



RSET

RAJAGIRI SCHOOL OF
ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

CURRICULUM (S1 – S8)

FOR

B. TECH DEGREE

IN

**ELECTRONICS & COMMUNICATION
ENGINEERING**

(2020 ADMISSIONS)

SEMESTER I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100908/MA100A	LINEAR ALGEBRA AND CALCULUS	3-1-0	4	4
B 1/2	100906/P H900B	ENGINEERING PHYSICS A	3-1-0	4	4
	100908/C H900B	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	100908/C E900C	ENGINEERING MECHANICS	2-1-0	3	3
	100908/M E900C	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	100908/C O900D	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	100908/C O900F	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	100908/E N100E	LIFE SKILLS	2-0-2	4	--
S 1/2	100908/P H922S	ENGINEERING PHYSICS LAB	0-0-2	2	1
	100908/C H922S	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	100908/C O922T	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	100908/C O922U	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				23/24	17

SEMESTER II

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100908/MA 100A	VECTOR CALCULUS, DIFFERENTIAL EQUATIONS AND TRANSFORMS	3-1-0	4	4
B 1/2	100906/PH 900B	ENGINEERING PHYSICS A	3-1-0	4	4
	100908/CH 900B	ENGINEERING CHEMISTRY	3-1-0	4	4
C 1/2	100908/CE 900C	ENGINEERING MECHANICS	2-1-0	3	3
	100908/ME 900C	ENGINEERING GRAPHICS	2-0-2	4	3
D 1/2	100908/CO 900D	BASICS OF CIVIL & MECHANICAL ENGINEERING	4-0-0	4	4
	100908/CO 900F	BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING	4-0-0	4	4
E	100908/EN 200E	PROFESSIONAL COMMUNICATION	2-0-2	4	--
F	100908/CS 200F	PROGRAMMING IN C	2-1-2	5	4
S 1/2	100908/PH 922S	ENGINEERING PHYSICS LAB	0-0-2	2	1
	100908/CH 922S	ENGINEERING CHEMISTRY LAB	0-0-2	2	1
T 1/2	100908/CO 922T	CIVIL & MECHANICAL WORKSHOP	0-0-2	2	1
	100908/CO 922U	ELECTRICAL & ELECTRONICS WORKSHOP	0-0-2	2	1
TOTAL				28/29	21

SEMESTER III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100905/ MA300A	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	3-1-0	4	4
B	100001/E C300B	SOLID STATE DEVICES	3-1-0	4	4
C	100001/E C300C	LOGIC CIRCUIT DESIGN	3-1-0	4	4
D	100001/E C300D	NETWORK THEORY	3-1-0	4	4
E 1/2	100908/C 0900E	DESIGN AND ENGINEERING	2-0-0	2	2
	100908/E N900E	PROFESSIONAL ETHICS	2-0-0	2	2
F	100908/C O300F	SUSTAINABLE ENGINEERING	2-0-0	2	--
S	100001/E C322S	SCIENTIFIC COMPUTING LAB	0-0-3	3	2
T	100001/E C322T	LOGIC DESIGN LAB	0-0-3	3	2
R/M		Remedial/Minor course	3-1-0	4	4
TOTAL				26/30	22/26

NOTE:

4 hours exclusively for Remedial class/Minor/Honors course. If a student does not opt for minor/honors programme, he/she can be given remedial class.

SEMESTER IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100902/ MA400A	PROBABILITY, RANDOM PROCESS AND NUMERICAL METHODS	3-1-0	4	4
B	100001/ EC400B	ANALOG CIRCUITS	3-1-0	4	4
C	100001/ EC400C	SIGNALS AND SYSTEMS	3-1-0	4	4
D	100001/E C400D	COMPUTER ARCHITECTURE AND MICROCONTROLLERS	3-1-0	4	4
E 1/2	100908/ CO900E	DESIGN AND ENGINEERING	2-0-0	2	2
	100908/ EN900E	PROFESSIONAL ETHICS	2-0-0	2	2
F	100908/ ES400F	CONSTITUTION OF INDIA	2-0-0	2	--
S	100001/ EC422S	ANALOG CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	100001/E C422T	MICROCONTROLLER LAB	0-0-3	3	2
R/M/ H		Remedial/Minor/Honours course	3-1-0	4**	4
TOTAL				26/30	22/26

SEMESTER V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDI T
A	100001/EC 500A	LINEAR INTEGRATED CIRCUITS	3-1-0	4	4
B	100001/EC 500B	DIGITAL SIGNAL PROCESSING	3-1-0	4	4
C	100001/EC 500C	ANALOG AND DIGITAL COMMUNICATION	3-1-0	4	4
D	100001/EC 500D	CONTROL SYSTEMS	3-1-0	4	4
E 1/2	100908/ES 900E	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	100904/ES 900E	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	100908/C E500F	DISASTER MANAGEMENT	2-0-0	2	--
S	100001/EC 522S	ANALOG INTEGRATED CIRCUITS AND SIMULATION LAB	0-0-3	3	2
T	100001/EC 522T	DIGITAL SIGNAL PROCESSING LAB	0-0-3	3	2
R/M/ H		Remedial/Minor/Honours course	3-1-0	4**	4
TOTAL				27/31	23/27

