

STUDY SCHEME
OF
BACHELOR OF
TECHNOLOGY
PROGRAMMES
(JULY 2021)



**SANT LONGOWAL INSTITUTE OF
ENGINEERING & TECHNOLOGY
(Deemed to be University)
Longowal- 148106,
Distt- Sangrur (Punjab)**



रसायन अभियांत्रिकी विभाग
 Department of Chemical Engineering
संत लौगोवाल अभियांत्रिकी एवं प्रौद्योगिकी संस्थान
SANT LONGOWAL INSTITUTE OF ENGINEERING AND TECHNOLOGY
 (भारत शासन, शि. म. अधीन, सम विश्वविद्यालय)
 (Deemed to be University under MoE, Government of India)
 लौगोवाल - १४८१०६, संगरूर (पंजाब) भारत
 Longowal - 148106, Sangrur (Punjab) India

Study Scheme and Syllabus for Bachelor of Engineering in Chemical Engineering

Semester-I							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Environmental Studies	3	0	0	3	0
Total			13	3	14	30	20

Semester-II A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
Total			12	3	10	25	20

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B.E. (Chemical Engg.)

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Semester-IIB							
1	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks				40	1 (S/US)
2	TPIN-422	Technical Competency				40	1 (S/US)

Semester-III							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCCH-511	Material and Energy Balance	3	1	0	4	4
3	PCCH-512	Fluid Mechanics	3	0	0	3	3
4	PCCH-513	Chemical Engineering Thermodynamics	3	1	0	4	4
5	HSMC-501	Principles of management	3	0	0	3	3
6	PCCH-514	Fluid Mechanics lab	0	0	2	2	1
7	PCCH-515	Process Technology lab	0	0	2	2	1
8	MCMH-501	Indian Constitution	3	0	0	3	0
		Total	18	3	4	25	20

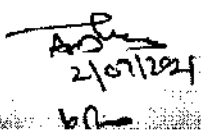
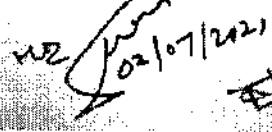

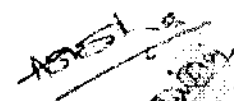
Semester-IVA							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
3	BSBL-501	Biology for Engineers	2	0	0	2	2
4	PCCH-521	Mass Transfer - I	3	1	0	4	4
5	PCCH-522	Heat Transfer	3	1	0	4	4
6	PCCH-523	Fluid and Particle Mechanics	3	1	0	4	4
7	PCCH-524	Heat & Mass Transfer Lab	0	0	2	2	1
8	PCCH-525	Fluid and Particle Mechanics Lab	0	0	2	2	1
		Total	14	3	6	23	20

Semester-IVB							
1	TPID-521	Industrial Training 02 weeks				80	1 (S/US)
2	EAA-521+	Fractional credit course/Extra Academic Activity +GROUP A/B/C					1 (S/US)

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Semester-VA

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
2	PCCH-611	Chemical Reaction Engineering - I	3	1	0	4	4
3	PCCH-612	Mass Transfer - II	3	0	0	3	3
4	OEXX-611	Open Elective-1	3	0	0	3	3
5	OEXX-612	Open Elective-2	3	0	0	3	3
6	PECH-611	Professional Elective-1	3	0	0	3	3
7	PCCH-613	Reaction Engineering Lab	0	0	2	2	1
		Total	18	1	2	21	20

Semester-V B

1	EAA-611+	Fractional credit course/Extra Academic Activity +GROUP A/B/C					1 (S/US)
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Semester-VI A

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HSMC-601	Technical communication	2	0	0	2	2
2	PCCH-621	Transport Phenomena	3	1	0	4	4
3	PCCH-622	Chemical Reaction Engineering - II	3	0	0	3	3
4	OEXX-621	Open Elective-3	3	0	0	3	3
5	OEXX-622	Open Elective-4	3	0	0	3	3
6	PECH-621	Professional Elective-II	3	0	0	3	3
7	PCCH-623	Design and simulation lab	0	0	2	2	1
8	HSMC-602	Technical communication lab	0	0	2	2	1
		Total	17	1	4	22	20

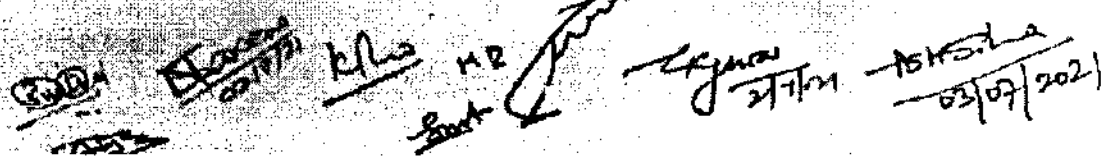
Semester-VI B

1	TPID-621	Industrial Training 04 weeks				160	2 (S/US)
2	EAA-621+	Fractional credit course/Extra Academic Activity +GROUP A/B/C					1 (S/US)

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B.E. (Chemical Engg.)



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Semester-VII

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCCH-711	Chemical Process Industries	3	0	0	3	3
2	PCCH-712	Process Instrumentation and Control	3	1	0	4	4
3	OEXX-711	Open Elective-5	3	0	0	3	3
4	PECH-711	Professional Elective-III	3	1	0	4	4
5	PECH-712	Professional Elective-IV	3	0	0	3	3
6	PCCH-713	Process Instrumentation and Control lab	0	0	2	2	1
7	PRCH-711	Project stage 1 and seminar	0	0	4	4	2
Total			15	2	6	23	20

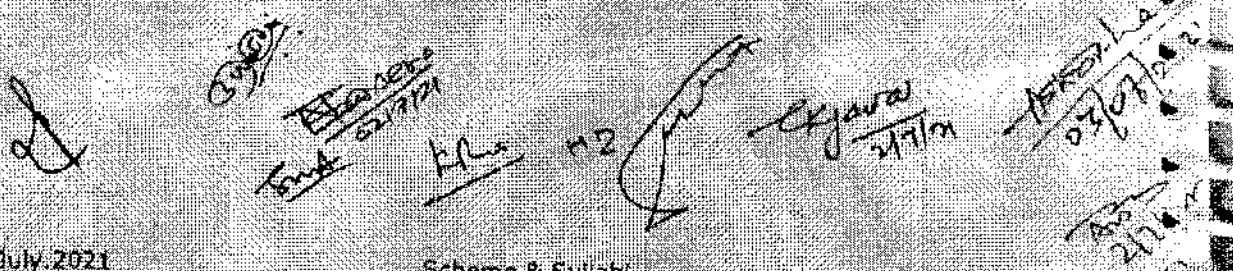
Semester-VIII

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PECH-721	Professional Elective	3	0	0	3	3
2	PECH-722	Professional Elective	3	0	0	3	3
3	PRCH-721	Project Stage II	0	0	12	12	6
Total			6	0	12	18	12

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S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry					6
2	PRCH-721	Project Stage II	0	0	12	12	6
Total					12		12

OEXX: To be opted from the list of open elective subjects offered by other Departments for the students of Department of Chemical Engineering



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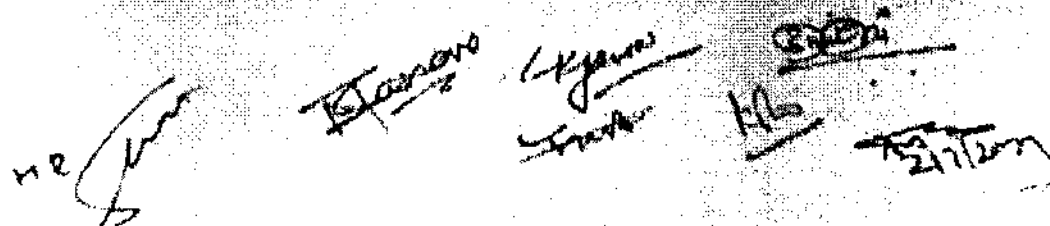
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B.E. (Chemical Engg.)

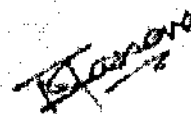
5.1 OF OPEN ELECTIVES (Subjects offered by Department of Chemical Engineering for the students)

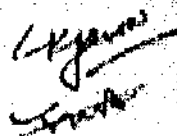
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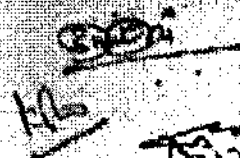
No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
		Open Elective-I	3	0	0	3	3
	OECH-611A	Fuel Cells	3	0	0	3	3
	OECH-611B	Renewable Energy Sources	3	0	0	3	3
		Open Elective-II	3	0	0	3	3
	OECH-612A	Electrochemical Engineering	3	0	0	3	3
	OECH-612B	Analytical Methods and Instrumentation	3	0	0	3	3
		Open Elective-III	3	0	0	3	3
	OECH-621A	Agro Residue Utilization	3	0	0	3	3
	OECH-621B	Corrosion Engineering	3	0	0	3	3
		Open Elective-IV	3	0	0	3	3
	OECH-622A	Industrial Pollution Control	3	0	0	3	3
	OECH-622B	Energy Audit and Management	3	0	0	3	3
		Open Elective-V	3	0	0	3	3
	OECH-711A	Optimization Techniques for Engineers	3	0	0	3	3
	OECH-711B	Polymer Technology	3	0	0	3	3
	OECH-711C	Paper Technology	3	0	0	3	3

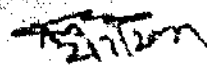


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July 2021

Scheme & Syllabi

B.E. (Chemical Eng.)

