

Sharnbasva University, Kalaburagi												
Scheme of Teaching and Examination2021-22												
[As per Nep, Outcome Based Education(OBE) and Choice Based Credit System (CBCS) Scheme-1]												
(Effectivefromtheacademicyear2021-22)												
Programme: B.Tech: Electronics and Communication Engineering												
IIISEMESTER												
Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	BS	21MAT31	Engineering Mathematics-III	Mathematics	3	0	0	3	50	50	100	03
2	PCC	21EC32	Analog Circuits	ECE	3	1	0	3	50	50	100	04
3	PCC	21EC33	Digital System Design	ECE	3	0	0	3	50	50	100	03
4	PCC	21EC34	Network Analysis	ECE	3	0	0	3	50	50	100	03
5	PCC	21EC35	Sensors and Actuators	ECE	3	0	0	3	50	50	100	02
6	PCC	21ECL36	Analog Circuits Laboratory	ECE	0	0	2	3	50	50	100	01
7	PCC	21ECL37	Digital System Design Laboratory	ECE	0	0	2	3	50	50	100	01
8	PCC	21ECL38	Network Analysis Laboratory	ECE	0	0	2	3	50	50	100	01
9	PW	21PRJ39	Project-III	ECE	0	0	2	3	50	50	100	01
10	HSS	18KANKK310 /20KANAK310	Kannada Kali-III/ Ayda Kategalu	Humanities	1	0	0	3	50	50	100	01
11	AEC	21AEC311X	Ability Enhancement Course-III	ECE	0	0	2	3	50	50	100	01
Total					16	1	10	33	550	550	1100	21
Note: BS-Basic Science, PCC- Programme Core Course, PW-Project Work, AEC- Ability Enhancement Course,HSS-HumanityandSocialScience,NCMC- NonCreditMandatoryCourse												
21KANKK310KannadaKali-IIIis for non Kannada speaking, reading and writing students and 21KANAK310 Ayda Kategalu is for the students who speak, read and write Kannada.												
Project(PRJ):Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or multi-disciplinary mini project can be Assigned to an individual students or to a group having not more than 4students.												

Ability Enhancement Course-3												
Course code under 21AEC311X				Course Title								
21AEC3111				Analog Electronics Laboratory using Pspice/Mutlisim/LTspice								
21AEC3112				Digital System Design using Pspice/Multisim/LTspice								
Courses prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
12	NCMC	21MATDIP31	Additional Mathematics– I	Mathematics	3	0	-	00	100	00	100	00
1) Non Credit Mandatory Courses (NCMC) Additional Mathematics-I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of B. Tech. programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the university examination. In case any student fails to secure the minimum 50% of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s.												
2) These courses shall not be mandatory for vertical progression, but completion of the courses shall be mandatory for the award of degree.												
Courses prescribed to lateral entry B.Sc. degree holders admitted to III semester of Engineering programs												
Lateral entry students from B.Sc. stream, shall clear the non credit courses Computer Aided Engineering Drawing, Elements of Civil Engineering of First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory For the award of degree.												
AICTE Activity Points to be earned by students admitted to B.Tech. programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):												
Over and above the academic grades, every regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other universities to fifth semester are required to earn 50 activity points from the year of entry to Sharnbasva University. The Activity Points earned shall be reflected on the students eighth semester Grade card.												
The activities can be spread over the years, any time during the semester weekend holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours’ requirement should be fulfilled. Activity Points (noncredit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.												
In case students fail to learn the prescribed activity points, Eighth semester Grade Card shall be issued only after earning the required activity points. Students hall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.												

