Sharnbasva University, Kalaburagi
Scheme of Teaching and Examination 2022-23
[As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme]
(Effective from the academic year 2022-23)

Programme: B.Tech: Electrical and Electronics Engineering

III 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	
					L	T	P					
1	BS	22MATE31	Mathematics for EES-III	Mathematics	3			3	50	50	100	03
2	PCC	22EE32	Electric Circuit Analysis	EEE	3	1		3	50	50	100	04
3	PCC	22EE33	Induction Machines	EEE	3			3	50	50	100	03
4	PCC	22EE34	Analog and Digital Electronics	EEE	3			3	50	50	100	03
5	PCC	22EE35	Electromagnetic Field Theory	EEE	3			3	50	50	100	03
6	PCC	22EEL36	Electric Circuit Analysis Lab	EEE			2	3	50	50	100	01
7	PCC	22EEL37	Induction Machines Lab	EEE			2	3	50	50	100	01
8	PCC	22EEL38	Analog and Digital Electronics Lab	EEE			2	3	50	50	100	01
9	PW	22PRJ39	Project-III	EEE			2	3	50	50	100	01
10	HSS	22HSM310B	Soft Skills	Humanities	1			3	50	50	100	01
11	AEC	22AEE311X	Ability Enhancement Course-III				2	3	50	50	100	01
Total					**16**	**1**	**10**	**33**	**550**	**550**	**1100**	**22**

Note: BS-Basic Science, PCC- Programme Core Course, PW-Project Work, AEE- Ability Enhancement Course, HSS-Humanity and Social Science ,NCMC-Non Credit Mandatory Course

Project (PRJ): A Batch of 4 students (Same Branch or Different Branches with a Guide, May undertake one project).

Ability Enhancement Course-3

Course code under 22AEE311X	Course Title
22AEE311A	Simulation of Electronics Circuits
22AEE311B	Introduction to Virtual Lab

Courses prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

12	NCMC	22MATDIP31	Additional Mathematics– I	Mathematics	3	1	-	3	00	100	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 register for the said course/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 to appear for SEE.

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 weekends 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(non credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

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 2022-23
[As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme]
(Effective from the academic year 2022-23)

Programme: B.Tech: Electrical and Electronics Engineering

IVSEMESTER

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	
					L	T	P					
1	BS	22MATE41	Mathematics for EES-IV	Mathematics	3			3	50	50	100	03
2	PCC	22EE42	Power Generation, Transmission & Distribution	EEE	3			3	50	50	100	03
3	PCC	22EE43	DC Machines and Synchronous Machines	EEE	3			3	50	50	100	03
4	PCC	22EE44	Control Systems	EEE	3			3	50	50	100	03
5	PCC	22EE45	Electrical & Electronic Measurements	EEE	3			3	50	50	100	03
6	PCC	22EEL46	DC Machines and Synchronous Machines lab	EEE			2	3	50	50	100	01
7	PCC	22EEL47	Control Systems Lab	EEE			2	3	50	50	100	01
8	PCC	22EEL48	Electrical & Electronic Measurements Lab	EEE			2	3	50	50	100	01
9	PW	22PRJ49	Project-IV	EEE			2	3	50	50	100	01
10	HSS	22UHV410	Universal Human Values	Humanities	3			2	50	50	100	03
11	AEC	22AEE411X	Ability Enhancement Course-IV				2	3	50	50	100	01
Total					18	1	10	32	550	550	1100	23

Note: BS-Basic Science, PCC- Programme Core Course, PW-Project Work, AEE- Ability Enhancement Course, HSS-Humanity and Social Science, NCMC-

Non-Credit Mandatory Course

Project(PRJ): A Batch of 4 students (Same Branch or Different Branches with a Guide, May undertake one project).

Ability Enhancement Course-4

Course code under 22AEE411X	Course Title
22AEE411A	Simulation of Electrical Machines
22AEE411B	Programming for Electrical Engineering

Courses prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

10	NCMC	22MATDIP41	Additional Mathematics–II	Mathematics	3	1	-	3	00	100	100	00

3) 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 register for the said course/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 to appear for SEE.

4) 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, anytime during the semester weekends 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 earn the prescribed activity points, eighth semester Grade Card shall be issued only after earning the required activitypoints.

