses of developing desired attitude among the learners

6.6. Assessment Pattern for the Courses

With the true spirit of implementing Outcome Based Education (OBE), each course is designed with customized assessment pattern addressing the various cognitive levels of Revised Bloom's Taxonomy (RBT) with appropriate proportion covering the breadth and depth of the courses.

The Assessment Instrument or question papers shall be designed with a combination of question responses with short answer, long answer and higher order thinking skills through critical thinking and creativity and Multiple Choice Questions that fits best to the assessment of the intended learning outcomes during the process of continuous internal evaluation which includes assignments, mid-term tests and semester end examination.

The course instructor can also take the liberty of setting their own customized question papers along with the distribution of marks leveraging the status of autonomous promoting higher order thinking skills and creativity through case studies or questions related to problems solving skills through open book examinations other than that of the one prescribed in the academic regulation 2023. This shall be deployed by taking necessary approval from the respective Chairman, Board of Studies and the Head of the Institution as well before the commencement of the course while preparing the course plan along with the rubrics indicating the criteria and scale/metric for assessment.

With regard to the assessment pattern for the skill-oriented courses, appropriate assessment instrument shall be developed by the respective course facilitator that suits to assess the skills that

are expected from the courses by taking approval from the respective Chairman, Board of Studies and the Head of the Institution as well before deploying for assessment.

In case of video based grading, suitable rubrics shall be developed and approved for meeting the course outcomes or intended learning outcomes.

In all the cases other than the assessment pattern being prescribed in the academic regulation 2023, the customized and approved assessment pattern shall be submitted to the office of the Controller of Examinations before the commencement of the course.

6.7 Project & Internships
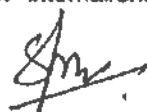
6.7.1 Community Service Project (CSP)

Community Service Project is a type of a learning strategy that integrates meaningful community service with instruction, participation, learning and community development. CSP involves the students in community development and service activities and applies the experience to personal and academic development. The community will be benefited with the focused contribution of the college students for the village/ local development. The college finds an opportunity to develop social sensibility and responsibility among students and also emerge as a socially responsible institution. As per the guidelines specified in these regulations, each student is expected to undergo CSP for duration of 8 weeks. As per the standard operating procedure (http://nsrit.edu.in/admin/img/cms/Guidelines-for-the-OJT-Internship-Community-Service-Project.pdf) prescribed by the institution and the allotment of CSP is done by the Community Service Wing, and in coordination with the respective program of study for monitoring and assessment. The assessment is to be conducted for 100 marks. The number of credits assigned is 3. Later as per the present practice the marks are converted into grades and grade points to include finally in the SGPA and CGPA.

6.7.2 Summer Internship

As per the guidelines specified (http://www.nsrit.edu.in/admin/img/folder/SOP%20-%20SI.pdf), each student is expected to undergo summer Internship. The curriculum provides a span of four to eight weeks for completing the Internship as furnished in the curriculum. As per the standard operating procedure prescribed by the institution the allotment of Internship is done by the Industry – Institute Linkage cell, and in coordination with the respective program of study for monitoring and assessment.

6.7.3 Full Semester Internship (FSI)

With regard to the FSI (onsite/virtual), the curriculum provides flexibility at two different slots during VII and VIII semesters with a span of 12 to 16 weeks. The students who are opting FSI either during semester VII or VIII shall register for the course during the semester VI through the Head of the department and the same shall be forwarded to the Industry – Institute Linkage Cell through the Office of Controller of Examination (CoE) for allotment; subsequent monitoring and assessment shall be by the respective program of study. To ensure effective implementation of FSI, the Institute shall depute ~50% of the interns during semester VII and the rest during semester VIII. Accordingly, the courses pertaining to the semesters shall be inter-changed. Students will be evaluated by a panel of internal/external subject matter experts (SMEs)

nominated by Chairman / chairperson BoS/HoD of the respective board duly approved by the Head of the Institution. It is mandate for all the learners going either for internship to capture a video demonstrating the self-reflection on the learning outcomes for grading by the course supervisor/guide.