LIST OF PROFESSIONAL ELECTIVES

Sr.No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1		Professional Elective-I					
	PECH-611A	Agro Residue Utilization	3	0	0	3	3
	PECH-611B	Paint Technology	3	0	0	3	3
	PECH-611C	Polymer Science and Engineering	3	0	0	3	3
	PECH-611D	Computational Fluid Dynamics	3	0	0	3	3
2		Professional Elective-II					
	PECH-621A	Pulping and Bleaching Technology	3	0	0	3	3
	PECH-621B	Biochemical Engineering	3	0	0	3	3
	PECH-621C	Polymer Technology	3	0	0	3	3
	PECH-621D	Modeling and Simulation	3	0	0	3	3
	PECH-621E	Fuel Cells	3	0	0	3	3
3		Professional Elective-III					
	PECH-711A	Novel Separation Technology	3	1	0	4	4
	PECH-711B	Electrochemical Engineering	3	1	0	4	4
	PECH-711C	Polymer Composites	3	1	0	4	4
	PECH-711D	Industrial Pollution Control	3	1	0	4	4
	PECH-711E	Biorefineries	3	1	0	4	4
	PECH-711F	Molecular Simulation	3	1	0	4	4
4		Professional Elective-IV					
	PECH-712A	Stock Preparation and Paper Making	3	0	0	3	3
	PECH-712B	Polymer Materials	3	0	0	3	3
	PECH-712C	Petroleum Refining and Petrochemicals	3	0	0	3	3
	PECH-712D	Fluidization Engineering	3	0	0	3	3
	PECH-712E	Renewable Energy Sources	3	0	0	3	3
5		Professional Elective-V					
	PECH-721A	Energy Audit and Management	3	0	0	3	3
	PECH-721B	Nanoscience and Nanotechnology	3	0	0	3	3
	PECH-721C	Chemical Plant Utilities and Safety	3	0	0	3	3
	PECH-721D	Pharmaceutical Formulation	3	0	0	3	3
	PECH-721E	Fertilizer Technology	3	0	0	3	3
	PECH-721F	Hazardous Waste Management	3	0	0	3	3

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B.E. (Chemical Eng.)

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Professional Elective-VI						
PECH-722A	Chemical Recovery Processes in Pulp and Paper Industry	3	0	0	3	3
PECH-722B	Rubber Technology	3	0	0	3	3
PECH-722C	Advance Process Control	3	0	0	3	3
PECH-722D	Combustion Technology	3	0	0	3	3
PECH-722E	Environmental Impact Assessment	3	0	0	3	3

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 21/7/21



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Longowal -148106. Sangrur (Punjab) India

Study Scheme for Minor Degree: Bachelor of Engineering (Chemical Engineering)

Semester-III							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	MDCH-511	Introduction to Chemical Engineering	2	0	0	2	2
2.	MDCH-512	Unit Operations	2	0	0	2	2
Total			4	0	0	4	4
Semester-IVA							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	MDCH-521	Heat Transfer	2	1	0	3	3
2.	MDCH-522	Unit Operations Lab	0	0	2	2	1
Total			2	1	2	5	4
Semester-VA							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	MDCH-611	Chemical Reaction Engineering	3	0	0	3	3
2.	MDCH-612	Chemical Reaction Engineering Lab	0	0	2	2	1
Total			3	0	2	5	4
Semester-VI A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	MDCH-621	Mass Transfer	3	1	0	4	4
Total			3	1	0	4	4
Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	MDCH-711	Process Equipment Design	3	1	0	4	4
Total			3	1	0	4	4



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Longowal -148106. Sangrur (Punjab) India

Study Scheme for Bachelor of Engineering in Chemical Engineering (Hons.)

(In addition to 160 Credit scheme of major degree of Bachelor of Engineering in Chemical Engineering)

Semester-VA							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDCH-611	Process Equipment Design	2	2	0	4	4
2.	HDCH-612	Optimization of Chemical Processes	3	1	0	4	4
Total			5	3	0	8	8
Semester-VI A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDCH-621	Process Energy Integration	3	1	0	4	4
Total			3	1	0	4	4
Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDCH-711	Computational Transport Phenomena	3	1	0	4	4
Total			3	1	0	4	4
Semester-VIII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
4	PHCH-721	Project Hons	0	0	08	08	4
Total			0	0	08	08	4

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Study Scheme UG Programme: BE in Computer Science and Engineering

Semester-I

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
Total			12	3	10	25	20

Semester-II A

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Environmental Studies	3	0	0	3	0
Total			13	3	14	30	20

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Semester-IVB

1	TPID-521	Industrial Training 02 weeks				40	1 (S/US)
2	EAA-521+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)

Semester-VA

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCCS-611	Discrete Mathematics	2	1	0	3	3
2	PCCS-612	Computer Networks	2	1	0	3	3
3	OEXX-611	Open Elective-1	3	0	0	3	3
4	OEXX-612	Open Elective-2	3	0	0	3	3
5	PECS-611	Professional Elective-1	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCCS-613	Computer Networks Lab	0	0	4	4	2
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
Total			15	2	6	23	20

Semester-V B

1	EAA-611+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)
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Semester-VI A

S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCCS-621	Design and Analysis of Algorithm	2	1	0	3	3
2	PCCS-622	Automata Theory and Formal Languages	2	1	0	3	3
3	OEXX-621	Open Elective-3	3	0	0	3	3
4	OEXX-622	Open Elective-4	3	0	0	3	3
5	PECS-621	Professional Elective-2	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCCS-623	Design and Analysis of Algorithm Lab	0	0	4	4	2
Total			16	2	4	22	20

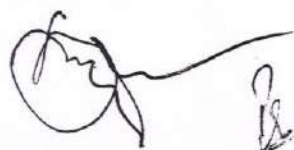
Semester-VI B

1	TPID-621	Industrial Training 04 weeks				40	2 (S/US)
2	EAA-622+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)

LIST OF OPEN ELECTIVES

S. No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1		Open Elective-I	3	0	0	3	3
	OECS-611A	Software Engineering	3	0	0	3	3
	OECS-611B	Enterprise Resource Planning	3	0	0	3	3
	OECS-611C	Cyber Laws and Ethics	3	0	0	3	3
	OECS-611D	Programming Methodology	3	0	0	3	3
	OECS-611E	Data Preparation and Analysis	3	0	0	3	3
2		Open Elective-II	3	0	0	3	3
	OECS-612A	Software Project Management	3	0	0	3	3
	OECS-612B	Decision Support System	3	0	0	3	3
	OECS-612C	Computer Networks	3	0	0	3	3
	OECS-612D	Object Oriented Programming	3	0	0	3	3
	OECS-612E	Database Management System	3	0	0	3	3
3		Open Elective-III	3	0	0	3	3
	OECS-621A	Requirement Engineering	3	0	0	3	3
	OECS-621B	Management Information System	3	0	0	3	3
	OECS-621C	System Installation and Troubleshooting	3	0	0	3	3
	OECS-621D	Internet Programming	3	0	0	3	3
	OECS-621E	Database Integrity and Security	3	0	0	3	3
4		Open Elective-IV	3	0	0	3	3
	OECS-622A	Object Oriented Analysis and Design	3	0	0	3	3

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Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCCS-711	Internet Programming	2	1	0	3	3
2	PCCS-712	Compiler Design	3	1	0	4	4
3	PECS-711	Professional Elective-3	3	0	0	3	3
4	PECS-712	Professional Elective-4	3	0	0	3	3
5	OEXX-711	Open Elective-5	3	0	0	3	3
6	PCCS-713	Internet Programming Lab	0	0	4	4	2
7	PRCS-711	Project Stage I and Seminar	0	0	4	4	2
Total			14	2	8	24	20

Semester-VIII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PECS-721	Professional Elective-5	3	0	0	3	3
2	PECS-722	Professional Elective-6	3	0	0	3	3
3	PRCS-721	Project Stage II	0	0	12	12	6
Total			6	0	12	18	12

OR							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry					6
2	PRCS-721	Project Stage II	0	0	12	12	6
Total			0	0	12	12	12

	OECS-622B	E-Commerce	3	0	0	3	3
	OECS-622C	Computer Network Security	3	0	0	3	3
	OECS-622D	Computer Graphics	3	0	0	3	3
	OECS-622E	Data Analytics	3	0	0	3	3
5		Open Elective-V	3	0	0	3	3
	OECS-711A	Software Reliability and Testing	3	0	0	3	3
	OECS-711B	Human Resource Management	3	0	0	3	3
	OECS-711C	Client Server Architecture	3	0	0	3	3
	OECS-711D	Multimedia and Animation	3	0	0	3	3
	OECS-711E	Data Mining	3	0	0	3	3


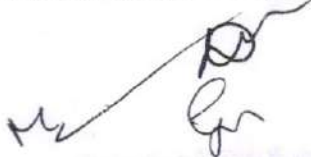

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List of Professional Electives:							
Sr. No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1		Professional Elective-I					
	PECS-611A	Computer Graphics	3	0	0	3	3
	PECS-611B	Data Mining	3	0	0	3	3
	PECS-611C	Cyber Laws and Ethics	3	0	0	3	3
	PECS-611D	Software Engineering	3	0	0	3	3
	PECS-611E	Enterprise Resource Planning	3	0	0	3	3
	PECS-611F	Network Operating System	3	0	0	3	3
2		Professional Elective-II					
	PECS-621A	Multimedia and Animation	3	0	0	3	3
	PECS-621B	Artificial Intelligence	3	0	0	3	3
	PECS-621C	Mobile Communication	3	0	0	3	3
	PECS-621D	Software Project Management	3	0	0	3	3
	PECS-621E	Decision Support System	3	0	0	3	3
	PECS-621F	Advanced Computer Architecture	3	0	0	3	3
3		Professional Elective-III					
	PECS-711A	Image Processing	3	0	0	3	3
	PECS-711B	Soft Computing	3	0	0	3	3
	PECS-711C	Computer Network and Security	3	0	0	3	3
	PECS-711D	Requirement Engineering	3	0	0	3	3
	PECS-711E	Management Information System	3	0	0	3	3
	PECS-711F	Distributed System	3	0	0	3	3