Sharnbasva University, Kalaburagi												
Scheme of Teaching and Examination2021-22												
[As per NEP, Outcome Based Education(OBE) and Choice Based Credit System(CBCS) Scheme]												
(Effective from the academic year 2021-22)												
Programme: B.Tech: Electronics and Communication Engineering												
IVSEMESTER												
Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practica I/Drawi	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	BS	21MAT41	Engineering Mathematics-IV	Mathematics	3	0	0	3	50	50	100	03
2	PCC	21EC42	Analog and Digital Communication	ECE	3	1	0	3	50	50	100	04
3	PCC	21EC43	Microcontroller	ECE	3	0	0	3	50	50	100	03
4	PCC	21EC44	Signals and Systems	ECE	3	0	0	3	50	50	100	03
5	OC	21EC45	Information Theory and Coding	ECE	2	0	0	3	50	50	100	02
6	PCC	21ECL46	Analog and Digital Communication Laboratory	ECE	0	0	2	3	50	50	100	01
7	PCC	21ECL47	Microcontroller Laboratory	ECE	0	0	2	3	50	50	100	01
8	PCC	21ECL48	Signals and Systems Laboratory	ECE	0	0	2	3	50	50	100	01
9	PW	21PRJ49	Project-IV	ECE	0	0	2	3	50	50	100	01
10	HSS	18KANKK410 /20 KANMD410	Kannada Kali-IV/ Maha dasohigalu	Humanities	1	0	0	3	50	50	100	01
11	AEC	21AEC411X	Ability Enhancement Course-IV	ECE	0	0	2	3	50	50	100	01
Total					15	1	10	33	550	550	1100	21
Note: BS-Basic Science, PCC- Programme Core Course, PW- Project Work, AEC- Ability Enhancement Course, HSS-Humanity and Social Science, NCMC-Non Credit Mandatory Course												
21KANKK410KannadaKali-IV is for non Kannada speaking, reading and writing students and 21KANMD410 Mahadasohigalu is for the students who speak, Read and write Kannada.												

Project(PRJ):Based on the ability/abilities of the student/s and recommendations of the mentor, a single discipline or multidisciplinary mini project can be Assigned to an individual students or to a group having not more than 4students.												
Ability Enhancement Course-4												
Course code under 21AEC411X						Course Title						
21AEC4111						Embedded C Basics						
21AEC4112						PCB Design and Fabrication						
Courses prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs												
12	NCMC	21MATDIP41	Additional Mathematics–II	Mathematics	3	0	-	00	100	00	100	00
1) Non Credit Mandatory Courses (NCMC) Additional Mathematics-I and II prescribed for III and IV semesters respectively, to the lateral entry Diploma holders admitted to III semester of B. Tech. programs, shall attend the classes during the respective semesters to complete all the formalities of the course and appear for the university examination. In case any student fails to secure the minimum 50% of the prescribed CIE marks, he/she shall be deemed to have secured F grade. In such a case, the students have to fulfill the requirements during subsequent semester/s.												
2) These courses shall not be mandatory for vertical progression, but completion of the courses shall be mandatory for the award of degree.												
Courses prescribed to lateral entry B.Sc. degree holders admitted to III semester of Engineering programs												
Lateral entry students from B.Sc. stream, shall clear the non credit courses Computer Aided Engineering Drawing, Elements of Civil Engineering of First Year Engineering Programme. These Courses shall not be considered for vertical progression, but completion of the courses shall be mandatory For the award of degree.												
AICTE Activity Points to be earned by students admitted to B.Tech. programme (For more details refer to Chapter 6,AICTE Activity Point Programme, Model Internship Guidelines):												
Over and above the academic grades, every regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other universities to fifth semester are required to earn 50 activity points from the year of entry to Sharnbasva University. The Activity Points earned shall be reflected on the students eighth semester Grade card.												
The activities can be spread over the years, any time during the semester weekend holidays, as per the liking and convenience of the student from the year of entry to the programme. However, minimum hours’ requirement should be fulfilled. Activity Points (noncredit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.												
In case students fail to learn the prescribed activity points, Eighth semester Grade Card shall be issued only after earning the required activity points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.												