SEMESTER VI

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100001/EC 600A	ELECTROMAGNETICS	3-1-0	4	4
B	100001/EC 600B	VLSI CIRCUIT DESIGN	3-1-0	4	4
C	100001/EC 600C	INFORMATION THEORY AND CODING	3-1-0	4	4
D	100001/EC 6XXD	PROGRAM ELECTIVE I	2-1-0	3	3
E ½	100908/E S900E	INDUSTRIAL ECONOMICS AND FOREIGN TRADE	3-0-0	3	3
	100904/ES 900E	MANAGEMENT FOR ENGINEERS	3-0-0	3	3
F	100001/EC 600F	COMPREHENSIVE COURSE WORK	1-0-0	1	1
S	100001/EC 622S	COMMUNICATION LAB	0-0-3	3	2
T	100001/EC 622T	MINI PROJECT	0-0-3	3	2
R/M/ H		Remedial/Minor/Honours course	3-1-0	4**	4
TOTAL				25/29	23/27

PROGRAM ELECTIVE I

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	100001/E C601D	Digital System Design	2-1-0	3	3
	100001/E C602D	Power Electronics	2-1-0		
	100001/E C603D	Data Analysis	2-1-0		
	100001/E C604D	Embedded Systems	2-1-0		
	100001/E C605D	Digital Image Processing	2-1-0		
	100001/E C606D	Introduction to MEMS	2-1-0		
	100001/E C607D	Quantum Computing	2-1-0		

1. 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.

2. 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. Carryout 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 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

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100001/E C700A	WIRELESS COMMUNICATION	2-1-0	3	3
B	100001/E C7XXB	PROGRAM ELECTIVE II	2-1-0	3	3
C	100907/X X7XXC	OPEN ELECTIVE	2-1-0	3	3
D	100908/ ME700D	INDUSTRIAL SAFETY ENGINEERING	2-1-0	3	---
S	100001/E C722S	ELECTROMAGNETICS LAB	0-0-3	3	2
T	100001/E C722T	SEMINAR	0-0-3	3	2
U	100001/E C722U	PROJECT PHASE I	0-0-6	6	2
R/M/ H		Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				24/28	15/19

PROGRAM ELECTIVE II

SLOT	COURSE NO.	COURSE S	L-T-P	HOURS	CREDIT
B	100001/E C701B	Optical Fiber Communication	2-1-0	3	3
	100001/E C702B	Computer Networks	2-1-0		
	100001/E C703B	Opto-electronic Devices	2-1-0		
	100001/E C704B	Antenna and Wave propagation	2-1-0		
	100001/E C705B	Error Control Codes	2-1-0		
	100001/E C706B	Machine Learning	2-1-0		
	100001/E C707B	DSP Architectures	2-1-0		

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 ELECTRONICS AND COMMUNICATION ENGINEERING for students of other undergraduate branches except Electronics and Communication Engineering and Applied Electronics and Instrumentation Engineering.

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	100907/E C701C	Mechatronics	2-1-0	3	3
	100907/E C702C	Biomedical Instrumentation	2-1-0		
	100907/E C703C	Electronic Hardware for Engineers	2-1-0		
	100907/E C704C	IoT and Applications	2-1-0		
	100907/E C705C	Entertainment Electronics	2-1-0		

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

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

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
A	100001/ EC800A	INSTRUMENTATION	2-1-0	3	3
B	100001/ EC8XXB	PROGRAM ELECTIVE III	2-1-0	3	3
C	100001/ EC8XXC	PROGRAM ELECTIVE IV	2-1-0	3	3
D	100001/ EC8XXD	PROGRAM ELECTIVE V	2-1-0	3	3
T	100001/ EC800T	COMPREHENSIVE VIVA VOCE	1-0-0	1	1
U	100001/ EC822U	PROJECT PHASE II	0-0- 12	12	4
R/M/H		Remedial/Minor/Honors course	3-1-0	4*	4
TOTAL				25/28	17/21

PROGRAM ELECTIVE III

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
B	100001/EC 801B	Biomedical Engineering	2-1-0	3	3
	100001/EC 802B	Satellite Communication	2-1-0		
	100001/EC 803B	Secure Communication	2-1-0		
	100001/EC 804B	Pattern Recognition	2-1-0		
	100001/EC 805B	RF Circuit Design	2-1-0		
	100001/EC 806B	Mixed Signal Circuit Design	2-1-0		
	100001/EC 807B	Entrepreneurship	2-1-0		