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4		Professional Elective-IV					
	PECS-712A	Simulation and Modeling	3	0	0	3	3
	PECS-712B	Machine Learning	3	0	0	3	3
	PECS-712C	Adhoc and Wireless Sensor Networks	3	0	0	3	3
	PECS-712D	Object Oriented Analysis and Design	3	0	0	3	3
	PECS-712E	E-Commerce	3	0	0	3	3
	PECS-712F	Parallel Computing	3	0	0	3	3
5		Professional Elective-V					
	PECS-721A	Digital Signal Processing	3	0	0	3	3
	PECS-721B	Neural Networks and Deep Learning	3	0	0	3	3
	PECS-721C	Client Server Architecture	3	0	0	3	3
	PECS-721D	Software Reliability and Testing	3	0	0	3	3
	PECS-721E	Business Management System	3	0	0	3	3
	PECS-721F	Cloud Computing	3	0	0	3	3
6		Professional Elective-VI					
	PECS-722A	Python Programming	3	0	0	3	3
	PECS-722B	Computer Vision	3	0	0	3	3
	PECS-722C	High Speed Communication Networks	3	0	0	3	3
	PECS-722D	Software Quality Assurance	3	0	0	3	3
	PECS-722E	Human Resource Management	3	0	0	3	3
	PECS-722F	Embedded Systems	3	0	0	3	3

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MINOR DEGREE

Semester-III							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDCS-511	Internet Technologies	3	1	0	4	4
Total			3	1	0	4	4

Semester-IV							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDCS-521	Operating System	3	1	0	4	4
Total			3	1	0	4	4

Semester-V							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDCS-611	Application development using Python	3	1	0	4	4
Total			3	1	0	4	4

Semester-VI							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDCS-621	Artificial Intelligence	3	1	0	4	4
Total			3	1	0	4	4

Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDCS-711	Soft Computing	3	1	0	4	4
Total			3	1	0	4	4

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Semester-V							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HDCS-611	Data Analytics	3	1	0	4	4
2	HDCS-612	Internet of Things	3	1	0	4	4
Total			6	2	0	8	8

Semester-VI							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HDCS-621	Optimization Techniques	3	1	0	4	4
Total			3	1	0	4	4

Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HDCS-711	Cryptography and Network Security	3	1	0	4	4
Total			3	1	0	4	4

Semester-VIII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PHCS-721	Project Hon's	0	0	08	08	4
Total			0	0	08	08	4

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Study Scheme for Bachelor of Engineering in Instrumentation and Control (GIN)

Semester-I Group-A (GIN)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
		Total	12	03	10	25	20
Semester-II A Group-A (GIN)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Mandatory Course-I Environmental studies	3	0	0	3	0
		Total	13	03	14	30	20
Semester-II B Group-A (GIN)							
1	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks				40	1 (S/US)
2	TPIN-422	Technical Competency				40	1 (S/US)

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Semester-III Group-A (GIN)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	PCIE-511	Electrical Circuit Analysis and Synthesis	3	1	0	4	4
3	PCIE-512	Electronic Devices and Analog Integrated Circuits	3	1	0	4	4
4	PCIE-513	Electrical and Electronic Measurement	3	1	0	4	4
5	BSBL-501	Biology for Engineers	2	0	0	2	2
6	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
7	PCIE-514	Electronic Devices and Analog Integrated Circuits Lab	0	0	2	2	1
8	PCIE-515	Electrical and Electronic Measurement Lab	0	0	2	2	1
9	M(U4-50)	Total	14	03	06	23	20
<i>Univ. Hours values</i>							
Semester-IV -A Group-A (GIN)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCIE-521	Digital Electronics	3	0	0	3	3
3	PCIE-522	Sensors and Transducers	3	1	0	4	4
4	PCIE-523	Signals and Systems	3	1	0	4	4
5	HSMC-501	Principles of Management	3	0	0	3	3
6	PCIE-524	Digital Electronics Lab	0	0	2	2	1
7	PCIE-525	Sensors and Transducers Lab	0	0	2	2	1
8	MCMH-50K	Mandatory Course-2	3	0	0	3	0
		Total	18	3	4	25	20
Semester-IV-B Group-A (GIN)							
1	TPID-521	Industrial Training 02 weeks				40	1 (S/US)
		Fractional credit course/Extra Academic				40	1 (S/US)
2	EAA-521+	Activity +GROUP A/B/C					

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Semester-V-A Group-A (GIN)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCIE-611	Analytical and Optical Instrumentation	3	0	0	3	3
2	PCIE-612	Control Systems	3	1	0	4	4
3	OEXX-611	Open Elective-1	3	0	0	3	3
4	OEXX-612	Open Elective-2	3	0	0	3	3
5	PEIE-611	Professional Elective-1	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCIE-613	Control System Lab	0	0	2	2	1
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
		Total	17	1	4	22	20

Semester-V-B Group-A (GIN)							
1	EAA-611+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1(S/US)

Semester-VI-A Group-A (GIN)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCIE-621	Microprocessors and Microcontrollers	3	1	0	4	4
2	PCIE-622	Industrial Instrumentation	3	0	0	3	3
3	OEXX-621	Open Elective-3	3	0	0	3	3
4	OEXX-622	Open Elective-4	3	0	0	3	3
5	PEIE-621	Professional Elective-2	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCIE-623	Microprocessors and Microcontrollers Lab	0	0	2	2	1
		Total	18	1	2	21	20

Semester-VI-B Group-A (GIN)							
1	TPID-621	Industrial Training 04 weeks				40	2 (S/US)
2	EAA-622+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)

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Semester-VII Group-A (GIN)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCIE-711	Process Dynamics and Control	3	1	0	4	4
2	PCIE-712	Data Communication and Networking	3	1	0	4	4
3	PEIE-711	Professional Elective-3	3	0	0	3	3
4	PEIE-712	Professional Elective-4	3	0	0	3	3
5	OEXX-711	Open Elective-5	3	0	0	3	3
6	PCIE-713	Process Dynamic and Control Lab	0	0	2	2	1
7	PRIE-711	Project Stage I and Seminar	0	0	4	4	2
		Total	15	2	6	23	20

Semester-VIII Group-A (GIN)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PEIE-721	Professional Elective-5	3	0	0	3	3
2	PEIE-722	Professional Elective-6	3	0	0	3	3
3	PRIE-721	Project Stage II	0	0	12	12	6
		Total	6	0	12	18	12

OR

S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry				40	6
2	PRIE-721	Project Stage II	0	0	12	12	6
		Total					12

List of Mandatory Courses

1. MCCH-401 Mandatory Course – 1: Environmental Studies
2. MCMH-501 Mandatory Course – 2: Indian Constitution

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b)	OEIE-711B	Sensors and Transducers	3	0	0	3	3
c)	OEIE-711C	Introduction to Soft Computing	3	0	0	3	3
d)	OEIE-711D	Process Control	3	0	0	3	3
e)	OEIE-711E	Environmental Instrumentation	3	0	0	3	3

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List of Professional Electives

List of Professional Electives							
S. No.	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	PEIE-611	Professional Elective-1	3	0	0	3	3
a)	PEIE-611A	Biomedical Instrumentation	3	0	0	3	3
b)	PEIE-611B	Electrical Machines	3	0	0	3	3
c)	PEIE-611C	Industrial Safety	3	0	0	3	3
2	PEIE-621	Professional Elective-2	3	0	0	3	3
a)	PEIE-621A	Biomedical Signal and Image Processing	3	0	0	3	3
b)	PEIE-621B	Power Electronics and Drives	3	0	0	3	3
c)	PEIE-621C	Telemetry and Data Acquisition	3	0	0	3	3
3	PEIE-711	Professional Elective-3	3	0	0	3	3
a)	PEIE-711A	Wind and Solar Energy Systems	3	0	0	3	3
b)	PEIE-711B	Telemedicine and Robotic-Surgery	3	0	0	3	3
c)	PEIE-711C	Non-Linear and Optimal Control	3	0	0	3	3
4	PEIE-712	Professional Elective-4	3	0	0	3	3
a)	PEIE-712A	Digital Signal Processing	3	0	0	3	3
b)	PEIE-712B	Optimization Techniques	3	0	0	3	3
c)	PEIE-712C	Virtual Instrumentation	3	0	0	3	3
5	PEIE-721	Professional Elective-5	3	0	0	3	3
a)	PEIE-721A	Robotics	3	0	0	3	3
b)	PEIE-721B	Computer Control of Processes	3	0	0	3	3
c)	PEIE-721C	Introduction to MEMS	3	0	0	3	3
6	PEIE-722	Professional Elective-6	3	0	0	3	3
a)	PEIE-722A	Advanced Microprocessors and Microcontrollers	3	0	0	3	3
b)	PEIE-722B	Power Plant Instrumentation	3	0	0	3	3
c)	PEIE-722C	Modelling and Simulation	3	0	0	3	3

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S. No.	Course Components	Curriculum content(% of total number of the credits of the program)	Total number of contact hours	Total number of credits
1	Basic Sciences	15	27	24
2	Engineering Sciences	15	33	24
3	Humanities and Social Sciences	6.875	13	11
4	Program Core	32.5	59	52
5	Program Electives	7.5	12	12
6	Open Electives	9.375	15	15
7	Project	3.75	12	6
8	Internship/Seminar/Industrial Training	8.125	204	13
9	Any other (Mandatory course and fractional credit course)	1.875	126	3
Total number of Credits				160

