



RSET

RAJAGIRI SCHOOL OF
ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

CURRICULUM (S1 – S8)

FOR

B.TECH DEGREE

IN

APPLIED ELECTRONICS & INSTRUMENTATION

(2020 ADMISSIONS)

SEMESTER I

Course Code	Course Name	L-T-P	Hours	Credit
100908/MA100A	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
100906/PH900B	ENGINEERING PHYSICS A	3-1-0	4	4
	or			
100908/CH900B	ENGINEERING CHEMISTRY	2-1-0	3	3
100908/CE900C	ENGINEERING MECHANICS			
	or			
100908/ME900C	ENGINEERING GRAPHICS	2-0-2	4	
100908/CO900F	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
	or			
100908/CO900D	BASICS OF CIVIL & MECHANICAL ENGINEERING			
100908/EN100E	LIFE SKILLS	2-0-2	4	--
100908/PH922S	ENGINEERING PHYSICS LAB	0-0-2	2	1
	or			
100908/CH922S	ENGINEERING CHEMISTRY LAB			
100908/CO922U	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
	or			
100908/CO922T	CIVIL & MECHANICAL WORKSHOP			
TOTAL			23 / 24	17

ENGINEERING PHYSICS A and ENGINEERING CHEMISTRY shall be offered in both S1 and S2.

Students opting for Engineering Physics A in a semester should attend Physics Lab in the same semester and students opting for Engineering Chemistry in one semester should attend Engineering Chemistry Lab in the same semester.

ENGINEERING MECHANICS and ENGINEERING GRAPHICS shall be offered in both S1 and S2.

BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING and BASICS OF CIVIL & MECHANICAL ENGINEERING shall be offered in both S1 and S2.

SEMESTER II

Course Code	Course Name	L-T-P	Hours	Credit
100908/MA200A	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
100906/PH900B	ENGINEERING PHYSICS A	3-1-0	4	4
	or			
100908/CH900B	ENGINEERING CHEMISTRY			
100908/CE900C	ENGINEERING MECHANICS	2-1-0	3	3
	or			
100908/ME900C	ENGINEERING GRAPHICS	2-0-2	4	
100908/CO900F	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
	or			
100908/CO900D	BASICS OF CIVIL & MECHANICAL ENGINEERING			
100908/EN200E	PROFESSIONAL COMMUNICATION	2-0-2	4	--
100908/CO200F	PROGRAMMING IN C	2-1-2	5	4
100908/PH922S	ENGINEERING PHYSICS LAB	0-0-2	2	1
	or			
100908/CH922S	ENGINEERING CHEMISTRY LAB			
100908/CH922S	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
100908/CO922U	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
	or			
100908/CO922T	CIVIL & MECHANICAL WORKSHOP			
TOTAL			28/29	21

SEMESTER III

Course Code	Course Name	L-T-P	Hours	Credit
100905/MA300A	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
100001/EC300B	SOLID STATE DEVICES	3-1-0	4	4
100001/EC300C	LOGIC CIRCUIT DESIGN	3-1-0	4	4
100001/EC300D	NETWORK THEORY	3-1-0	4	4
100908/CO900E	DESIGN & ENGINEERING	2-0-0	2	2
	or			
100908/EN900E	PROFESSIONAL ETHICS			
100908/CO300F	SUSTAINABLE ENGINEERING	2-0-0	2	2
100001/EC322S	SCIENTIFIC COMPUTING LAB	0-0-3	3	2
100001/EC322T	LOGIC DESIGN LAB	0-0-3	3	2
	REMEDIAL/MINOR COURSE	3-1-0	4	4
			26/30	22/26

*Design & Engineering and Professional Ethics shall be offered in both S3 and S4.

SEMESTER IV

Course Code	Course Name	L-T-P	Hours	Credit
100903/MA400A	PROBABILITY, RANDOM PROCESS AND NUMERICAL METHODS	3-1-0	4	4
100001/EC400B	ANALOG CIRCUITS	3-1-0	4	4
100001/EC400C	SIGNALS AND SYSTEMS	3-1-0	4	4
100002/AE400D	MEASUREMENTS AND INSTRUMENTATION	3-1-0	4	4
100908/CO900E	DESIGN & ENGINEERING	2-0-0	2	2
	or			
100908/EN900E	PROFESSIONAL ETHICS			
100908/ES400F	CONSTITUTION OF INDIA	2-0-0	2	-
100001/EC422S	ANALOG CIRCUITS AND SIMULATION LAB	0-0-3	3	2
100002/AE422T	TRANSDUCERS AND MEASUREMENTS LAB	0-0-3	3	2
	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4	4
TOTAL			26/30	22/26

*Design & Engineering and Professional Ethics shall be offered in both S3 and S4.