6.7.4 Capstone Project

Each student is expected to carry out one capstone project relevant to his/her program of study or interdisciplinary of nature leading to design, development of solutions, and fabrication of system component or a product. On successful completion of the project work, the students should submit a detailed project report along with the working models wherever applicable. Students will be evaluated by a panel of internal/external subject matter experts (SMEs) nominated by Chairman / Chairperson BoS/HoD of the respective board duly approved by the Head of the Institution. In case, if any student is interested in doing industry-oriented project (Individual) at the industries or research organization, he/she shall take up the project duly approved by the Head of the Department and the Head of the Institution well before the commencement of the course. In such cases, the students should inform the respective department well in advance, preferably during semester VI. The students who opted FSI in the semester VII shall take up the courses as prescribed in the curriculum during semester VIII along with the capstone project.

6.8. Mandatory Courses

Mandatory courses are those courses which are designed in line with the requirement of AICTE. These courses do not carry any credits and are not accounted for the calculation of CGPA. The students shall register for the courses in the respective semester as specified in the curriculum. All the students (regular and lateral entry students) shall complete the mandatory course by taking two assessments in the form of multiple-choice questions during the continuous assessment. A minimum of 40% of marks is required to complete the course and the status of completion will be indicated in the grade memo and an online certification is also mandatory in the relevant area as specified in the curriculum. In addition to the above, the curriculum provides flexibility to nurture employability skills through mandatory courses and it is compulsory for all students to complete the mandatory courses for the award of the degree and it will not be counted for the calculation of CGPA. The academic regulation permits autonomous learning with mandatory courses promoting self-learning ability among the learners.

6.9. Massive Open Online Courses (MOOCs) / Digital Learning

The curriculum provides adequate flexibility for the students to take up MOOCs spanning for duration of 8 to 12 weeks through self-study mode enabling them to learn the courses on independent/autonomous mode with a guidance of faculty mentor to earn necessary credits for the award of the degree and the attendance is not mandatory. However, it is recommended not to exceed 20 credits in case of MOOCs during the course of study. A student is not permitted to register and pursue core courses through MOOCs. The courses shall be opted from MOOCs platform viz. NPTEL, SWAYAM or any other platforms as approved by the respective Chairman/ Chairperson, Board of Studies (BoS). In case of MOOCs through NPTEL, SWAYAM, v-Lab, the credits shall be directly transferred without conducting any further examination from the institution.

In case, if the student fails to earn the certification, he/she has the flexibility to appear for supplementary examination for the same MOOCs for 100 marks without Continuous Internal Assessment as and when the notification is released by the institution incase if he/she is not interested to earn the certification from NPTEL subsequently. Necessary amendments in rules and regulations regarding adoption of MOOCs would be proposed from time to time. For all other MOOCs platforms, the assessment pattern for such courses which are part of the curriculum for the B. Tech. (Regular) degree shall be carried out as similar to other regular descriptive examinations.
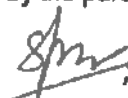
B. Tech. (Honors) shall also be in line with the agencies or the platforms offering these courses. Further, if the grade is not specified by the particular agency or platform, the award of the grade follow the institutional SOP and take necessary approval from the Academic Council. MOOCs shall be identified by the respective program taking necessary approval from the Chairman / Chairperson (BoS) and shall be intimated well in advance to the students.

6.10. Industry Connect Courses

a. Students can opt for one-credit courses, offered by experts from industry/research organizations which are approved by BoS and Academic Council. Students can register such courses from his/her second year of study as and when these courses are conducted by various departments. A student is also permitted to register for the courses of other departments, provided the student has fulfilled the necessary pre-requisites of the course being offered and subject to the approval of both the Heads of Departments. There is no limit to the number of 1-credit or 2-credit courses a student can register during the programme of study. However, a student can register for only one course in a semester. These courses are evaluated by the respective course coordinator of the programme

b. If a student does not successfully complete the registered industry supported 1-credit or 2-credit courses in a semester, the registration of that course will be considered as cancelled. Further, it will not be treated as arrear and no supplementary examination will be conducted; alternatively, if he/she wishes, he/she can re-register for the same course in the ensuing semesters and successfully complete it as and when it is offered subsequently

c. The students who are opting Industry Connect Courses (ICC), as per the list furnished in the respective curriculum, the credits earned through ICC can be trade off to only Professional Elective, Trans – Disciplinary/Inter – Disciplinary elective in the curriculum for the award of B. Tech. (Regular) Degree. Further, the credits earned through ICC cannot be compensated for the courses of B. Tech. (Honors) and B. Tech. (Minor)

6.11. Semester Away Programme (SAP) to Promote Research

The students interested in pursuing the B.Tech. (Regular)/B.Tech. (Honors) shall be permitted to go for the semester away program in higher learning institutions, after taking the necessary approval from both the institutions and the earned equivalent credits may be accumulated, transferred through ABC and redeemed for the award of the B.Tech.(Regular)/B.Tech.(Honors). In the above case, the application should be pre approved by the parent University.