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Scheme of Teaching and Examination2021-22												
[As per NEP, Outcome Based Education(OBE) and Choice Based Credit System(CBCS) Scheme]												
(Effectivefromtheacademicyear2021-22)												
Programme: B.Tech: Electronics and Communication Engineering												
VSEMESTER												
Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	HSS	21ES51	Management and Entrepreneurship Development	Humanities	3	0	0	3	50	50	100	03
2	PCC	21EC52	Digital Signal Processing	ECE	3	1	0	3	50	50	100	04
3	PCC	21EC53	Electromagnetic waves and Antennas	ECE	3	0	0	3	50	50	100	03
4	PEC	21EC54X	Professional Elective Course-I	ECE	3	0	0	3	50	50	100	03
5	OEC	21EC55X	Open Elective Course-I	ECE	4	0	0	3	50	50	100	04
6	PCC	21ECL56	Digital Signal Processing Laboratory	ECE	0	0	2	3	50	50	100	01
7	PCC	21ECL57	Electromagnetic waves and Antennas Laboratory	ECE	0	0	2	3	50	50	100	01
8	PEC	21ECL58X	Professional Elective Course-I Laboratory	ECE	0	0	2	3	50	50	100	01
9	PW	21PRJ59	Project-V	ECE	0	0	2	3	50	50	100	01
10	AEC	21AEC510X	Ability Enhancement Course-V	ECE	0	0	2	3	50	50	100	01
Total					16	1	10	30	500	500	1000	22
Note:PCC- Programme Core Course, PEC- Professional Elective Course, PW-Project Work, HSS-Humanity and Social Science, OEC- Open Elective Course, AEC- Ability Enhancement Course,UHV- Universal Human Values.												
Project(PRJ): A batch of 4 to 5 students (Same branch or different branches) with a guide, may undertake one project (1 hour of theory/tutorial or two hours of practice /activities.												

Professional Elective Course-I			
Coursecodeunder21EC54X	CourseTitle	Coursecodeunder21ECL58X	CourseTitle
21EC541	Verilog HDL	21ECL581	Verilog HDL Laboratory
21EC542	Microprocessor 8086	21ECL582	Microprocessor 8086 Laboratory
21EC543	Optical Fiber Communication	21ECL583	Optical Fiber Communication Laboratory
Open Elective Course-I			
Coursecodeunder21XX55X	Course Title		
21EC551	Internet of Things		
21EC552	Microcontroller and Microprocessor		
Ability Enhancement Course-V			
Coursecodeunder21EC510X	Course Title		
21AEC5101	Research Article/Report Reading and Writing		
21AEC5102	C++ Basics		
AICTE Activity Points: In case students fail to earn the prescribed activity points, Eighth semester Grade Card shall be issued only after earning the Required activity points. Student shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.			

Sharnbasva University, Kalaburagi
Scheme of Teaching and Examination 2021-22
[As per Nep, Outcome Based Education(OBE) and Choice Based Credit System(CBCS) Scheme]
(Effective from the academic year 2021-22)

Programme: B.Tech: Electronics and Communication Engineering

VISEMESTER

Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	21EC61	VLSI Circuits	ECE	3	0	0	3	50	50	100	03
2	PCC	21EC62	Satellite Communication	ECE	3	0	0	3	50	50	100	03
3	PEC	21EC63X	Professional Elective Course-II	ECE	3	0	0	3	50	50	100	03
4	OEC	21EC64X	Professional Elective Course-III	ECE	3	0	0	3	50	50	100	03
5	OEC	21EC65X	Open Elective Course-II	ECE	4	0	0	3	50	50	100	04
6	PCC	21ECL66	VLSI Circuits Laboratory	ECE	0	0	2	3	50	50	100	01
7	PEC	21ECL67X	Professional Elective Course-II Laboratory	ECE	0	0	2	3	50	50	100	01
8	PW	21PRJ68	Project-VI	ECE	0	0	2	3	50	50	100	01
9	HSS	21HSM69	Professional Ethics	Humanities	1	0	0	3	50	50	100	01
10	AEC	21AEC610X	Ability Enhancement Course-VI	ECE	0	0	2	3	50	50	100	01
Total					17	0	8	30	500	500	1000	21

Note: PCC-Professional Core Course, PEC-Professional Elective Course, OEC-Open Elective Course, PW-Project Work, HSS-Humanity and Social Science, AEC-Ability Enhancement Course.

Project(PRJ): A batch of 4 to 5 students (Same branch or different branches) with a guide, may undertake one project (1 hour of theory/tutorial or two hours of practice /activities).