SEMESTER V

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE500A	CONTROL SYSTEMS	3-1-0	4	4
100002/AE500B	INDUSTRIAL INSTRUMENTATION	3-1-0	4	4
100002/AE500C	COMPUTER ARCHITECTURE AND EMBEDDED SYSTEMS	3-1-0	4	4
100002/AE500D	ANALOG INTEGRATED CIRCUITS	3-1-0	4	4
100908/ES900E	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	or			
100904/ES900E	MANAGEMENT FOR ENGINEERS			
100908/CE500F	DISASTER MANAGEMENT	2-0-0	2	--
100002/AE522S	ANALOG INTEGRATED CIRCUITS AND INSTRUMENTATION LAB	0-0-4	4	2
100002/AE522T	EMBEDDED SYSTEMS LAB	0-0-4	4	2
	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4	4
TOTAL			27/31	23/27

*Industrial Economics & Foreign Trade and Management for Engineers shall be offered in both S5 and S6.

SEMESTER VI

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE600A	DIGITAL SIGNAL PROCESSING	3-1-0	4	4
100002/AE600B	PROCESS DYNAMICS AND CONTROL	3-1-0	4	4
100002/AE600C	POWER ELECTRONICS	3-1-0	4	4
100002/AE6XXD	PROGRAM ELECTIVE I	2-1-0	3	3
100908/ES900E	INDUSTRIAL ECONOMICS & FOREIGN TRADE	3-0-0	3	3
	or			
100904/ES900E	MANAGEMENT FOR ENGINEERS			
100002/AE622F	COMPREHENSIVE COURSE WORK	1-0-0	1	1
100002/AE622S	POWER ELECTRONICS LAB	0-0-3	3	2
100002/AE622T	MINIPROJECT	0-0-3	3	2
	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4	4
TOTAL			25/29	23/27

*Industrial Economics & Foreign Trade and Management for Engineers shall be offered in both S5 and S6.

PROGRAM ELECTIVE I

COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
100002/AE601D	DIGITAL SYSTEM DESIGN	2-1-0	3	3
100002/AE602D	DIGITAL IMAGE PROCESSING	2-1-0		
100002/ AE603D	COMPUTER NETWORKS	2-1-0		
100002/ AE604D	BIOMEDICAL INSTRUMENTATION	2-1-0		
100002/ AE605D	REAL TIME OPERATING SYSTEMS	2-1-0		
100002/AE606D	OPTOELECTRONIC DEVICES	2-1-0		
100002/AE607D	INTERNET OF THINGS	2-1-0		

Comprehensive Course Work: The comprehensive course work in the sixth semester of study shall have a written test of 50 marks. The written examination will be of objective type similar to the GATE examination. Syllabus for comprehensive examination shall be prepared by the respective BoS choosing any 5 core courses studied from semester 3 to 5. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practicing questions based on the core courses listed in the curriculum.

Mini project: It is introduced in the sixth semester with a specific objective to strengthen the understanding of student's fundamentals through effective application of theoretical concepts. Mini project can help to boost their skills and widen the horizon of their thinking. The ultimate aim of an engineering student is to resolve a problem by applying theoretical knowledge. Doing more projects increases problem-solving skills. Student Groups with 3 or 4 members should identify a topic of interest in consultation with Faculty/Advisor. Review the literature and gather information pertaining to the chosen topic. State the objectives and develop a methodology to achieve the objectives. Carry out the design/fabrication or develop codes/programs to achieve the objectives. Demonstrate the novelty of the project through the results and outputs. The progress of the mini project is evaluated based on a minimum of two reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The product has to be demonstrated for its full design specifications. Innovative design concepts, reliability considerations, aesthetics/ergonomic aspects taken care of in the project shall be given due weight. The internal evaluation will be made based on the product, the report and a viva-voce

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examination, conducted internally by a three-member committee appointed by Head of the Department comprising HoD or a senior faculty member, Mini Project coordinator for that program and project guide.