PROGRAM ELECTIVE IV

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
C	100001/EC801C	Modern Communication Systems	2-1-0	3	3
	100001/EC802C	Real Time Operating Systems	2-1-0		
	100001/EC803C	Adaptive Signal Processing	2-1-0		
	100001/EC804C	Microwave Devices and Circuits	2-1-0		
	100001/EC805C	Speech and Audio Processing	2-1-0		
	100001/EC806C	Analog CMOS Design	2-1-0		
	100001/EC807C	Robotics	2-1-0		

PROGRAM ELECTIVE V

SLOT	COURSE NO.	COURSES	L-T-P	HOURS	CREDIT
D	100001/EC801D	Mechatronics	2-1-0	3	3
	100001/EC802D	Optimization Techniques	2-1-0		
	100001/EC803D	Computer Vision	2-1-0		
	100001/EC804D	Low Power VLSI	2-1-0		
	100001/EC805D	Internet of Things	2-1-0		
	100001/EC806D	Renewable Energy Systems	2-1-0		
	100001/EC807SD	Organic Electronics	2-1-0		

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 three member 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).

CURRICULUM
FOR
B. TECH DEGREE
IN
XXXXXXX
WITH
MINOR IN
ELECTRONICS AND COMMUNICATION
ENGINEERING
(2020 ADMISSIONS)

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 miniproject 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 Electronics and Communication Engineering can opt to study the courses listed below:

S E M E S T E R	BASKET I				BASKET II				BASKET III			
	COURSE NO.	COURSE NAME	HOURS	CREDITS	COURSE NO.	COURSE NAME	HOURS	CREDITS	COURSE NO.	COURSE NAME	HOURS	CREDITS
S3	100906/E C301M	ELECTRONIC CIRCUITS	4	4	100906/ EC302M	ANALOG COMMUNICATION	4	4	100906/ EC303M	INTRODUCTION TO SIGNALS AND SYSTEMS	4	4
S4	100906/E C401M	MICROCONTROLLERS	4	4	100906/ EC402M	DIGITAL COMMUNICATION	4	4	100906/ EC403M	INTRODUCTION TO DIGITAL SIGNAL PROCESSING	4	4
S5	100906/E C501M	EMBEDDED SYSTEM DESIGN	4	4	100906/ EC502M	COMMUNICATION SYSTEMS	4	4	100906/ EC503M	TOPICS IN DIGITAL IMAGE PROCESSING	4	4
S6	100906/E C601M	VLSI CIRCUITS	4	4	100906/ EC602M	DATA NETWORKS	4	4	100906/ EC603M	TOPICS IN COMPUTER VISION	4	4
S7	100906/E C922M	MINIPROJECT	4	4	100906/ EC922M	MINIPROJECT	4	4	100906/ EC922M	MINIPROJECT	4	4
S8	100906/E C922M	MINIPROJECT	4	4	100906/ EC922M	MINIPROJECT	4	4	100906/ EC922M	MINIPROJECT	4	4

CURRICULUM
FOR
B. TECH DEGREE
IN
ELCTRONICS AND COMMUNICATION
ENGINEERING
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.
- 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 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 S8. For example: Students who have registered for B. Tech in Electronics and Communication Engineering with Honors can opt to study the courses listed in one of the buckets shown below:

SEMESTER	GROUP I				GROUP II				GROUP III			
	COURSE NO.	COURSE NAME	H	C	COURSE NO.	COURSE NAME	H	C	COURSE NO.	COURSE NAME	H	C
S4	100001/ EC401H	NANOELECTRONICS	4	4	100001/ EC402H	STOCHASTIC PROCESSES FOR COMMUNICATION	4	4	100001/ EC403H	STOCHASTIC SIGNAL PROCESSING	4	4
S5	100001/ EC501H	FPGA BASED SYSTEM DESIGN	4	4	100001/ EC502H	DETECTION AND ESTIMATION THEORY	4	4	100001/ EC503H	COMPUTATIONAL TOOLS FOR SIGNAL PROCESSING	4	4
S6	100001/ EC601H	ELECTRONIC DESIGN AND AUTOMATION TOOLS	4	4	100001/ EC602H	MIMO AND MULTIUSER COMMUNICATION SYSTEMS	4	4	100001/ EC603H	DETECTION AND ESTIMATION THEORY	4	4
S7	100001/ EC701H	RF MEMS	4	4	100001/ EC702H	DESIGN AND ANALYSIS OF ANTENNAS	4	4	100001/ EC703H	MULTIRATE SIGNAL PROCESSING AND WAVELETS	4	4
S8	100001/ EC822H	MINIPROJECT	4	4	100001/ EC822H	MINIPROJECT	4	4	100001/ EC822H	MINIPROJECT	4	4