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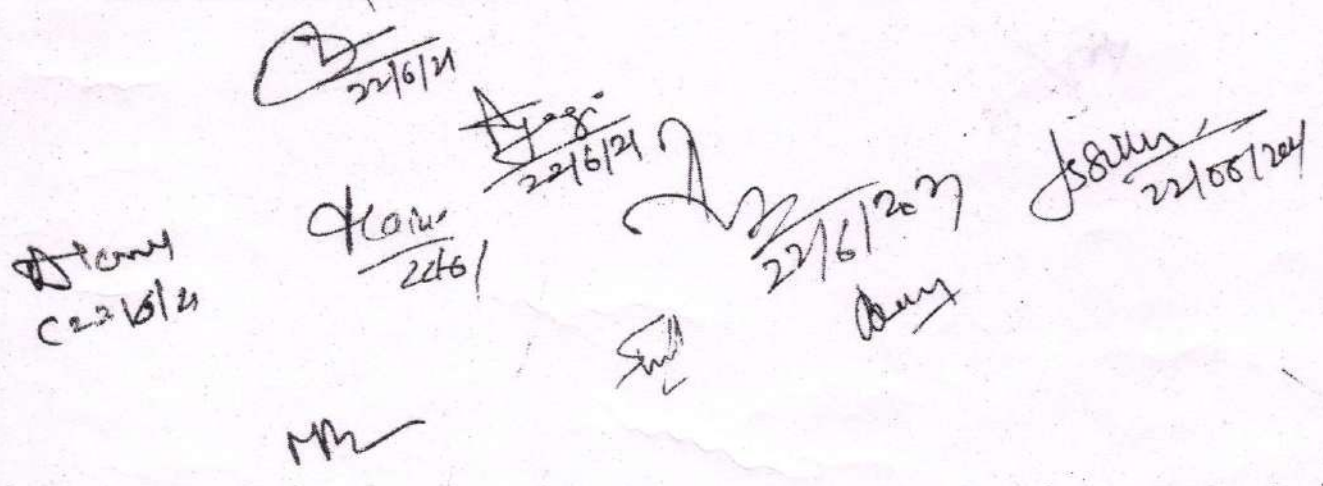
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List of courses for B.E (Minor) Program in Instrumentation and Control Engineering

Semester III							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	MDIE-511	Transducers and Signal Processing	3	1	0	4	4
Semester IV							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	MDIE-521	Data Acquisition System	3	1	0	4	4
Semester V							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	MDIE-611	Automatic Control System	3	1	0	4	4
Semester VI							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	MDIE-621	Industrial Measurements	3	1	0	4	4
Semester VII							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	MDIE-711	Industrial Automation	3	1	0	4	4



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List of advanced level courses for B.E(Honours) in Instrumentation and Control Engineering

Semester V							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	HDIE-611	Advanced Sensors	3	1	0	4	4
2	HDIE-612	Random and Stochastic Process	3	1	0	4	4
Semester VI							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	HDIE-621	Wireless Sensor Networks	3	1	0	4	4
Semester VII							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	HDIE-711	Internet Of Things and Its Applications	3	1	0	4	4
Semester VIII							
S No	Subject Code	Subject Name	L	T	P	Hrs	Credits
1	PHIE-721	Project Honours	0	0	8	8	4

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Study Scheme for Bachelor of Engineering in Electrical (GEE)

Semester-I Group-A (GEE)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
		Total	12	03	10	25	20
Semester-II A Group-A (GEE)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Mandatory Course-1 <i>Environmental studies</i>	3	0	0	3	0
		Total	13	03	14	30	20
Semester-II B Group-A (GEE)							
1	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks				40	1 (S/US)
2	TPIN-422	Technical Competency				40	1 (S/US)

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Semester-III Group-A (GEE)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	PCEE-511	Electrical Circuit Analysis and Synthesis	3	1	0	4	4
3	PCEE-512	Electronic Devices and Circuits	3	1	0	4	4
4	PCEE-513	Electrical Machines-I (Transformers and DC Machines)	3	1	0	4	4
5	BSBL-501	Biology for Engineers	2	0	0	2	2
6	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
7	PCEE-514	Electrical Machines-I Lab	0	0	2	2	1
8	PCEE-515	Electrical Circuit Lab	0	0	2	2	1
a m l u g - 501 Total			14	03	06	23	20
Semester-IV -A Group-A (GEE)							
S. No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCEE-521	Digital Electronics	3	0	0	3	3
3	PCEE-522	Electrical Machines-II (Asynchronous and Synchronous machines)	3	1	0	4	4
4	PCEE-523	Signals and Systems	3	1	0	4	4
5	HSMC-501	Principles of Management	3	0	0	3	3
6	PCEE-524	Analog and Digital Electronics Lab	0	0	2	2	1
7	PCEE-525	Electrical Machines-II Lab	0	0	2	2	1
8	MCMH-501	Mandatory Course - 2	3	0	0	3	0
Total			18	3	4	25	20
Semester-IV-B Group-A (GEE)							
1	TPID-521	Industrial Training 02 weeks				40	1 (S/US)
2	EAA-521+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)

Amrinder Singh
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25/5/21

Richard Veng

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Jasjit Singh
28/06/2021

Semester-V-A Group-A (GEE)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-611	Electrical Power System-I (Generation, transmission and distribution)	3	0	0	3	3
2	PCEE-612	Control Systems	3	1	0	4	4
3	OEXX-611	Open Elective-1	3	0	0	3	3
4	OEXX-612	Open Elective-2	3	0	0	3	3
5	PEEE-611	Professional Elective-1	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCEE-613	Control System Lab	0	0	2	2	1
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
Total			17	1	4	22	20
Semester-V-B Group-A (GEE)							
1	EAA-611+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1(S/US)
Semester-VI-A Group-A (GEE)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-621	Electrical and Electronic Measurements	3	0	0	3	3
2	PCEE-622	Electrical Power System-II (Analysis and Protection)	3	1	0	4	4
3	OEXX-621	Open Elective-3	3	0	0	3	3
4	OEXX-622	Open Elective-4	3	0	0	3	3
5	PEEE-621	Professional Elective-2	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCEE-623	Power System Lab	0	0	2	2	1
Total			18	1	2	21	20
Semester-VI-B Group-A (GEE)							
1	TPID-621	Industrial Training (4 weeks)				40	2 (S/US)
2	EAA-622+	Fractional credit course/Extra Academic Activity +GROUP A/B/C				40	1 (S/US)

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Pishal Singh

Semester-VII Group-A (GEE)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEE-711	Microprocessors and Microcontrollers	3	1	0	4	4
2	PCEE-712	Power Electronics and Drives	3	0	0	3	3
3	PEEE-711	Professional Elective-3	3	0	0	3	3
4	PEEE-712	Professional Elective-4	3	0	0	3	3
5	OEXX-711	Open Elective-5	3	0	0	3	3
6	PCEE-713	Microprocessors and Microcontrollers Lab	0	0	2	2	1
7	PCEE-714	Power Electronics and Drives Lab	0	0	2	2	1
8	PREE-711	Project Stage I and Seminar	0	0	4	4	2
		Total	15	1	8	24	20

Semester-VIII Group-A (GEE)							
S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PEEE-721	Professional Elective-5	3	0	0	3	3
2	PREE-722	Professional Elective-6	3	0	0	3	3
3	PREE-721	Project Stage II	0	0	12	12	6
		Total	6	0	12	18	12

OR

S No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry				40	6
2	PREE-721	Project Stage II	0	0	12	12	6
		Total					12

List of Mandatory Courses

1. MCCH-401 Mandatory Course – 1: Environmental Studies
2. MCMH-501 Mandatory Course – 2: Indian Constitution

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List of courses for B.E. (Minor) Program in Electrical Engineering

Semester-III							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEE-511	Electrical Technology	3	1	0	4	4
Total			3	1	0	4	4
Semester-IV							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
	MDEE-521	Electromagnetic Energy Conversion	3	1	0	4	4
Total			3	1	0	4	4
Semester-V							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEE-611	Electric Power System	3	1	0	4	4
Total			3	1	0	4	4
Semester-VI							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEE-621	Industrial Electronics	3	1	0	4	4
Total			3	1	0	4	4
Semester-VII							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEE-711	Electrical Energy and Utilization	3	1	0	4	4
Total			3	1	0	4	4

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List of Advanced level courses for B.E.(Honors) in Electrical Engineering

Semester-V							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	HDEE-611	Generalised Theory of Electrical Machines	3	1	0	4	4
	HDEE-612	Distributed Generation and Smart Grids	3	1	0	4	4
		Total	6	2	0	8	8
Semester-VI							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
	HDEE-621	Special Purpose Electric Machines	3	1	0	4	4
		Total	3	1	0	4	4
Semester-VII							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	HDEE-711	Power System Operation and Control	3	1	0	4	4
		Total	3	1	0	4	4
Semester-VIII							
S No	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	PHEE-721	Project Honors	0	0	08	08	4
		Total	0	0	08	08	4

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List of Open Electives

LIST OF OPEN ELECTIVES							
S. No.	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	OEEE-611	Open Elective-I	3	0	0	3	3
a)	OEEE-611A	Electrical Circuits	3	0	0	3	3
b)	OEEE-611B	Electrical Engineering Materials	3	0	0	3	3
c)	OEEE-611C	Renewable Energy Sources	3	0	0	3	3
d)	OEEE-611D/ PCIE611B	Electrical Machines <i>PCIE - (change)</i>	3	0	0	3	3
2	OEEE-612	Open Elective-II	3	0	0	3	3
a)	OEEE-612A	Energy Conservation Practices	3	0	0	3	3
b)	OEEE-612B	Energy Auditing and Management	3	0	0	3	3
c)	OEEE-612C	Utilization of Electrical Energy	3	0	0	3	3
	OEEE-612D	Electric Vehicles Technology	3	0	0	3	3
3	OEEE-621	Open Elective-III	3	0	0	3	3
a)	OEEE-621A	Microprocessors and Applications	3	0	0	3	3
b)	OEEE-621B	Elements of Power System	3	0	0	3	3
c)	OEEE-621C	Biomedical Instrumentation	3	0	0	3	3
d)	OEEE-621D	Electrical Estimation and Costing	3	0	0	3	3
4	OEEE-622	Open Elective-IV	3	0	0	3	3
a)	OEEE-622A	Control System	3	0	0	3	3
b)	OEEE-622B	Microcontrollers and Applications	3	0	0	3	3
c)	OEEE-622C	Electrical Safety and Applications	3	0	0	3	3
d)	OEEE-622D	Electric drives and traction system	3	0	0	3	3
5	OEEE-711	Open Elective-V	3	0	0	3	3
a)	OEEE-711A	Signals and Systems	3	0	0	3	3
b)	OEEE-711B	Sensors and Transducers	3	0	0	3	3
c)	OEEE-711C	Soft Computing Techniques	3	0	0	3	3
d)	OEEE-711D	Special Electrical Machines	3	0	0	3	3