Total marks: 150 - CIE 75 marks and ESE 75 marks

Split up for CIE

- a. Attendance 10
- b. Project Guide 15
- c. Project Report 10
- d. Evaluation by the Committee (will be evaluating the level of completion and demonstration of functionality/specifications, presentation, oral examination, work knowledge and involvement) 40

SEMESTER VII

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE700A	COMMUNICATION ENGINEERING	2-1-0	3	3
100002/AE7XXB	PROGRAM ELECTIVE II	2-1-0	3	3
100002/AE7XXC	OPEN ELECTIVE	2-1-0	3	3
100908/ME700D	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
100002/AE722S	PROCESS CONTROL LAB	0-0-3	3	2
100002/AE722T	SEMINAR	0-0-3	3	2
100002/AE722U	PROJECT PHASE I	0-0-6	6	2
	REMEDIAL/MINOR/HONOURS COURSE	3-1-0	4	4
TOTAL			24/28	15/19

PROGRAM ELECTIVE II

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE701B	NONLINEAR AND ADAPTIVE CONTROL SYSTEMS	2-1-0	3	3
100002/AE702B	SCADA AND DISTRIBUTED CONTROL 3 SYSTEM	2-1-0		
100002/AE703B	ELECTROMAGNETIC INTERFERENCE AND COMPATIBILITY	2-1-0		
100002/AE704B	FPGA BASED SYSTEM DESIGN	2-1-0		
100002/AE705B	PYTHON FOR SIGNAL AND IMAGE PROCESSING	2-1-0		
100002/AE706B	COMPUTER NUMERICAL CONTROL	2-1-0		
100002/AE707B	DATA STRUCTURES AND ALGORITHMS	2-1-0		

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OPEN ELECTIVE

The open elective is offered in semester 7. Each program should specify the courses (maximum 5) they would like to offer as electives for other programs. The courses listed below are offered by the Department of Applied Electronics and Instrumentation for students of other undergraduate branches.

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE701C	INSTRUMENTATION SYSTEMS	2-1-0	3	3
100002/AE702C	BIOMEDICAL ENGINEERING	2-1-0		
100002/AE703C	MEMS	2-1-0		
100002/AE704C	ROBOTICS AND INDUSTRIAL AUTOMATION	2-1-0		

Note:

1. Seminar: To encourage and motivate the students to read and collect recent and reliable information about their area of interest confined to the relevant discipline, from technical publications including peer-reviewed journals, conferences, books, project reports etc., prepare a report based on a central theme and present it before a peer audience. Each student shall present the seminar for about 20 minutes duration on the selected topic. The report and the presentation shall be evaluated by a team of faculty members comprising Academic coordinator for that program, seminar coordinator and seminar guide based on style of presentation, technical content, adequacy of references, depth of knowledge and overall quality of the report.

Total marks: 100, only CIE, minimum required to pass 50

Attendance 10

Seminar Guide 20

Technical Content of the Report 30

Presentation 40

2. Project Phase-I: A Project topic must be selected either from research literature or the students themselves may propose suitable topics in consultation with their guides. The

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objective of Project Work Phase-I is to enable the student to take up investigative study in the broad field of Computer Science and Engineering, either fully theoretical/practical or involving both theoretical and practical work to be assigned by the Department on a group of three/four students, under the mentoring of a Project Guide(s). This is expected to provide a good initiation for the student(s) in R&D work. The assignment shall normally include:

- Survey and study of published literature on the assigned topic;
- Preparing an action plan for conducting the investigation, including teamwork;
- Working out a preliminary approach to the problem relating to the assigned topic;
- Block level design documentation
- Conducting preliminary Analysis/ Modelling/ Simulation/ Experiment/ Design/Feasibility;
- Preparing a written report on the study conducted for presentation to the department;
- Final project presentation before the concerned departmental committee.

Total marks: 100, only CIE, minimum required to pass 50

Project Guide(s)	30
Interim evaluation by the evaluation committee	20
Final project presentation	30
Final evaluation by the evaluation committee	20

The evaluation committee comprises HoD or a senior faculty member, Project coordinator and project guide(s).