6.12. Technical Paper Writing

The introduction of technical paper writing aims to foster a research culture aligned with academia. It entails a structured method for presenting scientific and engineering research articles, facilitating learners' comprehension of current trends in the engineering and technology domains.

6.13. Skill Oriented Courses

Skill Oriented courses are gaining momentum in higher education, transcending traditional academic approaches to prioritize practical skills and real-world applicability. They span a wide spectrum of fields, including business, technology, healthcare, and the arts. These U.G. programs are instrumental in nurturing hands-on expertise, bolstering students' employability, and preparing them for the ever-changing job landscape. By incorporating internships, industry partnerships, and innovative teaching methods, these courses effectively bridge the gap between theory and practice. In a swiftly evolving job market, U.G. programs centered on skill development empower students with a competitive advantage, enabling them to thrive in their careers and adapt to shifting industry needs.

6.14. On Job Training (OJT) – Applicable for students who opt for Exit Policy

On Job Training will be facilitated through Industry – Institute linkage cell of NSRIT as and when the situation demands. However, he/she need to appear for the tests and examinations to meet the academic compliance. The student shall be given an option to choose the industry for OJT which has to be approved by chairman / chairperson BoS of a particular department.

6.15. Vocational Courses

The vocational courses are basketed under the category of certification courses 1, 2, 3 & 4.

6.16. Procedure for Evaluation (Refer SOP: http://www.nsrit.edu.in/admin/img/folder/SOP-12-12-23.pdf)

Theory (Internal: 30 Marks | External 70 Marks)

Continuous Internal Assessment #1 with duration of 90 Minutes (I & II units)

Descriptive Examination	: 15 Marks
Objective Type Examination	: 10 Marks
Assignment	: 05 Marks

Continuous Internal Assessment #2 with duration of 90 Minutes (III, IV & V units)

Descriptive Examination	: 15 Marks
Objective Type Examination	: 10 Marks
Assignment	: 05 Marks

The final internal marks will be awarded by considering 80% of marks secured in the best of the two continuous internal evaluation and 20% marks secured in the other internal test.

Laboratory Courses (Internal: 30 Marks | External: 70)

Total Internal Marks	**: 30 Marks**
Distribution for Continuous Evaluation	
Continuous Assessment	: 10 Marks

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Record : 10 Marks

Internal Test : 10 Marks

Total External Marks : **70 Marks**

Experiment, Results (30 Marks) &

Viva – Voce (20 Marks) : 50 Marks

Video Assessment (Learning Outcomes) : 20 Marks (One video shall be uploaded by the student demonstrating the self reflection on that particular laboratory course for grading)

Drawing and Design Related Courses (Internal: 30 Marks | External: 70 Marks)

Total Internal Marks : **30 Marks**

Distribution for Continuous Evaluation

Continuous Assessment : 15 Marks

Mid - Term Examination : 15 Marks

Total External Marks : **70 Marks**

The final internal marks will be awarded by considering 80% of marks secured in the best of the two continuous internal evaluation and 20% marks secured in the other internal test.

Mandatory Courses

Assessment : As prescribed in the Academic Regulation

Online certification course : 01 course (in the relevant area of the pursuing mandatory course and the students need to submit the certification of completion for the award of the degree)

Technical Paper Writing

Internal Review #1 : 10 Marks

Internal Review #2 : 10 Marks

Final Review and Presentation : 30 Marks

Paper Publications: Students are requested to publish their review articles to either peer-reviewed journals or any one of the reputed conferences and submit the published paper. It is mandatory for the award of the degree. Academic regulation suggests publishing the articles either in UGC – CARE or journals indexed by SCOPUS.
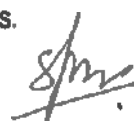
Summer Internship (Internal: 50 Marks)

Interim Assessment and Report Writing : 20 Marks

Final Presentation : 30 Marks

Full Summer Internship (Internal: 100 Marks | External: 100 Marks)

Interim Review #1 (Industry Supervisor) : 20 Marks (Rubrics based)

Interim Review #2 (Industry Supervisor) : 30 Marks (Rubrics based)

Terminal Presentation : 15 Marks (Presentation)

Report : 25 Marks

Video Based Assessment : 10 Marks

In all the continuous assessment pertaining to internship, the major focus of the assessment will be predominantly on skills and application of knowledge viz. Communication Skills, Team-Work, Organization Skills, Interpersonal Skills, Analytical and Problem Solving Skills, Leadership Skills, Work Ethics and any specific initiatives by the interns.

