VARDHAMAN COLLEGE OF ENGINEERING
(AUTONOMOUS)
Affiliated to **JNTUH**, Approved by **AICTE**, Accredited by **NAAC** with **A++** Grade, **ISO 9001:2015** Certified
Kacharam, Shamshabad, Hyderabad – 501218, Telangana, India

Academic Regulations for B. Tech. with Minor Program
(with effect from academic year 2022-2023)

1. **Introduction**

The **Bachelor of Technology (B. Tech.) with Minor** program focuses on the fundamental principles of multiple engineering disciplines, critical & analytical thinking and the ability to develop a distinctive approach to the interdisciplinary problems. Minor program must be completed simultaneously with a major degree program and it refers to a supplemental secondary declared academic discipline or field of study. The students obtaining minor degree along with regular degree is awarded with "B. Tech. in <u>branch name</u> with Minor in <u>secondary discipline</u>".

2. **Objectives**

The key objectives of offering B. Tech. with Minor program are:

- To expand the domain knowledge of the students in one of the other branches ofengineering.
- To increase the employability of undergraduate students keeping in view of better opportunity in interdisciplinary areas of engineering & technology.
- To provide an opportunity to students to pursue their higher studies in the inter-disciplinary areas in addition to their own branch of study.
- To offer the knowledge in the areas which are identified as emerging technologies/thrust areas of engineering.

3. **Minor courses and the offering departments**

#	Minor Program	Eligible branch of students	Offering Department	Award of Degree
1	Artificial Intelligence & Machine Learning	B.Tech. in CSE, IT, ECE, EEE, ME and CE	CSE	"B. Tech. in <u>branch name</u> with Minor in Artificial Intelligence & Machine Learning"
2	Cyber Security	B.Tech. in CSE, IT, CSE (AI&ML), AI&ML, AI&DS, ECE, EEE, ME, and CE	CSE	"B. Tech. in <u>branch name</u> with Minor in Cyber Security"
3	Data Science	B.Tech. in CSE, IT, CSE (AI&ML), AI&ML, ECE, EEE, ME, and CE	CSE	"B.Tech. in <u>branch name</u> with Minor in Data Science"
4	Internet of Things (IoT)	B.Tech. in CSE, IT, CSE (AI&ML), AI&ML, AI&DS, ECE, EEE, ME, and CE	ECE	"B. Tech. in <u>branch name</u> with Minor in IOT"
5	Innovation and Entrepreneurship	B.Tech. in CSE, IT, CSE (AI&ML), AI&ML, AI&DS, ECE, EEE, ME, and CE	MBA	"B. Tech. in <u>branch name</u> with Minor inInnovation and Entrepreneurship"

4. **Academic Regulations for B. Tech. Degree with Minor programs**

   1. For B. Tech. with Minor, a student needs to earn additional 18 credits (over and above the required 160 credits for B. Tech degree). All these 18 credits need to be completed in III year and IV year only.
   2. After registering for the Minor programme, if a student is unable to earn all the required 18 credits in a specified duration (twice the duration of the course), he/she shall not be awarded Minor degree. However, if the student earns all the required 160 credits of B.Tech., he/she will be awarded only B. Tech degree in the concerned branch.
   3. These 18 credits are to be earned from the additional Courses offered by the host department in the college as well as from the MOOCs platform.
   4. For the course selected under MOOCS platform following guidelines may be followed:
      a) Prior to registration of MOOCs courses, formal approval of the courses, by the University is essential. University before the issue of approval considers the parameters like the institute / agency which is offering the course, syllabus, credits, duration of the programme and mode of evaluation etc.
      b) Minimum credits for MOOCs course must be equal to or more than the credits specified in the Minor course structure provided by the University.
      c) Only Pass-grade/marks or above shall be considered for inclusion of grades in minorgrade memo.
      d) Any expenses incurred for the MOOCs courses are to be met by the students only.
   5. The student shall be given a choice of withdrawing all the courses registered and/or the credits earned for Minor program at any time; and in that case the student will be awarded only B. Tech. degree in the concerned branch on earning the required credits of 160.
   6. There is no transfer of credits from Minor program courses to regular B. Tech. degree course & vice versa.
   7. The student can choose only one Minor program along with his/her basic engineering degree. A student who chooses an Honours program is not eligible to choose a Minor program and vice-versa.
   8. A student can graduate with a Minor if he/she fulfils the requirements for his/her regular B. Tech. program as well as fulfils the requirements for Minor program.
   9. The weekly instruction hours, internal & external evaluation and award of grades are on par with regular 4-Years B. Tech. program.
   10. The department shall prepare the time-tables for each Minor course offered without any overlap/clash with other courses of study in the respective semesters.

5. **Eligibility conditions for the student to register for Minor course**
   1. A student can opt for B.Tech. degree with Minor program if she/he has no active backlogs till II Year I Semester (III semester) at the time of entering into III year I semester.
   2. If more than 50% of the students in a branch fulfil the eligibility criteria (as stated above), the number of students given eligibility should be limited to 50%.

6. **Registration for the courses in Minor Program**
   1. The choice to opt/take a Minor program is purely on the choice of the students.
   2. The students can register for the Minor program in III year I semester if they fulfil the eligibility criteria.
   3. Prior approval of mentor and Head of the Department for the enrolment into Minor program, before commencement of III year I Semester (V Semester), is mandatory
   4. At the beginning of each semester, just before the commencement of classes, students shall register for the courses which they wish to take in the that semester.
   5. The students should choose a course from the list against each semester (from Minors course structure) other than the courses they have studied/registered for regular B.Tech.programme. No course should be identical to that of the regular B.Tech. course. The students should take the advice of faculty mentors while registering for a course at the beginning of the semester.
   6. The maximum number of courses for the Minor is limited to two (three in case of inclusion of laboratory) in a semester along with regular semester courses.
   7. The registration fee is to be paid by the students during the submission of application form for admission to Minor degree program subject to satisfying the eligibility conditions.
   8. A fee for late registration may be imposed as per the norms.

7. **Course Structure and Syllabi**
   1. The students can register for Minor courses as per the course structure shown in table 1 below.

#	Year/Semester	Minor Courses	Credits
1	III B.Tech I Semester	Minor Course – 1 (Theory)	3
2	III B.Tech I Semester	Minor Course – 2 (Practical)	2
3	III B.Tech II Semester	Minor Course – 3 (Theory)	3
4	III B.Tech II Semester	Minor Course – 4 (Practical)	2
5	IV B.Tech I Semester	Minor Course – 5 (Theory)	3
6	IV B.Tech I Semester	Minor Course – 6 (Theory)	3
7	IV B.Tech II Semester	Mini-Project on Minor Specialization	2
		Total Credits	18

   Note: The structure in the table 1 is a typical structure and it may vary in terms of number of credits per course and the semester-wise break-up of the courses satisfying the pre-requisites.
   2. The list of courses of each Minor program, their respective credits and semester-wise break-up of the courses are provided separately by the offering departments in the form of Curriculum for Minor programs.

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