SEMESTER VIII

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE800A	VLSI CIRCUIT DESIGN	2-1-0	3	3
100002/AE8XXB	PROGRAM ELECTIVE III	2-1-0	3	3
100002/AE8XXC	PROGRAM ELECTIVE IV	2-1-0	3	3
100002/AE8XXD	PROGRAM ELECTIVE V	2-1-0	3	3
100002/AE822T	COMPREHENSIVE COURSE VIVA	1-0-0	1	1
100002/AE822U	PROJECT PHASE II	0-0-12	12	4
	REMEDIATION/MINOR/HON OURS COURSE	3-1-0	4	4
TOTAL			25	17

PROGRAM ELECTIVE III

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE801B	ANN AND DEEP LEARNING	2-1-0	3	3
100002/AE802B	SOFT COMPUTING	2-1-0		
100002/AE803B	BIOINFORMATICS	2-1-0		
100002/AE804B	SPEECH AND AUDIO PROCESSING	2-1-0		
100002/AE805B	WIRELESS SENSOR NETWORKS	2-1-0		
100002/AE806B	NANOELECTRONICS	2-1-0		
100002/AE807B	INTEGRATED OPTICS AND PHOTONIC SYSTEMS	2-1-0		

PROGRAM ELECTIVE IV

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE801C	INDUSTRIAL DRIVES AND CONTROL	2-1-0	3	3
100002/AE802C	CONTROL OF POWER CONVERTERS	2-1-0		
100002/AE803C	AVIATION ELECTRONICS	2-1-0		
100002/AE804C	DIGITAL CONTROL SYSTEM	2-1-0		
100002/AE805C	POWER PLANT INSTRUMENTATION	2-1-0		
100002/AE806C	MEMS	2-1-0		
100002/AE807C	ROBOTICS AND INDUSTRIAL AUTOMATION	2-1-0		

PROGRAM ELECTIVE V

Course Code	Course Name	L-T-P	Hours	Credit
100002/AE801D	MECHATRONICS	2-1-0	3	3
100002/AE802D	AUTOMOTIVE ELECTRONICS	2-1-0		
100002/AE803D	CYBER SECURITY	2-1-0		
100002/AE804D	INSTRUMENTATION AND CONTROL FOR PETROCHEMICAL INDUSTRIES	2-1-0		
100002/AE805D	WIRELESS COMMUNICATION	2-1-0		
100002/AE806D	OPTICAL INSTRUMENTATION	2-1-0		
100002/AE807D	RENEWABLE ENERGY TECHNOLOGY	2-1-0		

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1. Comprehensive Viva Voce: The comprehensive viva voce in the eighth semester of study shall have a viva voce for 50 marks. The viva voce shall be conducted based on the core subjects studied from third to eighth semester. The viva voce will be conducted by the same three-member committee assigned for final project phase II evaluation towards the end of the semesters. The pass minimum for this course is 25. The course should be mapped with a faculty and classes shall be arranged for practicing questions based on the core courses listed in the curriculum. The mark will be treated as internal and should be uploaded along with internal marks of other courses.
2. Project Phase II: The objective of Project Work Phase II & Dissertation is to enable the student to extend further the investigative study taken up in Project Phase I, either fully theoretical/practical or involving both theoretical and practical work, under the mentoring of a Project Guide from the Department alone or jointly with a Supervisor drawn from R&D laboratory/Industry. This is expected to provide a good training for the student(s) in R&D work and technical leadership. The assignment shall normally include:
 - In depth study of the topic assigned in the light of the report prepared in Phase I;
 - Review and finalization of the approach to the problem relating to the assigned topic;
 - Detailed Analysis/Modeling/Simulation/Design/Problem Solving/Experiment as needed;
 - Final development of product/process, testing, results, conclusions and future directions;
 - Preparing a paper for Conference presentation/Publication in Journals, if possible;
 - Preparing a Dissertation in the standard format for being evaluated by the department;
 - Final Presentation before the concerned evaluation committee

Total marks: 150, only CIE, minimum required to pass 75

Project Guide 30

Interim evaluation, twice in the semester by the evaluation committee 70

Quality of the report evaluated by the above committee 10

(The evaluation committee comprises HoD or a senior faculty member, Project coordinator and project guide).