Skill Oriented Courses (Internal: 30 Marks | External: 70 Marks)

Interim Assessment and Report Writing	: 30 Marks
Total External Marks	**: 70 Marks**
Outcomes	: 40 Marks
Final Presentation	: 20 Marks
Video Based Assessment	: 10 Marks

The outcomes shall be in the form of design, development of working model of a system component or a product and these 40 marks shall be awarded based on Rubrics that addresses Critical Thinking, Creativity, Collaboration and Communication.

Capstone Project (Internal: 60 Marks | External: 140 Marks)

Distribution of Marks (Continuous Internal Assessment)

Innovativeness of the Project	: 05 Marks
Literature Survey	: 05 Marks
Experimentation/ Simulation	: 05 Marks
Presentation, Interpretation,	
Product Development &	
Analysis of Results	: 10 Marks
Interim Review #1(Presentation)	: 05 Marks
Interim Review #2 (Presentation)	: 05 Marks
Terminal Presentation	: 05 Marks
Report	: 05 Marks
Publication in Conference / Journal (CARE)	: 05 Marks
Video Based Assessment	: 05 Marks (Mandatory)
Online Certification	: 05 Marks (Mandatory)
Total Internal Marks	**: 60 Marks**
Total External Marks	**: 140 Marks**

The online certification shall be from MOOCs platform with a minimum duration of 30 – 45 hours and the student need to earn the certification and for which there will not be any further assessment from the institution or program of study.

Community Service Project (External: 100 Marks)

Distribution of Marks

Project Log	: 20 Marks
Project Implementation	: 30 Marks
Project Report	: 25 Marks
Final Presentation	: 25 Marks

A student shall earn the following percentage of minimum percentage of marks in each theory, practical, design and drawing course in B. Tech. program.

- A minimum of 35% of marks for each course Semester End Examinations (SEE) and
- A minimum of 40% marks for each course considering both CIA and SEE taken together

Massive Open Online Courses (MOOCs) / Digital Learning

In case of MOOCs through NPTEL, SWAYAM, v-Lab, the credits shall be directly transferred without conducting any further examination from the institution. In case, if the student fails to earn the certification, he/she has the flexibility to appear for supplementary examination for the same MOOCs for 100 marks without Continuous Internal Assessment as and when the notification is released by the institution incase if he/she is not interested to earn the certification from NPTEL subsequently.

Theory (External 100 Marks)

7. Attendance Finalization and Result Declaration

7.1. Procedure

The attendance shall be calculated as per this autonomous regulation 2020 for the students to appear for the end semester examinations as per clause 6.2. The Institute shall formulate a committee "Joint Board" constituting of Principal (Chairman), Chairpersons of all Boards of Studies, Controller of Examinations (Member Secretary) and two senior members of faculty. The tenure for the senior members of faculty shall be of 2 years. The member secretary shall place the attendance of all the students before the Joint Board for approval before the finalization and declaration of attendance. The same procedure shall be adopted for declaring the end semester examination results having representation from parent University.

7.2. Attendance Requirements and Result Declaration Procedure

a. A student shall be eligible to appear for the end semester examinations if he/she acquires a minimum of 75% of attendance in aggregate of all the courses in a semester and shortage of attendance below 65% shall in no case be condoned and such cases will not be permitted to appear for the semester end examinations

b. Condonation for shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester shall be permitted based on medical leave (hospitalization / accident / specific illness) and on-duty leave for participation in College / University / State / National / International Sports, NCC/NSS events with prior approval from the competent authority. After taking necessary approval from the Head of the Institution or Competent Authority, the student shall be permitted to appear for the semester end examination by paying the Condonation fee. However, the student who have represented the college in outside world activities shall be exempted in paying the Condonation fee

c. Students, who do not meet the minimum required attendance in a semester, shall be detained in that particular semester and they will not be promoted to the next semester. In such cases, the student need to rejoin/readmit in that particular semester in the subsequent academic year

d. Academic regulations applicable to the semester in which re-admission is sought shall be applicable to the re-admitted student

e. In case if there are any professional electives and/or open electives (Inter-Disciplinary/ Trans-Disciplinary) the same may also be re-registered if offered by the respective program of study.

