

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

**III SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in	CIE Marks	SEE Marks	Total Marks	
1	BSC	21MAT31	Engineering Mathematics-III	Mathematics	3			3	50	50	100	03
2	PCC	21EG32	Thermodynamics and Energy Conversion	ME/EEG	3	1		3	50	50	100	04
3	PCC	21EG33	Mechanics of Materials	ME/EEG	3			3	50	50	100	03
4	PCC	21EG34	Materials Science for Energy Engineering	ME/EEG	3			3	50	50	100	03
5	PCC	21EG35	Fluid Mechanics	ME/EEG	2			3	50	50	100	02
6	PCC	21EGL36	Fluid Mechanics Lab	ME/EEG			2	3	50	50	100	01
7	PCC	21EGL37	Energy Conversion Lab -1	ME/EEG			2	3	50	50	100	01
8	PCC	21EGL38	Material Science & Testing Lab-1	ME/EEG			2	3	50	50	100	01
9	PR	21PROJ39	Project-3	All Branch			2	3	50	50	100	01
10	HSMC	21KANKK310 /20KANAK310	Kannada kali-III/ Aydu kategalu	Kannada	1			2	50	50	100	01
11	AEC	21AEC301	Workshop Practice on Refrigeration & Air Conditioning	ME/Energy			2	3	50	50	100	01
<b>Total</b>					<b>15</b>	<b>1</b>	<b>10</b>	<b>32</b>	<b>550</b>	<b>550</b>	<b>1100</b>	<b>21</b>
BSC-Basic Science, PCC-Professional Core, HSMC-Humanity and Social Science, PR-Project, NCMC- Non-credit mandatory course.												
Courses prescribed to lateral entry and B. Sc degree holders admitted to III semester of Engineering programs												
12	NCMC	21MATDIP31	Additional Mathematics - I	Mathematics	3	1		3	50	50	100	00

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

**IV SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in	CIE Marks	SEE Marks	Total Marks	
1	BSC	21MAT41	Engineering Mathematics-IV	Mathematics	3			3	50	50	100	03
2	PCC	21EG42	Electrical Machines	EEE	3			3	50	50	100	03
3	PCC	21EG43	Renewable Energy Technologies	ME/EEG	3			3	50	50	100	03
4	PCC	21EG44	Power Electronics	E&C	3			3	50	50	100	03
5	PCC	21EG45	Introduction to Heat Transfer	ME//EEG	2	1		3	50	50	100	03
6	PCC	21EGL46	Heat Transfer Lab	ME/EEG			2	3	50	50	100	01
7	PCC	21EGL47	Electrical Machines Lab -1	EEE			2	3	50	50	100	01
8	PCC	21EGL48	Power Electronics Lab	E&C			2	3	50	50	100	01
9	PRJ	21PROJ49	Project-4	All Branch			2	3	50	50	100	01
10	HSMC	21KANKK410/ 20KANMD410	Kannada kali-IV/ Mahadasohigalu	Humanities	1			2	50	50	100	01
11	AEC	21AEC401	Computational Lab	ME/EEG			2	3	50	50	100	01
<b>Total</b>					<b>15</b>	<b>1</b>	<b>10</b>	<b>32</b>	<b>550</b>	<b>550</b>	<b>1100</b>	<b>21</b>
BSC-Basic Science, PCC-Professional Core, HSMC-Humanity and Social Science, MP-Mini project												
Courses prescribed to lateral entry and B. Sc degree holders admitted to III semester of Engineering programs												
12	NCMC	21MATDIP41	Additional Mathematics - II	Mathematics	3	1		3	50	50	100	00
*EVERY STUDENT SHOULD UNDERGO MOOC SUBJECT ATLEAST ONCE, DURING THE ENTIRE COUSRE WITH CREDIT 4												

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

**V SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	HSS	21EG51	Engineering Economics	ME/EEG	2			3	50	50	100	02
2	PCC	21EG52	Optimization Techniques in Engineering	ECE/EEE/EEG	3			3	50	50	100	03
3	PCC	21EG53	Reaction Engineering & Combustion	CE/EEG	3			3	50	50	100	03
4	PEC	21EG54X	Professional Elective-1	ME/EEG	3			3	50	50	100	03
5	OEC	21EG55X	Open Elective -1	EC/CSE/EEG	3			3	50	50	100	03
6	PCC	21EGL54	Thermal & Fluid Engineering Lab	ME/EEG			2	3	50	50	100	01
7	PCC	21EGL55	Electrical Machines Lab 2	EEE			2	3	50	50	100	01
8	PEC	21EGL56	Python Lab	CSE			2	3	50	50	100	01
9	PRJ	21PR0J57	Project-5	ALL Branch			2	3	50	50	100	01
10	AEC	21AEC501	AEC	ME/EEG			2	3	50	50	100	01
11	UHV	21	Universal Human Values	ALL Branch	2			3	50	50	100	02
<b>Total</b>					<b>15</b>	<b>1</b>	<b>10</b>	<b>30</b>	<b>500</b>	<b>500</b>	<b>1000</b>	<b>21</b>

PCC-Professional Core, PEC- Professional Elective, OEC- Open Elective, HSMC-Humanity and Social Science, PR-Project