Final evaluation by a threemember committee 40

(The final evaluation committee comprises Project coordinator, expert from Industry/ research Institute and a senior faculty from a sister department. The same committee will conduct comprehensive course viva for 50 marks).

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CURRICULUM

FOR

B.TECH DEGREE

IN

XXXXXXX

WITH

MINOR IN

APPLIED ELECTRONICS & INSTRUMENTATION

(2020 A D M I S S I O N S)

B.TECH. WITH MINOR

Minor is an additional credential a student may earn if she/he does 20 credits worth of additional learning in a discipline other than her/his major discipline of B.Tech. degree. The objective is to permit a student to customize their Engineering degree to suit their specific interests. Upon completion of an Engineering Minor, a student will be better equipped to perform interdisciplinary research and will be better employable. Engineering Minors allow a student to gain interdisciplinary experience and exposure to concepts and perspectives that may not be a part of their major degree programs.

The academic units offering minors in their discipline will prescribe the set of courses and/or other activities like projects necessary for earning a minor in that discipline. A specialist bucket of 3-6 courses is identified for each Minor. Each bucket may rest on one or more foundation courses. A bucket may have sequences within it, i.e., advanced courses may rest on basic courses in the bucket. She/he accumulates credits by registering for the required courses, and if the requirements for a particular minor are met within the time limit for the course, the minor will be awarded. This will be mentioned in the Degree Certificate as **“Bachelor of Technology in xxx with Minor in yyy”**. The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If one specified course cannot be earned during the course of the programme, that minor will not be awarded. The individual course credits earned, however, will be reflected in the consolidated grade card.

- i. The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from third to eight semesters for all branches. The minor courses shall be identified by M slot courses.
- ii. Registration is permitted for Minor at the beginning of third semester. Total credits required to award B. Tech with Minor is 182 (162 + 20)
- iii. Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses, of which one course shall be a mini project based on the chosen area. They can do mini project either in S7 or in S8. The remaining 8 credits could be acquired through 2 MOOCs recommended by the Board of Studies and approved by the Academic Council or 2 courses from the minor buckets listed here. The classes for Minor shall be conducted along with regular classes and no extra time shall be required for conducting the courses.
- iv. There won't be any supplementary examination for the courses chosen for Minor.
- v. On completion of the program, “Bachelor of Technology in xxx with Minor in yyy” will be awarded if the registrant earn 20 credits from the minor courses.
- vi. The registration for minor program will commence from semester 3 and all the academic units offering minors in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 5 buckets. The bucket of courses may have sequences within it, i.e., advanced courses may rest on basic courses in the bucket. Reshuffling of courses between various buckets will not be allowed. There is option to skip any two courses listed here and to opt for equivalent MOOC courses approved by the Academic Council. In any case, they should carry out a mini project based on the chosen area in S7 or S8. For example: Students who have registered for B.Tech in xxx with Minor in Computer Science & Engineering can opt to study the courses listed

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below:

SEMESTER	Bucket - 1			Bucket - 2			Bucket - 3		
	Course code	COURSE NAME	Hours/Credits	Course code	COURSE NAME	Hours/Credits	Course code	Course Name	Hours/Credits
S3	100906/AE301M	INTRODUCTION TO SIGNALS & SYSTEMS	4	100906/AE302M	DIGITAL CIRCUIT DESIGN	4	100906/AE303M	INTRODUCTION TO MEASUREMENTS AND INSTRUMENTATION	4
S4	100906/AE401M	INTRODUCTION TO DIGITAL SIGNAL PROCESSING	4	100906/AE402M	INTRODUCTION TO ANALOG CIRCUITS	4	100906/AE403M	INTRODUCTION TO INDUSTRIAL INSTRUMENTATION	4
S5	100906/AE501M	DIGITAL IMAGE PROCESSING	4	100906/AE502M	POWER ELECTRONICS	4	100906/AE503M	CONTROL SYSTEMS	4
S6	100906/AE601M	SOFT COMPUTING	4	100906/AE602M	MEMS	4	100906/AE603M	PROCESS CONTROL	4
S7	100906/AE922M	Mini project	4	100906/AE922M	Mini project	4	100906/AE922M	Mini project	4
S8	100906/AE922M	Mini project	4	100906/AE922M	Mini project	4	100906/AE922M	Mini project	4