However, if those electives are not offered in the later semesters, alternatively, the students may opt other electives from the same set of elective courses offered under that category in that particular semester

f. If any candidate fulfils the attendance requirement in the present semester, he shall not be eligible for readmission into the same class

g. If the learning is carried out in blended mode (both offline & online), then the total attendance of the student shall be calculated considering the offline and online attendance of the student

8. Promotion Policies

The following academic requirements must be satisfied in addition to the attendance requirements mentioned in Clause (7.2).

i. A student shall be promoted from first year to second year if he/she fulfils the minimum attendance requirement as per university norms

ii. A student will be promoted from II to III year if he/she fulfils the academic requirement of securing 40% of the credits (any decimal fraction should be rounded off to lower digit) up to in the courses that have been studied up to III semester

iii. A student shall be promoted from III year to IV year if he/she fulfils the academic requirements of securing 40% of the credits (any decimal fraction should be rounded off to lower digit) in the courses that have been studied up to V semester

And in case a student is detained for want of credits for a particular academic year by ii) & iii) above, the student may make up the credits through supplementary examinations and only after securing the required credits he/she shall be permitted to join in the V semester or VII semester respectively as the case may be

iv. When a student is detained due to lack of credits/shortage of attendance he/she may be re-admitted when the semester is offered after fulfilment of academic regulations. In such case, he/she shall be in the academic regulations into which he/she is readmitted

9. Eligibility for the Award of the Degree

A student shall be declared eligible for the award of the degree in B. Tech. (Regular) program if he/she has fulfilled the following requirements

a. The student should earn the minimum requirement of credits (160 for B. Tech. regular admission and 120 credits for lateral entry) and cleared all the mandatory courses as prescribed in the curriculum within the maximum duration of 8 consecutive academic years (Regular) and 6 consecutive academic years (Lateral entry) from date of admission

b. The student should earn the minimum requirement of credits (175 for B. Tech. Honors and 135 credits for lateral entry) and cleared all the mandatory courses as prescribed in the curriculum within the maximum duration of 8 consecutive academic years (Regular) and 6 consecutive academic years (Lateral entry) from date of admission

c. The student shall not have any pending disciplinary issues

The student shall forfeit his/her Degree and his/her admission stands cancelled if he/she fails to meet the above compliance.

10. Award of Grades

Range of Marks	Letter Grade	Grade Point
>= 90	'O'	10
>= 80 < 90	'A+'	09
>= 70 < 80	'A'	08
>= 60 < 70	'B+'	07
>= 50 < 60	'B'	06
>= 40 < 50	'C'	05
< 40	'F'	0
Absent	'AA'	0
Non completion of a semester (Repeat)	'I'	0
Withdrawal from end semester examination	'W'	0

After completion of the programme, the Cumulative Grade Point Average (CGPA) from the I Semester to VIII Semester (from III to VIII semester for lateral entry) is calculated using the formula:
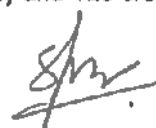
$$CGPA = \frac{\sum_{i=1}^{n-1}(c_i \times g_i)}{\sum_{i=1}^{n-1} c_i}$$

where 'n' is the number of courses registered for, 'c_i' is the credits allotted to the given course and 'g_i' is the grade point secured in the corresponding course

Equivalent Percentage = (CGPA – 0.5) X 10

11. Classification of the Degree Awarded

a. **B. Tech. (Honors):** In addition to the requirement as cited in (11.c), if the student secures 15 additional credits in accordance with the clause (15), he/she shall be declared with B. Tech. (Honors)

b. **B. Tech. (Minor):** if the student secures 12 credits inclusive of 160 credits for the award of B. Tech. in accordance with the clause (16), he/she shall be declared with B. Tech. (Minor)