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 2022-23
[As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme]
(Effective from the academic year 2022-23)

Programme: B.Tech: Electrical and Electronics Engineering

V SEMESTER

Sl. No.		Course Code	Course Title	Teaching Department	Teaching Hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration inHours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	HSS	22HSM51	Management and Entrepreneurship Development	Humanities	3			3	50	50	100	03
2	PCC	22EE52	Signals and Systems	EEE	3	1		3	50	50	100	04
3	PCC	22EE53	Power Electronics	EEE	3			3	50	50	100	03
4	PEC	22EE54X	Professional Elective Course-I	EEE	3			3	50	50	100	03
5	OEC	22EE55X	Open Elective Course-I	EEE	4			3	50	50	100	04
6	PCC	22EEL56	Signals and Systems Lab	EEE			2	3	50	50	100	01
7	PCC	22EEL57	Power Electronics Lab	EEE			2	3	50	50	100	01
8	PEC	22EEL58X	Professional Elective Course-I Lab	EEE			2	3	50	50	100	01
9	PW	22PRJ59	Project-V	EEE			2	3	50	50	100	01
10	AEC	22AEE510X	Ability Enhancement Course-V	EEE			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, AEE- Ability Enhancement Course.

Project(PRJ): A Batch of 4 students (Same Branch or Different Branches with a Guide, May undertake one project.

Professional Elective Course-I			
Course code under 22EE54X	**Course Title**	**Course code under 22EEL58X**	**Course Title**
22EE541	Switchgear and Protection	22EEL581	Switchgear and Protection Lab
22EE542	ARM Cortex M3 and Embedded System	22EEL582	ARM Cortex M3 and Embedded System Lab
Open Elective Course-I			
Course code under 22EE55X		**Course Title**	
22EE551		Electrical Safety	
22EE552		Operation and Maintenance of Solar Electric Systems	
Ability Enhancement Course-V			
Course code under 22AEE510X		**Course Title**	
22AEE510A		Simulation of Power Electronics	
22AEE510B		Circuit Design &Simulation	
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 Examination2022-23
[As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme]
(Effective from the academic year 2022-23)

Programme:B.Tech: Electrical and Electronics Engineering

VI SEMESTER

Sl. No.		Course Code	Course Title	Teaching Department	Teaching Hours/week			Examination			Credits
					Theory Lecture	Tutorial	Practical/ Drawing	CIE Marks	SEE Marks	Total Marks	
					L	T	P				
1	PCC	22EE61	Microcontroller and Its Applications	EEE	3			50	50	100	03
2	PCC	22EE62	Power System Analysis –I	EEE	3			50	50	100	03
3	PEC	22EE63X	Professional Elective Course-II	EEE	3			50	50	100	03
4	PEC	22EE64X	Professional Elective Course-III	EEE	3			50	50	100	03
5	OEC	22EE65X	Open Elective Course-II	EEE	4			50	50	100	04
6	PCC	22EEL66	Microcontroller laboratory	EEE			2	50	50	100	01
7	PEC	22EEL67X	Professional Elective Course-II Lab	EEE			2	50	50	100	01
8	PEC	22EEL68X	Professional Elective Course-III Lab	EEE			2	50	50	100	01
9	PW	22PRJ69	Project-VI	EEE			2	50	50	100	01
10	HSS	22HSM610	Professional Ethics	Humanities	1			50	50	100	01
11	AEC	22AEE611X	Ability Enhancement Course-VI				2	50	50	100	01
Total					**17**		**10**	**550**	**550**	**1100**	**22**

Note: PCC-Professional Core Course, PEC-Professional Elective Course, OEC-Open Elective Course, PW-Project Work, HSS-Humanity and Social Science,AEE- 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 students (Same Branch or Different Branches with a Guide, may undertake one project.