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List of Professional Electives

List of Professional Electives							
S. No.	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	PEEE-611	Professional Elective-1	3	0	0	3	3
a)	PEEE-611A	Biomedical Instrumentation	3	0	0	3	3
b)	PEEE-611B	Electromagnetic Field Theory	3	0	0	3	3
c)	PEEE-611C	Electrical Safety and Standards	3	0	0	3	3
d)	PEEE-611D	Group Chain Technology of Distribution System	3	0	0	3	3
2	PEEE-621	Professional Elective-2	3	0	0	3	3
a)	PEEE-621A	Electrical Energy Conservation and Auditing	3	0	0	3	3
b)	PEEE-621B	Non-Linear and Optimal Control	3	0	0	3	3
c)	PEEE-621C	Telemetry and Data Acquisition	3	0	0	3	3
d)	PEEE-621D	Smart Metering and Security System	3	0	0	3	3
3	PEEE-711	Professional Elective-3	3	0	0	3	3
a)	PEEE-711A	Wind and Solar Energy Systems	3	0	0	3	3
b)	PEEE-711B	Computational Electromagnetic	3	0	0	3	3
c)	PEEE-711C	Reliability Engineering	3	0	0	3	3
d)	PEEE-711D	Computer Relaying and Phasor Measurement Unit	3	0	0	3	3
4	PEEE-712	Professional Elective-4	3	0	0	3	3
a)	PEEE-712A	Soft Computing Techniques	3	0	0	3	3
b)	PEEE-712B	Electrical and Hybrid Vehicles	3	0	0	3	3
c)	PEEE-712C	Virtual Instrumentation	3	0	0	3	3
d)	PEEE-712D	Power System Compensation	3	0	0	3	3
5	PEEE-721	Professional Elective-5	3	0	0	3	3
a)	PEEE-721A	Power Quality and FACTS	3	0	0	3	3
b)	PEEE-721B	Utilization of Electrical Energy	3	0	0	3	3
c)	PEEE-721C	Robotics	3	0	0	3	3

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SLIET, Longowal | BE (Electrical Engineering) Syllabus, 2018

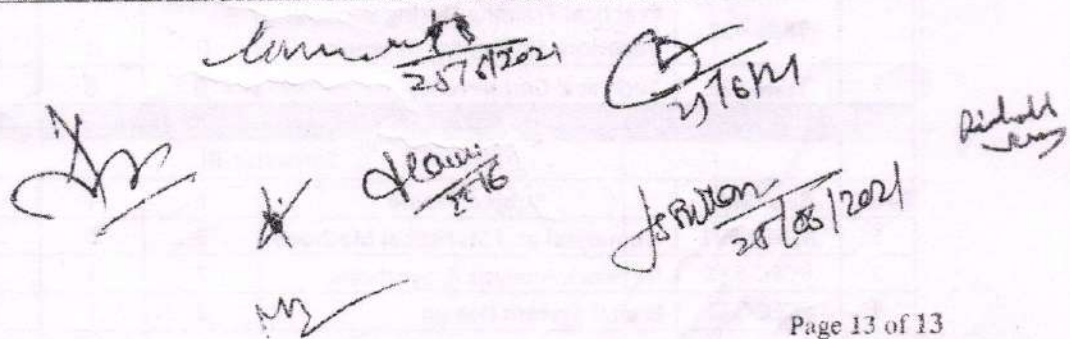
d)	PEEE-721C	Power System Restructuring	3	0	0	3	3
6	PEEE-722	Professional Elective-6	3	0	0	3	3
a)	PEEE-722A	Advanced Microprocessors and Microcontrollers	3	0	0	3	3
b)	PEEE-722B	High Voltage Engineering	3	0	0	3	3
c)	PEEE-722C	Modelling and Simulation	3	0	0	3	3
d)	PEEE-722D	Power System Optimization	3	0	0	3	3

S. No.	Course Components	Curriculum contents (% of total number of the credits of the program)	Total number of contact hours	Total number of credits
1	Basic Sciences	15	27	24
2	Engineering Sciences	15	33	24
3	Humanities and Social Sciences	6.875	13	11
4	Program Core	32.5	60	52
5	Program Electives	7.5	12	12
6	Open Electives	9.375	15	15
7	Project	3.75	12	6
8	Internship/Seminar/Industrial Training	8.125	204	13
9	Any other (Mandatory course and fractional credit course)	1.875	127	3
Total number of Credits				160

S. No.	Program	Total No. of Credits
1	Under Graduate Program	160
2	Minor Degree (Electrical Engineering)	20
3	Honors Degree (Electrical Engineering)	20

Committee Members.

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B.E. (Electronics and Communication Engineering)

Semester-I (Group-A)							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
Total			12	3	10	25	20

Semester-II A (Group-A)							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Environmental Studies	3	0	0	3	0
Total			13	3	14	30	20

Semester-II-B							
	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks	0	0	40	40	1 (S/US)
	TPIN-422	Technical Competency	0	0	40	40	1 (S/US)

Semester-III							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	PCEC-511	Network Analysis & Synthesis	2	1	0	3	3
3	PCEC-512	Digital System Design	2	1	0	3	3
4	PCEC-513	Signals & Systems	2	1	0	3	3

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UG Syllabus for Degree Programme (applicable to 2018 batch onwards)

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5	PCEC-514	Electronic Devices & Circuits	2	1	0	3	3
6	BSBL-501	Biology for Engineers	2	0	0	2	2
7	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
8	PCEC-515	Digital System Design Lab	0	0	4	4	2
9	mc ug 501	univ Pluse Value Total	14	03	06	23	20

Semester-IV-A

S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCEC-521	Analog Communication	3	0	0	3	3
3	PCEC-522	Analog Electronic Circuits	2	1	0	3	3
4	PCEC-523	Microprocessor & Microcontroller	3	0	0	3	3
5	HSMC-501	Principles of Management	3	0	0	3	3
6	PCEC-524	Analog Electronic Circuits Lab	0	0	4	4	2
7	PCEC-525	Microprocessor & Microcontroller Lab	0	0	4	4	2
8	MCMH-501	Constitution of India	3	0	0	3	0
Total			17	02	8	27	20

Semester-IV-B

	TPID-521	Industrial Training 02 weeks	0	0	40	40	1 (S/US)
	EAA-521+	Fractional credit course/Extra Academic Activity +GROUP A/B/C	0	0	40	40	1 (S/US)

Semester-VA

S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEC-611	Digital Communication	3	0	0	3	3
2	PCEC-612	EMF & Transmission Lines	3	0	0	3	3
3	OEXX-611	Open Elective-1	3	0	0	3	3
4	OEXX-612	Open Elective-2	3	0	0	3	3
5	PEEC-611	Professional Elective-1	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCEC-613	Analog & Digital Communication Lab	0	0	4	4	2
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
Total			17	0	6	23	20
9*	HDEC-611	Hon's Subject-1					4
10*	HDEC-612	Hon's Subject-2					4

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Semester-VB							
	EAA-611+	Fractional credit course/Extra Academic Activity +GROUP A/B/C	0	0	40	40	1 (S/US)
Semester-VI-A							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEC-621	Linear Integrated Circuits	2	1	0	3	3
2	PCEC-622	Wireless Communication	3	0	0	3	3
3	OEXX-621	Open Elective-3	3	0	0	3	3
4	OEXX-622	Open Elective-4	3	0	0	3	3
5	PEEC-621	Professional Elective-2	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCEC-623	Linear Integrated Circuits Lab	0	0	2	2	1
8	PCEC-624	MATLAB Programming Lab	0	0	2	2	1
		Total	17	1	4	22	20
9*	HDEC-621	Hon's Subject-3					4
Semester-VI-B							
	TPID-621	Industrial Training 04 weeks	0	0	40	40	2(S/US)
	EAA-622+	Fractional credit course/Extra Academic Activity +GROUP A/B/C	0	0	40	40	1 (S/US)
Semester-VII							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCEC-711	Digital Signal Processing	3	0	0	3	3
2	PCEC-712	Antenna and Wave Propagation	3	0	0	3	3
3	PEEC-711	Professional Elective-3	3	0	0	3	3
4	PEEC-712	Professional Elective-4	3	0	0	3	3
5	OEXX-711	Open Elective-5	3	0	0	3	3
6	PCEC-713	Digital Signal Processing Lab	0	0	2	2	1
7	PCEC-714	Antenna and Microwave Lab	0	0	4	4	2
8	PREC-711	Project Stage I and Seminar	0	0	4	4	2
		Total	15	0	10	25	20
9*	HDEC-711	Hon's Subject-4					4
Semester-VIII							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PEEC-721	Professional Elective-5	3	0	0	3	3