c. **B. Tech. (Regular) - First Class with Distinction:** The student who qualifies for the award of the B. Tech. degree in the chosen program of study with 160 credits (Regular) within 4 consecutive academic years without any supplementary appearance from the date of admission and 120 credits (Lateral Entry) within 3 consecutive academic years from the date of admission at his/her first attempt maintaining 7.5 CGPA and above shall be declared to have passed in first class with distinction and should not have been prevented from appearing end semester examinations for the want of attendance requirements

d. **B. Tech. (Regular) - First Class:** The student who qualifies for the award of the B. Tech. degree in the chosen program of study with 160 credits (Regular) and 120 credits (Lateral) within 3 consecutive academic years from the date of admission maintaining 6.5 CGPA and above and less than 7.5 CGPA shall be declared to have passed in first class and should not have been prevented from appearing end semester examinations for the want of attendance requirements

e. **B. Tech. (Regular) - Second Class:** The student who qualifies for the award of the B. Tech. degree in the chosen program of study with 160 credits (Regular) and 120 credits (Lateral) within 6

consecutive academic years from the date of admission maintaining 5.5 CGPA and above and less than 6.5 CGPA shall be declared to have passed in second class

f. **B. Tech. (Regular) - Pass:** All other students who have not covered and qualifies for the award of the degree maintaining 5.00 CGPA and above and less than 5.5 CGPA shall be declared to get Pass with minimum credit requirement for the award of the degree in B. Tech. program

g. **UG Certificate (in Field of study/discipline)** - Programme Duration: First year (first two semesters) of the undergraduate programme, 40 credits followed by an additional exit 10-credit bridge course(s) lasting two months, including at least 6- credit job-specific internship/ apprenticeship that would help the candidates acquire job-ready competencies required to enter the workforce

h. **UG Diploma (in Field of study/discipline)** - Programme Duration: First two years (first four semesters) of the undergraduate programme, 80 credits followed by an additional exit 10-credit bridge course(s) lasting two months, including at least 6- credit job-specific internship/ apprenticeship that would help the candidates acquire job-ready competencies required to enter the workforce

i. **Bachelor of Science (in Field of study/discipline)** i.e., B.Sc. Engineering in (Field of study/discipline)- Programme duration: First three years (first six semesters) of the undergraduate programme, 120 credits

12. Flexibility to Add or Drop Self Study Courses (SSC)

a. It is mandatory that all the students need to earn the minimum number of the credits for the award of B. Tech. degree in their respective program of study. However, a student can earn more number of credits if he/she opt, by registering additional courses, from the list of courses available in the curriculum of all disciplines, over and above to the existing courses from semester IV – VI. The student shall be permitted to drop any SSC at any point of time and registration for such courses gets cancelled and will not be reflected in Cumulative Grade Memo (CGM)

b. All the courses registered and cleared by a student in this mode will be mentioned in the CGM as additional acquired. However, the CGPA is calculated as per the minimum requirement of the credits for the award of the B. Tech. degree

13. Withdrawal from the Examination

a. A candidate may, for valid reasons, be granted permission by the Head of the Institution to withdraw from appearing for the examination in any course or courses of only one semester examination during the entire duration of the Degree Programme. Also, only ONE application for withdrawal is permitted for that semester examination in which withdrawal is sought

b. Withdrawal application shall be valid only if the candidate is otherwise eligible to write the examination and if it is made prior to the commencement of the examination in that course or courses and also recommended by the Head of the Department

c. Such withdrawal from the examination shall be treated as absent for the 1st attempt to the respective examination and will lose the eligibility for First Class with Distinction

d. If any student is intended to drop FSI subsequent to his/her registration followed by allotment, he/she needs to re-register the course

14. Transitory Regulations

To enable the students to take admission or entry into NSRIT from other Institution either by Transfer, Re-admission, Admission, or Transfer from other engineering Institution affiliated to JNTU-GV /Academic regulation within the Institute, the following regulations shall be followed based on the nature of case as cited above.