Professional Elective Course-II

Course code under 21EC63X		Course Title	Course code under 21ECL67X		Course Title
21EC631		ARM Cortex M3 & Embedded Systems	21ECL671		Embedded System Laboratory
21EC632		Tiny Machine Learning	21ECL672		Machine Learning Laboratory
21EC633		Programming Using Python	21ECL673		Programming Using Python Laboratory

21EC634	IoT Technology	21ECL674	IoT Technology Laboratory
Professional Elective Course-III			
Course code under 21EC63X	Course Title		
21EC641	Control System		
21EC642	Smart Agriculture		
21EC643	Cryptography And Network Security		
Open Elective Course-II			
Course code under 21XX65X	Course Title		
21EC651	Introduction to UAV Electronics		
21EC652	Introduction to Drone Technology		
21EC653	Embedded Systems		
Ability Enhancement Course-VI			
Coursecodeunder21EC610X	Course Title		
21AEC6101	Antenna Design Simulation		
21AEC6102	Design of VLSI Circuits using LT Spice		
AICTE Activity Points:In case students fail to earn the prescribed activity points, Eighth semester Grade Card shall be issued only after earning the Required activity points. Student shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.			

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(Effective from the academic year 2021-22)

Programme: B.Tech: Electronics and Communication Engineering

VII SEMESTER

Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	21EC71	Computer Networks	ECE	3	0	0	3	50	50	100	03
2	PCC	21EC72	Mobile Communication and Networks	ECE	3	0	0	3	50	50	100	03
3	PCC	21EC73	Digital Image Processing	ECE	3	0	0	3	50	50	100	03
4	PEC	21EC74X	Professional Elective Course-IV	ECE	3	0	0	3	50	50	100	03
5	OEC	21EC75X	Open Elective Course-III	ECE	4	0	0	3	50	50	100	04
6	PCC	21ECL76	Computer Networks Laboratory	ECE	0	0	2	3	50	50	100	01
7	PCC	21ECL77	Digital Image Processing Laboratory	ECE	0	0	2	3	50	50	100	01
8	PEC	21ECL78X	Professional Elective Course-IV Laboratory	ECE	0	0	2	3	50	50	100	01
9	PW	21PRJ79	Project-VII	ECE	0	0	2	3	50	50	100	01
10	HSS	21HSM710	Industrial Psychology and Organizational Behavior	ECE	1	0	0	3	50	50	100	01
Total					17	0	8	30	500	500	1000	21

Note: PCC-Professional Core Course, PEC-Professional Elective Course, OEC-Open Elective Course, PW-Project Work, HSS-Humanity and Social Science, AEC-Ability Enhancement Course.

Project(PRJ): A batch of 4 to 5 students (Same branch or different branches) with a guide, may undertake one project (1 hour of theory/tutorial or two hours of practice /activities).

Professional Elective Course-IV			
Course code under 21EC74X	Course Title	Course code under 21ECL78X	Course Title
21EC741	Power Electronics	21ECL781	Power Electronics Laboratory
21EC742	Low Power VLSI	21ECL782	Low Power VLSI Design Laboratory
21EC743	DSP Algorithm and Architecture	21ECL783	DSP Algorithm and Architecture Laboratory
Open Elective Course-III			
Course code under 21XX74X	Course Title		
21EC751	E-Waste Management		
21EC752	Wireless Sensor Network		
21EC753	Robotics		
AICTE Activity Points:In case students fail to earn the prescribed activity points, Eighth semester Grade Card shall be issued only after earning the Required activity points. Student shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.			

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Programme: B.Tech: Electronics and Communication Engineering												
VIII SEMESTER												
Sl. No.	Course Code		Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	Project	21PRJ81	Research Project / Field Project - VIII	-	0	0	16	3	50	50	100	08
2	Internship	21ECI82	Internship	-	0	0	12	3	50	50	100	06
Total							28	06	100	100	200	14
Note: PCC-Professional Core Course, PEC-Professional Elective Course, OEC-Open Elective Course, PW-Project Work, HSS-Humanity and Social Science, AEC-Ability Enhancement Course. Internship-To be carried out during the vacation/s of VI and VII semesters or VII and VIII semesters												
Project(PRJ): A batch of 4 to 5 students (Same branch or different branches) with a guide, may undertake one project (1 hour of theory/tutorial or two hours of practice /activities.												
Note: Project-8 Manufacturable and marketable project / Research project/Field Project.												