List of Professional Electives

Professional Elective-I		
S.No.	Sub Code	Subject Name
1	PEEC-611A	Pulse and Digital Switching Circuits
2	PEEC-611B	MEMS
3	PEEC-611C	Information Theory & Coding
Professional Elective-II		
S.No.	Sub Code	Subject Name
1	PEEC-621A	Control System Engineering
2	PEEC-621B	Telecommunication Switching Systems & Networks
3	PEEC-621C	MOS Device Physics & Modelling
Professional Elective-III		
S.No.	Sub Code	Subject Name
1	PEEC-711A	Microelectronics
2	PEEC-711B	Nano photonics
3	PEEC-711C	Computer Communication & Networks
Professional Elective-IV		
S.No.	Sub Code	Subject Name
1	PEEC-712A	Microwave & Radar Engineering
2	PEEC-712B	Neural Networks & Fuzzy Logic
3	PEEC-712C	Industrial Electronics
Professional Elective-V		
S.No.	Sub Code	Subject Name
1	PEEC-721A	Wireless Sensor Networks
2	PEEC-721B	Satellite Communication
3	PEEC-721C	VLSI Circuits
Professional Elective-VI		
S.No.	Sub Code	Subject Name
1	PEEC-722A	Fiber Optics Communication
2	PEEC-722B	Electronic Measurement & Instrumentation
3	PEEC-722C	Computer Architecture & Organization

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**List of Open Electives**

Open Elective-I		
S.No.	Sub Code	Subject Name
1	OEEC-611A	Linear Integrated Circuits
2	OEEC-611B	Digital Electronics
3	OEEC-611C	Electronic Measurement & Instrumentation
Open Elective-II		
S.No.	Sub Code	Subject Name
1	OEEC-612A	Principle of Communication Engineering
2	OEEC-612B	Optical Electronics
3	OEEC-612C	MATLAB Programming
Open Elective-III		
S.No.	Sub Code	Subject Name
1	OEEC-621A	Microprocessor and Applications
2	OEEC-621B	VLSI Technology
3	OEEC-621C	Nano Technology
Open Elective-IV		
S.No.	Sub Code	Subject Name
1	OEEC-622A	Biomedical Electronics
2	OEEC-622B	Control System Engineering
3	OEEC-622C	Electronic System Design
Open Elective-V		
S.No.	Sub Code	Subject Name
1	OEEC-711A	Digital Systems
2	OEEC-711B	Microcontroller and Embedded Systems
3	OEEC-711C	Wireless Communication

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HONORS DEGREE

Semester-VA							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDEC-611	AI & Machine Learning	3	1	0	04	4
2.	HDEC-612	Optoelectronics Devices & Circuits	3	1	0	04	4
Total			06	02	00	08	08

Semester-VI-A							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDEC-621	Circuit Design for Electronics system	3	1	0	04	4
Total			03	01	0	04	04

Semester-VII							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	HDEC-711	Internet of Things and applications	3	1	0	04	4
Total			03	01	0	04	04

Semester-VIII							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1.	PHEC-721	Project Hon's	0	0	08	08	4
Total			0	0	0	08	04

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MINOR DEGREE

Semester-III							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEC-511	Digital Circuit & Logic Design	3	1	0	4	4
Total			3	1	0	4	4

Semester-IV							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEC-521	Microcontroller	3	1	0	4	4
Total			3	1	0	4	4

Semester-V							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEC-611	Communication System	3	1	0	4	4
Total			3	1	0	4	4

Semester-VI							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEC-621	Fiber optics	3	1	0	4	4
Total			3	1	0	4	4

Semester-VII							
S.No.	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDEC-711	Signal Processing	3	1	0	4	4
Total			3	1	0	4	4

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B.E. (Food Tech) Course Scheme and Syllabus

2021

Semester-I Group-B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Environmental Studies	3	0	0	3	0
Total			13	3	14	30	20

Semester-II A Group-B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
Total			12	3	10	25	20

Semester-II B Group-B (FET)							
1	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks				80	1 (S/US)
2	TPIN-422	Technical Competency					1 (S/US)

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B.E. (Food Tech) Course Scheme and Syllabus

2021

Semester-III Group B (FET)								
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	ESME-501	Engineering Mechanics	3	1	0	4	4	
2	PCFT-511	Food Chemistry	3	1	0	4	4	
3	PCFT-512	Food Microbiology	3	0	0	3	3	
4	PCFT-513	Heat and Mass Transfer	3	1	0	4	4	
5	HSMC-501	Principles of Management	3	0	0	3	3	
6	PCFT-514	Heat and Mass Transfer Lab	0	0	2	2	1	
7	PCFT-515	Food Chemistry and Microbiology Lab	0	0	2	2	1	
8	MCMH-501	Indian Constitution	3	0	0	3	0	
		Total	18	3	4	25	20	
Semester-IVA Group B (FET)								
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3	
2	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1	
3	BSBL-501	Biology for Engineers	2	0	0	2	2	
4	PCFT-521	Food Biochemistry and Nutrition	3	1	0	4	4	
5	PCFT-522	Food Biotechnology	4	0	0	4	4	
6	PCFT-523	Food Engineering	3	1	0	4	4	
7	PCFT-524	Food Engineering Lab	0	0	2	2	1	
8	PCFT-525	Food Biochemistry and Nutrition and Biotechnology Lab	0	0	2	2	1	
9	M.C.V.G. 501	Univ. Minor Value	Total	15	2	6	23	20
Semester-IVB (FET)								
1	TPID-521	Industrial Training 02 weeks				80	1 (S/US)	
2	EAA-521+	Fractional credit course/Extra Academic Activity +GROUP A/B/C					1 (S/US)	

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Semester-V-A Group-B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCFT-611	Technology of Animal Product	3	0	0	3	3
2	PCFT-612	Dairy Technology	3	0	0	3	3
3	PCFT-613	Animal Product Technology and Dairy Technology Lab	0	0	4	4	2
4	OEXX-611	Open Elective-I	3	0	0	3	3
5	OEXX-612	Open Elective-II	3	0	0	3	3
6	PEFT-611	Professional Elective-I	3	0	0	3	3
7	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
Total			18	0	2	20	20
Semester-V-B Group-B (FET)							
1	EAA-611+	Fractional credit course/ Extra Academic Activity +GROUP A/B/C					1 (S/US)
Semester-VI-A Group-B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCFT-621	Technology of Cereal, Pulses and Oilseeds Processing	3	1	0	4	4
2	PCFT-622	Technology of Fruits and Vegetable Products	3	0	0	3	3
3	PCFT-623	Plant Foods Lab	0	0	2	2	1
4	OEXX-621	Open Elective-III	3	0	0	3	3
5	OEXX-622	Open Elective-IV	3	0	0	3	3
6	PEFT-621	Professional Elective-II	3	0	0	3	3
7	HSMC-601	Technical Communication	2	0	0	2	2
8	HSMC-602	Technical Communication lab	0	0	2	2	1
Total			17	1	4	22	20
Semester-VI B Group-B (FET)							
1	TPID-621	Industrial Training 04 weeks				160	2 (S/US)
2	EAA-621+	Fractional credit course/ Extra Academic Activity +GROUP A/B/C					1 (S/US)

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Semester-VII Group-B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCFT-711	Food Analysis and Quality Control	3	1	0	4	4
2	PCFT-712	Packaging Technology	3	0	0	3	3
3	PCFT-713	Food Analysis, Quality Control and Packaging Technology Lab	0	0	2	2	1
4	OEXX-711	Open Elective-V	3	0	0	3	3
5	PEFT-711	Professional Elective - III	3	1	0	4	4
6	PEFT-712	Professional Elective - IV	3	0	0	3	3
7	PRFT-711	Project Stage I and Seminar	0	0	4	4	2
Total			15	2	6	23	20
Semester-VIII Group B (FET)							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PEFT-721	Professional Elective - V	3	0	0	3	3
2	PEFT-722	Professional Elective - VI	3	0	0	3	3
3	PRFT-721	Project Stage - II	0	0	12	12	6
Total			6	0	12	18	12
OR							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry	0	0	40	40	6
2	PRFT-721	Project Stage - II	0	0	12	12	6
Total			0	0	12	12	12

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LIST OF OPEN ELECTIVES COURSES

S.NO.	Sub. Code	Subject Name	L	T	P	Hrs.	Credits
1	OEFT-611	Open Elective-I	3	0	0	3	3
a)	OEFT-611A	Separation Technology	3	0	0	3	3
b)	OEFT-611B	Biochemical Engineering	3	0	0	3	3
2	OEFT-612	Open Elective-II	3	0	0	3	3
a)	OEFT-612A	Principle of Food Processing	3	0	0	3	3
b)	OEFT-612B	Principle of Food Preservation	3	0	0	3	3
3	OEFT-621	Open Elective-III	3	0	0	3	3
a)	OEFT-621A	Food and Nutrition	3	0	0	3	3
b)	OEFT-621B	Unit Operations in Food Processing	3	0	0	3	3
4	OEFT-622	Open Elective-IV	3	0	0	3	3
a)	OEFT-622A	Fundamentals of Biotechnology	3	0	0	3	3
b)	OEFT-622B	Food Laws and Regulations	3	0	0	3	3
5	OEFT-711	Open Elective-V	3	0	0	3	3
a)	OEFT-711A	Flavor Technology	3	0	0	3	3
b)	OEFT-711B	Food Plant Sanitation and Waste Management	3	0	0	3	3