- Transfer of candidate from Autonomous / Non-Autonomous Institution affiliated to JNTU-GV
- Within the Institution from one regulation to other academic regulation

a. Transfer of a candidate from Autonomous / Non-Autonomous Institution affiliated to JNTU-GV

Any candidate who is interested to take admission in NSRIT from a non-autonomous engineering institution affiliated to the parent university either in the semester III or thereafter, shall acquire the credits required for graduation as per the Institute autonomous regulations and the candidature shall be treated under following category

Students from non-autonomous institution seeking admission into semester III shall be treated in par with the students taking admission for 2 year program of study (i.e. lateral entry students) and should have cleared all the courses in the semester I and II as per university regulation. The same shall be calculated as per NSRIT regulations if the student is seeking admission into NSRIT from an autonomous institution. The credits earned during semester I and II shared be calculated as per the Institute autonomous regulations and in case if the earned credits during first two semesters are not adequate to take admission in the semester III, the student shall take additional courses approved by the respective Board of Studies and Academic council during semester III at NSRIT on self-study mode and the same procedure shall be followed for taking admission into higher semesters.

b. Within the Institution from one regulation to other academic regulation

A student taking admission under one regulation, say, Academic Regulation 2020 in the first year, shall continue with the same regulation and should earn the necessary credits as mentioned in the academic regulation at the time of joining. However, In case of readmission into a subsequent new regulation, and if the readmission is into any of the semesters from semester I through IV, the student shall follow the current regulations to which he/she taking admission and continue with the same regulation till graduation. In case of any credit shortage, the necessary credits shall be earned on self study mode to compensate the required number of credits. In case of excess credits, it will be treated as over and above.

In both the cases (a) and (b), the details shall be forwarded to the parent university along with the proceedings of the Academic Council.

Student transfers shall be as per the guidelines issued by the Government of Andhra Pradesh and the University from time to time.

15. B.Tech. (Honors)

The curriculum provides flexibility to enable the students to register for B.Tech. (Honors) program by earning additional 15 credits which is over and above the requirement for the award of B.Tech. (Regular) degree. He/She shall register in the office of the CoE during semester III provided he/she secures ≥7 CGPA without backlogs in earlier semesters. If he/she wishes to withdraw from B.Tech. (Honors) program at any point of time, the credits obtained will not be compensated for the award of the degree and considered as over and above. The maximum enrollment B. Tech. (Honors) shall be restricted to 20% of the total intake in a particular batch of students.

The additional 15 credits shall be earned by opting the courses offered by the respective program of study which are categorized in the curriculum and these courses shall be offered with a combination of guided learning or taught courses or self-study mode depending on the total number of students registered for that particular course and the Chairperson of the Board of Studies reserves the right to decide the mode of delivery. Above all, if any student fails to maintain the ≥7 SGPA without history of arrears in the subsequent semesters after semester III, the registration for the B. Tech. (Honors) program stands cancelled without any notification. In case of students admitted through lateral entry, the SGPA compliance will be considered from semester III onwards as already mentioned.

16. B.Tech. (Minor)

The curriculum provides flexibility to enable the students to register for B. Tech. (Minor) program by earning 12-credits which is inclusive of the 160 credits required for the award of the B. Tech. (Regular) degree. It is mandate for a student to complete two core courses each of 3-credits to be awarded with a minor degree but may be waived off for the students who have done similar or equivalent courses. If a core course is waived off for a student, the student must take an extra elective course in its place. It is recommended that a student should complete the core courses or equivalents before registering for the electives.

A student needs to complete minimum of two elective courses each of 3-credits to earn the total 12-credits for the award of minor degree. A student can opt the open electives listed in the curriculum offered through various programs of study.

17. Academic Bank of Credits

This academic regulation 2023 provides complete scope of academic flexibility in accordance with The Gazette of India, the notification issued by UGC pertaining to the Academic Bank of Credits (ABC) vide File No. 14-31/2018 (CPP – II) dated 28th July, 2021, New Delhi. The ABC provides a full length academic flexibility while removing rigid curriculum boundaries and creating new possibilities of life-long learning.

In case with students registering under ABC, it is very much mandate and recommended to complete the courses pertaining to professional core and the courses at the lower semesters, especially, the courses pertaining to Mathematics, Physics, Chemistry and few related to Engineering Sciences as specified by the degree awarding institute. As per the document cited above is in line with ABC. The students shall be required to earn at least 50% of credits required for the award of (Regular, Honors, Minor, Undergraduate Certificate, Diploma and B. Sc. in Engineering) from the institute in which the student is enrolled. (As per the clause # 8.3, PP. 13 of the ABC policy document of UGC)

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18. Revision of the Academic Regulations and Curriculum

The Joint Board Committee and the Academic Council of the institute reserve the right to revise, change or amend the regulations, the scheme of examinations, the curriculum and the syllabi from time to time if found necessary.