7

Professional Elective Course-II			
Course code under 22EE63X	**Course Title**	**Course code under 22EEL67X**	**Course Title**
22EE631	Electrical Machine Design	22EEL671	Electrical Drawing
22EE632	Linear Integrated Circuits	22EEL672	Linear Integrated Circuits Lab

Professional Elective Course-III			
Course code under 22EE64X	**Course Title**	**Course code under 22EEL68X**	**Course Title**
22EE641	Digital Signal Processing	22EEL681	Digital Signal Processing Lab
22EE642	Energy Auditing and Demand Side Management	22EEL682	Energy Audit Lab

Open Elective Course-II	
Course code under 22EE65X	**Course Title**
22EE651	Introduction to Electric Vehicles
22EE652	Testing and Commissioning of Power System Apparatus

Ability Enhancement Course-VI	
Coursecodeunder22AEE611X	**Course Title**
22AEE611A	Basics of C++
22AEE611B	Digital system design

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 Examination2022-23
[As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme]
(Effective from the academic year 2022-23)

Programme: B.Tech: Electrical and Electronics 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	
					L	T	P					
1	PCC	22EE71	Power System Analysis – II	EEE	3			3	50	50	100	03
2	PCC	22EE72	Electric Vehicles	EEE	3			3	50	50	100	03
3	PCC	22EE73	High Voltage Engineering	EEE	3			3	50	50	100	03
4	PEC	22EE74X	Professional Elective Course-IV	EEE	3			3	50	50	100	03
5	OEC	22EE75X	Open Elective Course-III	EEE	4			3	50	50	100	04
6	PCC	22EEL76	Power System Simulation Lab	EEE			2	3	50	50	100	01
7	PCC	22EEL77	High Voltage Engineering Lab	EEE			2	3	50	50	100	01
8	PEC	22EEL78	Professional Elective Course Lab	EEE			2	3	50	50	100	01
9	PW	22PRJ79	Project-VII	EEE			2	3	50	50	100	01
10	HSS	22HSM710	Industrial Psychology and Organizational Behavior.	Humanities	1			2	50	50	100	01
			Total		**17**		**8**	**26**	**450**	**450**	**900**	**21**

Note: PCC-Professional Core Course,PEC-ProfessionalElectiveCourse,OEC-OpenElectiveCourse,PW-ProjectWork,HSS-HumanityandSocialScience,AEE-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 students (Same Branch or Different Branches with a Guide, May undertake one project.

Professional Elective Course-IV			
Course code under 22EE74X	**Course Title**	**Course code under 22EEL78X**	**Course Title**
22EE741	Modern Control Theory	22EEL781	Advanced Control Lab
22EE742	Introduction to AI & ML	22EEL782	Introduction to AI & ML Lab

Open Elective Course-III	
Course code under 22EE75X	**Course Title**
22EE751	Renewable Energy Sources
22EE752	Hybrid Electric Vehicles

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. 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 Examination 2022-23 [As Per NEP, Outcome Based Education (OBE) and Choice Based Credit System (CBCS) Scheme] (Effective from the academic year 2022-23)											
		Programme: B.Tech: Electrical and Electronics Engineering											
		VIIISEMESTER											
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		
					L	T	P						
1	PW	22PRJ81	Research Project / Field Project – VIII				16	3	50	50	100		08
2	INT	22EEI82	Internship				12	3	50	50	100		06
Total							18	06	100	100	200		14

Note:
 PCC-Professional Core Course,PEC-ProfessionalElectiveCourse,OEC-OpenElectiveCourse,PW-ProjectWork,HSS-HumanityandSocialScience,AEE- 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 students (Same Branch or Different Branches with a Guide, May undertake one project.
Note: Project-8 Manufacturable and marketable Project / Research Project/Field Project.

TYPES OF COURSES WITH CREDITS

Sl. No.	Category	Breakup of Credits	
		Percentage %	Credits
1	Ability Enhancement Courses (AEC-OE)	3.65	6
2	Humanities, Social Science and Management Courses (HSMC/HSS)	6.70	11
3	Applied Science Courses (ASC)/Basic Science Courses(BS)	12.19	20
4	Engineering Science Courses - Open Elective (ESC) / ESC-OE	6.09	10
5	Engineering Technology Courses (ETC-OE)/Programming Language Courses (PLC)	3.65	6
6	Engineering Science Courses Laboratory (ESC-L)	1.21	2
7	Applied Science Courses Laboratory (ASC-L)	1.21	2
8	Professional core courses (Specialization wise) (PCC)	35.36	58
9	Professional Elective courses (Specialization wise) (PEC)	9.75	16
10	Open Elective Courses (Cross Discipline Courses) (OEC) and Online Course (OC)	7.31	12
11	Research Project work, Seminar and Research Internship in Industry or elsewhere (PW/SDC/INT)	12.80	21
	Total	100	164