SI NO	Professional Elective-1	Course Code	Open Elective -1	Course Code
1	Thermo-Fluid Device	21EG541	Image Processing	21EG551
2	Introduction to MEMS	21EG542	Introduction to Python	21EG552
			Power Plant Engineering	

**Shambasva University, Kalaburagi**  
**Scheme of Teaching and Examination 2021-22**  
**Outcome Based Education (OBE) and Choice Based Credit System (CBCS)**  
**(Effective from the academic year 2021-22)**

**VI SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	21EG61	Electrochemistry	ME/CE	3			3	50	50	100	03
2	PCC	21EG62	Power Generation & system Planning	ME/EEG	3	1		3	50	50	100	04
3	PCC	21EG63	Solar Energy Utilization	ME/EEG	3			3	50	50	100	03
4	PEC	21EG64X	Professional Elective -2	ME/EEE	3			3	50	50	100	03
5	OEC	21EG65X	Open Elective -2	ME/CSE	3			3	50	50	100	03
6	PCC	21EGL66	Solar Energy Lab	ME/EEG			2	3	50	50	100	01
7	PCC	21EGL67	Manufacturing Lab	ME/EEG			2	3	50	50	100	01
8	PCC	21EGL68	Virtual Lab	ME/EEG			2	3	50	50	100	01
9	PROJ	21PROJ69	Project-6	ME/EEG			2	3	50	50	100	01
10	HSMC	21ACE601	AEC	ME/EEG			2	3	50	50	100	01
<b>Total</b>					<b>15</b>	<b>1</b>	<b>10</b>	<b>30</b>	<b>500</b>	<b>500</b>	<b>1000</b>	<b>21</b>

PCC-Professional Core, PEC- Professional Elective, OEC- Open Elective, HSMC-Humanity and Social Science, PR-Project

SI NO	Professional Elective-2	Course Code	Open Elective-2	Course Code
1	Electrical Energy System	21EG641	Control & Instrumentation	21EG651
2	Cryogenics	21EG642	Cloud Computing-AWS	21EG652
3	Conservation and Energy Audit	21EG643		

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

**VII SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PCC	21EG71	Energy Systems Modelling & Analysis	ME/EEG	3			3	50	50	100	03
2	PCC	21EG72	Wind Energy & Solar PV Technique	ME/EEG	3			3	50	50	100	03
3	PEC	21EG73X	Professional Elective-3	ME/EEG	3			3	50	50	100	03
4	OEC1	21EG74X	Open Elective -3	CES/EC	3	1		3	50	50	100	04
5	OEC2	21EGL75X	Open Elective -4	CSE/EC	3	1		3	50	50	100	04
6	PCC	21EGL76	Energy Conversion Lab-2	ME/EEG			2	3	50	50	100	01
7	PCC	21EGL77	Artificial Intelligence Lab	ME/EEG			2	3	50	50	100	01
8	PROJ	21PROJ78	Project-7	ME/EEG			2	3	50	50	100	01
9	AEC	21AEC70X	AEC	ME/EEG			2	3	50	50	100	01
<b>Total</b>					<b>15</b>	<b>02</b>	<b>08</b>	<b>27</b>	<b>450</b>	<b>450</b>	<b>900</b>	<b>21</b>

PCC-Professional Core, PEC- Professional Elective, OEC- Open Elective, HSMC-Humanity and Social Science

Sl No	Professional Elective-3	Course Code	Open Elective-3	Course Code	Open Elective-4	Course Code
1	Hydrogen Energy & Fuels Cells	21EG731	Artificial Intelligence & Data Science	21EG741	Mechanical Measurements and Instrumentation	21EG751
2	Conservation and Energy Audit	21EG732	Embedded System Design	21EG742	Waste to Energy	21EG752

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

**VIII SEMESTER B.Tech (EG)**

Sl.No	Course Code		Course Title	Teaching Dept. & Paper Setting Board	Teaching Hours/week			Examination				Credits
					L	T	P	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	Project	21PROJ81	Project -8	ME/EEG	-		16	3	50	50	100	07
2	Internship	21EG82	Internship	ME/EEG	-		-	3	50	50	100	08
<b>Total</b>							<b>16</b>	<b>6</b>	<b>100</b>	<b>100</b>	<b>200</b>	<b>15</b>
<b>Note: - Project 8-Manufacturable and marketable project</b>												
PCC-Professional Core, PEC- Professional Elective, OEC- Open Elective												

**Internship, Research or Seminar and Project Work (PW):**

These are intended to enhance the student's practical knowledge and exposure to research and industry. The credits for this category shall not exceed 10-12% of the total minimum credits for a programme. Major project work shall normally be carried out in regular semesters.

**Internship:** The student of UG Programme shall undergo Internship of 8 weeks, preferably, before the commencement of final academic year, whereas for PG Programme they shall undergo Internship of 16 weeks, preferably, at the beginning of third semester.

**Project work:** For UG programme, a batch of students not more than **four**, shall undertake the innovative project, preferably, in the final semester and execute in the same semester. For PG programme, project work shall be executed individually by the student in the final semester.

**Seminar:** Each student shall choose seminar topic on the emerging area only.