LIST OF PROFESSIONAL ELECTIVES COURSES

S.NO	Sub. Code	Subject name	L	T	P	Hrs	Credits
1	PEFT-611	Professional Elective-I	3	0	0	3	3
a)	PEFT-611A	Fluid Flow Operation	3	0	0	3	3
b)	PEFT-611B	Post-harvest Engineering	3	0	0	3	3
2	PEFT-621	Professional Elective-II	3	0	0	3	3
a)	PEFT-621A	Food Storage Engineering	3	0	0	3	3
b)	PEFT-621B	Technology of Bakery and Confectionary Products	3	0	0	3	3
3	PEFT-711	Professional elective-III	3	0	0	3	3
a)	PEFT-711A	Health and Functional Food	3	0	0	3	3
b)	PEFT-711B	Technology of Food Plant by Product Utilization	3	0	0	3	3
4	PEFT-712	Professional Elective-IV	3	0	0	3	3
a)	PEFT-712A	Technology of Beverages	3	0	0	3	3
b)	PEFT-712B	Industrial Microbiology	3	0	0	3	3
5	PEFT-721	Professional Elective-V	3	0	0	3	3
a)	PEFT-721A	Food Additives and Ingredients	3	0	0	3	3
b)	PEFT-721B	Technology of Fats and Oils	3	0	0	3	3
6	PEFT-722	Professional Elective-VI	3	0	0	3	3
a)	PEFT-722A	Food Processing Plant Layout and Design	3	0	0	3	3
b)	PEFT-722B	Innovative Techniques in Food Processing	3	0	0	3	3

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LIST OF SUBJECTS TO BE OFFERED FOR HONOR DEGREE IN FOOD TECHNOLOGY

Semester	Sub. Code	Subject name	L	T	P	Hrs	Credits
V	HDFT-611	Enzymes in Food Processing	3	1	0	4	4
V	HDFT-612	Basic Agricultural Process Engineering	3	1	0	4	4
VI	HDFT-621	Instrumental Techniques in Food	3	1	0	4	4
VII	HDFT-711	Food Rheology	3	1	0	4	4
VIII	PHFT-721	Project Honors	0	0	8	8	4
Total			12	4	8	24	20

LIST OF SUBJECTS TO BE OFFERED FOR MINOR DEGREE IN FOOD TECHNOLOGY

Semester	Sub. Code	Subject name	L	T	P	Hrs	Credits
III	MDFT-511	Food Processing and Preservation	3	1	0	4	4
IV	MDFT-521	Food Biochemistry and Nutrition	3	1	0	4	4
V	MDFT-611	Plant Food Product Technology	3	1	0	4	4
VI	MDFT-621	Unit Operations in Food Engineering	3	1	0	4	4
VII	MDFT-711	Engineering Properties of Foods	3	1	0	4	4
Total			15	5	0	20	20

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Structure of BE (Food Technology) program in comparison with the model curriculum

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits	As Per AICTE
Basic Sciences	15.0	27	24	25
Engineering Sciences	15.0	33	24	24
Humanities and Social Sciences	6.9	13	11	12
Program core	31.9	57	51	48
Program Electives	11.9	19	19	18
Open electives	9.4	15	15	18
Projects	5.0	16	8	15
Practical/Industrial Training	3.1	4	5	
Extra Academic activities	1.9	11	3	
Total number of Credits			160	160

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Study Scheme of UG Programme in "Mechanical Engineering"

Semester-I							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-401	Engineering Mathematics I	3	1	0	4	4
2	BSCH-401	Applied Chemistry	3	1	0	4	4
3	ESME-401	Elements of Mechanical Engineering	2	1	0	3	3
4	ESME-402	Workshop Technology and Practice	1	0	0	1	1
5	HSMC-401	English Communication and Soft Skills	1	0	0	1	1
6	BSCH-402	Applied Chemistry Lab	0	0	2	2	1
7	ESME-403	Elements of Mechanical Engineering Lab	0	0	2	2	1
8	ESME-404	Engineering Drawing	0	0	4	4	2
9	ESME-405	Workshop Technology and Practice Lab	0	0	4	4	2
10	HSMC-402	English Communication and Soft Skills Lab	0	0	2	2	1
11	MCCH-401	Environmental Studies	3	0	0	3	0
Total			13	3	14	30	20
Semester-II- A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-402	Engineering Mathematics II	3	1	0	4	4
2	BSPH-401	Applied Physics	3	1	0	4	4
3	ESEE-401	Elements of Electrical Engineering	2	1	0	3	3
4	ESCS-401	Elements of Computer Engineering	2	0	0	2	2
5	ESEC-401	Elements of Electronics Engineering	2	0	0	2	2
6	BSPH-402	Applied Physics Lab	0	0	2	2	1
7	ESEE-402	Elements of Electrical Engineering Lab	0	0	2	2	1
8	ESCS-402	Elements of Computer Engineering Lab	0	0	4	4	2
9	ESEC-402	Elements of Electronics Engineering Lab	0	0	2	2	1
Total			12	3	10	25	20
Semester-II-B							
	TPIN-421	Practical Training During Summer Vacations (In-house) 02 weeks	0	0	40	40	1 (S/US)
	TPIN-422	Technical competency	0	0	40	40	1(S/US)
Semester-III							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ESME-501	Engineering Mechanics	3	1	0	4	4
2	PCME-511	Applied Thermodynamics	3	1	0	4	4
3	PCME-512	Manufacturing Processes	3	0	0	3	3
4	PCME-513	Fluid Mechanics and Machinery	3	1	0	4	4
5	HSMC-501	Principles of Management	3	0	0	3	3
6	PCME-514	Applied Thermodynamics Lab	0	0	2	2	1
7	PCME-515	Fluid Mechanics and Machinery Lab	0	0	2	2	1
8	MCMH-501	Indian Constitution	3	0	0	3	0
Total			18	3	4	25	20

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Semester-IV-A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	BSMA-501	Numerical and Statistical Methods	3	0	0	3	3
2	PCME-521	Physical Metallurgy	2	0	0	2	2
3	PCME-522	Kinematics of Machines	3	0	0	3	3
4	PCME-523	Strength of Materials	3	1	0	4	4
5	BSBL-501	Biology for Engineers	2	0	0	2	2
6	BSMA-502	Numerical and Statistical Methods Lab	0	0	2	2	1
7	PCME-524	Kinematics of Machines Lab	0	0	2	2	1
8	PCME-525	Strength of Materials Lab	0	0	2	2	1
9	PCME-526	Machine Drawing	0	0	4	4	2
10	PCME-527	Physical Metallurgy Lab	0	0	2	2	1
11	MEUG-501 Univ. Level		13	1	12	26	20
Semester-IV-B							
1	TPID-521	Industrial Training 02 weeks	0	0	80	80	1 (S/US)
2	FEAA-521#(A/B/C)	Fractional credit course/Extra Academic activity Group A/B/C					1 (S/US)
Semester-V A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCME-611	Machine Design-I	3	1	0	4	4
2	PCME-612	Measurement and Instrumentation	2	1	0	3	3
3	OEXX-611	Open Elective-1	3	0	0	3	3
4	OEXX-612	Open Elective-2	3	0	0	3	3
5	PEME-611	Professional Elective-1	3	0	0	3	3
6	HSMC-603	Engineering Economics and Entrepreneurship	3	0	0	3	3
7	PCME-613	Measurement and Instrumentation Lab	0	0	2	2	1
		Total	17	2	2	21	20
Semester-V-B							
	FEAA-611#(A/B/C)	Fractional credit course/Extra Academic activity Group A/B/C					1 (S/US)
Semester-VI-A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCME-621	Heat & Mass Transfer	3	0	0	3	3
2	PCME-622	Principles of Industrial Engineering	3	1	0	4	4
3	OEXX-621	Open Elective-3	3	0	0	3	3
4	OEXX-622	Open Elective-4	3	0	0	3	3
5	PEME-621	Professional Elective-2	3	0	0	3	3
6	HSMC-601	Technical Communication	2	0	0	2	2
7	PCME-623	Heat & Mass Transfer Lab	0	0	2	2	1
8	HSMC-602	Technical Communication Lab	0	0	2	2	1
		Total	17	1	4	22	20

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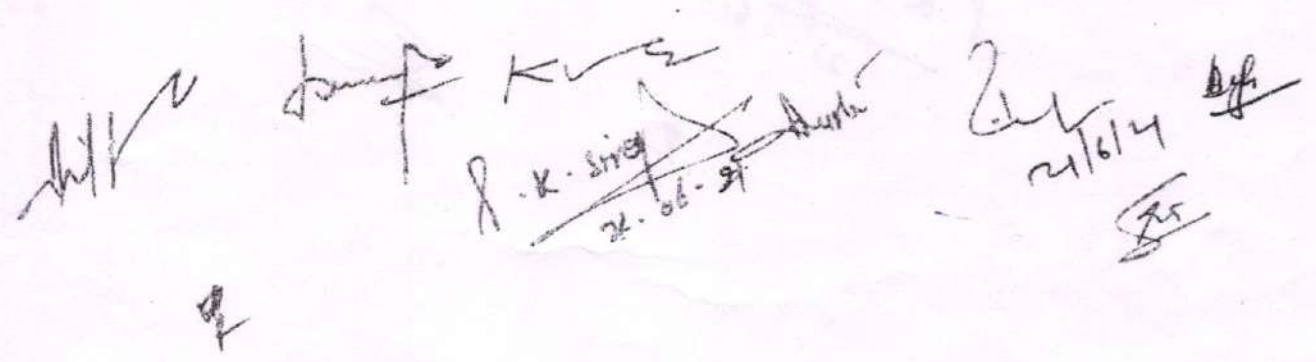
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Semester VI-B							
1	TPID-621	Industrial Training 04 weeks	0	0	160	160	2 (S/US)
2	FEAA-621#(A/B/C)	Fractional credit course/Extra Academic activity Group A/B/C	-	-	-	-	1 (S/US)
Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PCME-711	CAD/CAM	3	0	0	3	3
2	PCME-712	Machine Design-II	3	1	0	4	4
3	OEXX-711	Open Elective-5	3	0	0	3	3
4	PEME-711	Professional Elective-3	3	1	0	4	4
5	PEME-712	Professional Elective-4	3	0	0	3	3
6	PCME-713	CAD/CAM Lab	0	0	2	2	1
7	PRME-711	Project Stage I and Seminar	0	0	4	4	2
Total			15	2	6	23	20
Semester-VIII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PEME-721	Professional Elective-5	3	0	0	3	3
2	PEME-722	Professional Elective-6	3	0	0	3	3
3	PRME-721	Project Stage II	0	0	12	12	6
Total			6	0	12	18	12
OR							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	INID-721	Internship in Industry	0	0	40	40	6
2	PRME-721	Project Stage II	0	0	12	12	6
Total			0	0	52	52	12