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CURRICULUM

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WITH

HONORS

(2020 ADMISSIONS)

B.TECH. WITH HONORS

Honors is an additional credential a student may earn if she/he opts for the extra 20 credits needed for this in her/his own discipline. Honors is not indicative of a class. The University is providing this option for academically extra brilliant students to acquire Honors. Honors is intended for a student to gain expertise/get specialized in an area inside his/her major B.Tech discipline and to enrich knowledge in emerging/advanced areas in the concerned branch of engineering. It is particularly suited for students aiming to pursue higher studies. Upon completion of Honors, a student will be better equipped to perform research in her/his branch of engineering. On successful accumulation of credits at the end of the programme, this will be mentioned in the Degree Certificate as “Bachelor of Technology in xxx, with Honors.” The fact will also be reflected in the consolidated grade card, along with the list of courses taken. If a student is not earning credits for any one of the specified course for getting Honors, she/he is not entitled to get Honors. The individual course credits earned, however, will be reflected in the consolidated grade card.

The courses shall be grouped into maximum of 3 buckets, each bucket representing a particular specialization in the branch. The students shall select only the courses from same bucket in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. The internal evaluation, examination and grading shall be exactly as for other mandatory courses. The Honors courses shall be identified by H slot courses.

- i. The curriculum/syllabus committee/BoS shall prepare syllabus for courses to be included in the curriculum from fourth to eight semesters for all branches. The Honors courses shall be identified by H slot courses.
- ii. Registration is permitted for Honors at the beginning of fourth semester. Total credits required is 182 (162 + 20).
- iii. Out of the 20 Credits, 12 credits shall be earned by undergoing a minimum of three courses, of which one course shall be a mini project based on the chosen area. The remaining 8 credits could be acquired through 2 MOOCs recommended by the Board of studies and approved by the Academic Council or 2 courses from the same bucket as the above 3 courses. The classes for Honors shall be conducted along with regular classes and no extra time shall be required for conducting the courses. The students should earn a grade of ‘C’ or better for all courses under Honors.
- iv. There won’t be any supplementary examination for the courses chosen for Honors.
- v. On successful accumulation of credits at the end of the programme, “Bachelor of Technology in xxx, with Honors” will be awarded if overall CGPA is greater than or equal to 8.5, earned a grade of ‘C’ or better for all courses chosen for Honors and there is no history of ‘F’ Grade in the entire span of the B. Tech Course.

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- vi. The registration for Honors program will commence from semester 4 and all the academic units offering Honors in their discipline should prescribe set of such courses. The courses shall be grouped into maximum of 5 buckets, each bucket representing a particular specialization in the branch. The students shall select only the courses from same bucket in all semesters. It means that the specialization is to be fixed by the student and cannot be changed subsequently. There is option to skip any two courses listed here if required, and to opt forequivalent MOOC courses approved by the Academic Council. In any case, they should carry out a mini project based on the chosen area in S8. For example: Students who have registered for B.Tech in Computer Science and Engineering with Honors can opt to study the courses listed in one of the buckets shown below:

SEMESTER	GROUP-1			GROUP-2			GROUP-3		
	Course Code	COURSE NAME	Hours/Credits	Course Code	COURSE NAME	Hours/Credits	Course Code	COURSE NAME	Hours/Credits
	S4	100002/AE401H	INSTRUMENTATION SYSTEM DESIGN	4	100002/AE402H	SYSTEM DESIGN USING VERILOG	4	100002/MA403H	LINEAR ALGEBRA
S5	100002/MA501H	OPTIMIZATION TECHNIQUES	4	100002/AE502H	ARM ARCHITECTURE DESIGN	4	100002/AE503H	WAVELETS	4
S6	100002/AE601H	PWM SCHEME FOR POWER CONVERTERS	4	100002/AE602H	MIXED CIRCUIT DESIGN	4	100002/AE603H	Computer Vision	4
S7	100002/AE701H	ADVANCED CONTROL THEORY	4	100002/AE702H	VLSI STRUCTURES FOR SIGNAL PROCESSING	4	100002/AE703H	ESTIMATION AND DETECTION	4
S8	100002/AE801H	Mini project	4	100002/AE801H	Mini project	4	100002/AE801H	Mini project	4