19. Representation of Special Cases

In case of any clarification in the interpretation of the above rules and regulations, they shall be referred to the Joint Board Committee through the Head of the Institution. The Joint Board Committee will offer suitable interpretations/clarifications/amendments required for special case on such references and get them ratified in the next meeting of the Academic Council. The decision of the Academic Council is final.

20. Gap Year

The concept of Gap Year will be considered case to case based on the request from the candidate similar to the guidelines of the University keeping ME – ME into consideration.
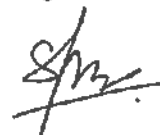Candidates who are permitted to avail Gap Year shall be eligible for re-joining into the succeeding year of their B. Tech from the date of commencement of class work, subject to Clause (14) and they will follow the academic regulations into which they are readmitted.

21. Guidelines for the courses related to Health, Wellness, Sports & Yoga/NSS, NCC, Scouts & Guides & CS

Courses related to Health, Wellness, Sports & Yoga/NSS, NCC, Scouts & Guides & CS are in line with the requirement of the parent University. These courses are awarded with 0.5-credit and are accounted in the calculation of CGPA. The course will be evaluated for a total of 100 marks. A student can select 6 activities of his/her choice with a minimum of 1 activity per unit. Each activity shall be evaluated by the concerned teacher for 15 marks, totaling to 90 marks and 10 marks for Viva – Voce on the respective course. A minimum of 40% of marks is required to complete the course.

22. General Instructions

    i. The academic regulations should be read as a whole for purpose of any interpretation
    ii. Malpractices rules-nature and punishments are appended
    iii. Where the words "he", "him", "his", occur in the regulations, they also include "she", "her", "hers", respectively
    iv. In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Head of the Institution is final.
    v. The Institution may change or amend the academic regulations or syllabi at any time and the changes or amendments shall be made applicable to all the students on rolls with effect from the dates notified by the Head of the Institution
    vi. In the case of any doubt or ambiguity in the interpretation of the guidelines given, the decision of the Head of the Institution is final

23. **Guidelines for Lateral Entrants**

(Effective for the students admitted into II year through Lateral Entry Scheme from the Academic Year 2024 - 2025 onwards)

1. **Award of the Degree**
   (a) Award of the B.Tech. Degree / B.Tech. Degree with a Minor if he/she fulfils thefollowing:
      (i) Pursues a course of study for not less than three academic years and notmore than six academic years. However, for the students availing Gap year facility this period shall be extended by two years at the most and these two years would in addition to the maximum period permitted for graduation (Six years)
      (ii) Registers for 120 credits and secures all 120 credits

   (b) **Award of B.Tech. degree with Honors** if he/she fulfils the following:
      (i) Student secures additional 15 credits fulfilling all the requisites of B.Tech. Program i.e., 120 credits
      (ii) Registering for Honors is optional
      (iii) Honor is to be completed simultaneously with B.Tech. Program

2. Students, who fail to fulfill the requirement for the award of the degree within six consecutive academic years from the year of admission, shall forfeit their seat.

3. **Minimum Academic Requirements**

   The following academic requirements have to be satisfied in addition to the requirements mentioned in item no.2

   i. A student shall be deemed to have satisfied the minimum academic requirements and earned the credits allotted to each theory, practical, design, drawing subject or project if he secures not less than 35% of marks in the end examination and a minimum of 40% of marks in the sum total of the mid semester evaluation and endexamination taken together

   ii. A student shall be promoted from III year to IV year if he/she fulfils the academic requirements of securing 40% of the credits (any decimal fraction should be rounded off to lower digit) in the subjects that have been studied up to V semester

   And in case if student is already detained for want of credits for particular academic year, the student may make up the credits through supplementary exams of the above exams before the commencement of IV year I semester class work of next year.

4. **Course Pattern**
   i) The entire course of study is three academic years on semester pattern
   ii) A student eligible to appear for the end examination in a subject but absent at it or has failed in the end examination may appear for that subject at the next supplementary examination offered When a student is detained due to lack of credits/shortage of attendance the studentmay be re-admitted when the semester is offered after fulfillment of academic regulations, the student shall be in the academic regulations into which he/she is readmitted

5. All other regulations as applicable for B. Tech. Four-year degree course (Regular) will hold good for B. Tech. (Lateral Entry Scheme).

24. **Curriculum and Syllabi of various Programs of Study**
   (Scan to view the Program Curriculum and Syllabi)