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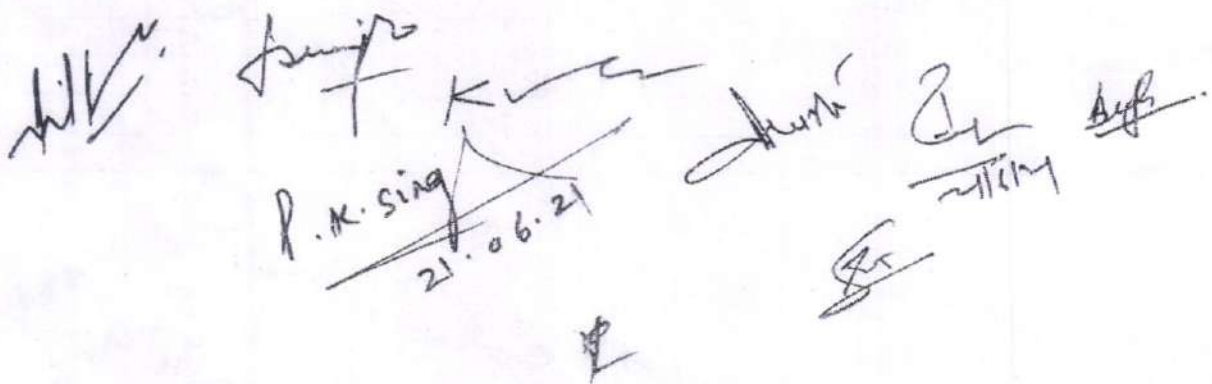
OEME-611	Open Elective- 1
OEME-611A	Power Plant Engineering
OEME-611B	Automobile Engineering
OEME-611C	Welding - Processes, Codes and Standards

OEME-612	Open Elective- 2
OEME-612A	Refrigeration & Air Conditioning
OEME-612B	Measurement and Instrumentation
OEME-612C	Finite Element Method (FEM)

OEME-621	Open Elective- 3
OEME-621A	Cryogenic Engineering
OEME-621B	Safety Engineering
OEME-621C	Supply Chain Management

OEME-622	Open Elective- 4
OEME-622A	Quality Engineering
OEME-622B	Industrial Automation
OEME-622C	Optimization Technique

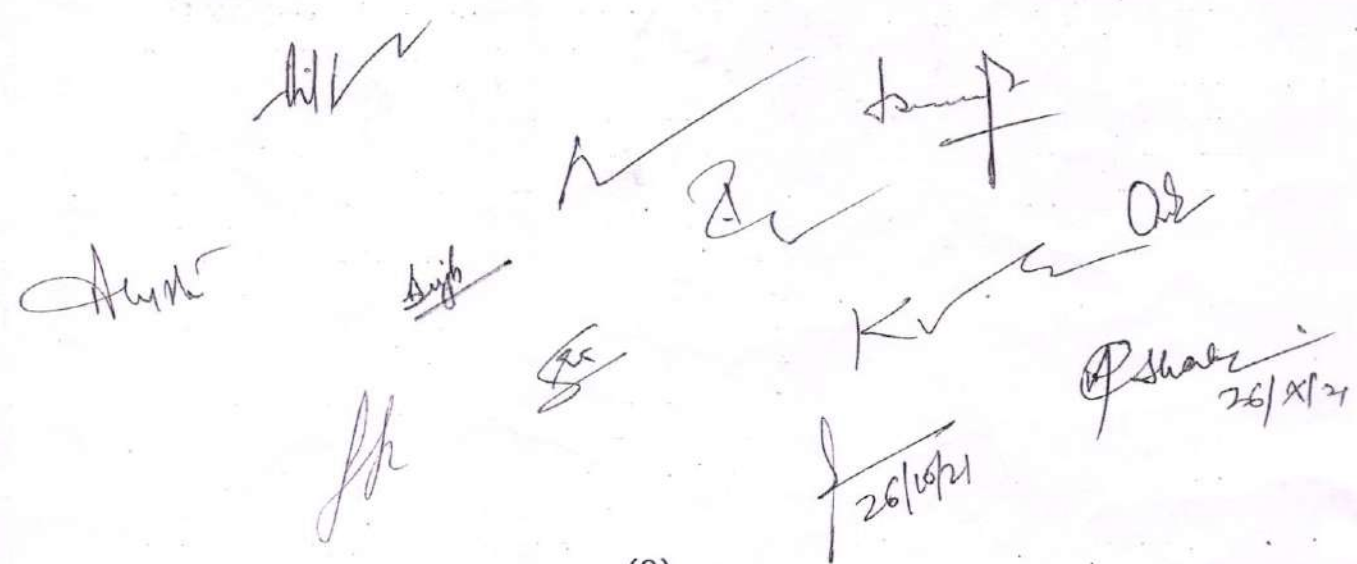
OEME-711	Open Elective- 5
OEME-711A	Non Conventional Energy Resources
OEME-711B	Robotics
OEME-711C	Energy Auditing



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LIST OF PROFESSIONAL ELECTIVES

PEME-611	Professional Elective- 1
PEME-611A	Theory of Metal Cutting and Forming
PEME-611B	Advanced Strength of Material
PEME-611C	Welding - Processes, Codes and Standards
PEME-621	Professional Elective- 2
PEME-621A	Automobile Engineering
PEME-621B	Dynamics of Machines
PEME-621C	Power Plant Engineering
PEME-711	Professional Elective- 3
PEME-711A	Refrigeration & Air Conditioning
PEME-711B	Optimization Technique
PEME-711C	Finite Element Method (FEM)
PEME-712	Professional Elective- 4
PEME-712A	Non Conventional Energy Resources
PEME-712B	Flexible manufacturing System(FMS)
PEME-712C	Supply Chain Management
PEME-721	Professional Elective- 5
PEME-721A	Cryogenic Engineering
PEME-721B	Industrial Automation
PEME-721C	Quality Engineering
PEME-722	Professional Elective- 6
PEME-722A	Robotics
PEME-722B	Energy Auditing
PEME-722C	Safety Engineering
PEME-722D	Work study and Ergonomics



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B.E. Honors (Mechanical Engineering)

Semester V (2 subjects of 4 credits each to be chosen)

Subject Code	Semester	List of Professional Elective	L	T	P	Hrs.	Cr
HDME-611	V	Advance Manufacturing Processes	3	0	0	3	3
HDME-612	V	Advance Manufacturing Processes Lab	0	0	2	2	1
HDME-613	V	Welding Metallurgy	3	0	0	3	3
HDME-614	V	Welding Metallurgy-Lab	0	0	2	2	1
HDME-615	V	Advance Welding Processes	3	0	0	3	3
HDME-616	V	Advance Welding Processes Lab	0	0	2	2	1
HDME-617	V	Modeling and Simulation	3	0	0	3	3
HDME-618	V	Modeling and Simulation Lab	0	0	2	2	1
HDME-619	V	Mechanical Vibrations	3	0	0	3	3
HDME-620	V	Mechanical Vibrations Lab	0	0	2	2	1
HDME-621	V	Total Quality Management	3	1	0	4	4
HDME-622	V	Total Project Systems Management	3	1	0	4	4
HDME-623	V	Waste Management and Sustainability	3	1	0	4	4

Semester VI (1 subject of 4 credits to be chosen)

Subject Code	Semester	List of Professional Elective	L	T	P	Hrs.	Cr
HDME-621	VI	Design, Inspection and Testing of welds	3	0	0	3	3
HDME-622	VI	Design, Inspection and Testing of welds Lab	0	0	2	2	1
HDME-623	VI	System Dynamics	3	1	0	4	4
HDME-624	VI	Composite Materials and Mechanics	3	1	0	4	4
HDME-625	VI	Decision Support and Expert Systems	3	1	0	4	4

Semester VII (1 subject of 4 credits to be chosen)

Subject Code	Semester	List of Professional Elective	L	T	P	Hrs.	Cr
HDME-711	VII	Finite Element Method (FEM)	3	0	0	3	3
HDME-712	VII	Finite Element Method (FEM) Lab	0	0	2	2	1
HDME-713	VII	Additive Manufacturing	3	0	0	3	3
HDME-714	VII	Additive Manufacturing Lab	0	0	2	2	1
HDME-715	VII	Fracture Mechanics	3	1	0	4	4
HDME-716	VII	Logistics & Supply Chain Management	3	1	0	4	4

Semester VIII (Honours Project having 4 credits to be chosen)

Subject Code	Semester	List of Professional Elective	L	T	P	Hrs.	Cr
HDME-721	VIII	Project-Honors	0	0	8	8	4

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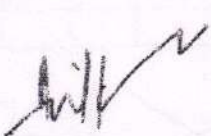
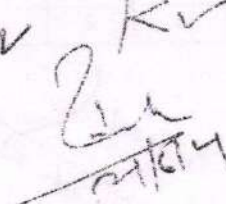

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Study Scheme of Honors Degree in "Welding Technology"

Semester-V							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HPWL-611	Advance Welding Processes	3	0	0	3	3
2	HPWL-612	Advance Welding Processes lab	0	0	2	2	1
3	HPWL-613	Welding metallurgy	3	0	0	3	3
4	HPWL-614	Welding metallurgy lab	0	0	2	2	1
Total			6	0	4	10	8
Semester-VI							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HPWL-621	Inspection and testing of welds	3	0	0	3	3
2	HPWL-622	Inspection and testing of welds lab	0	0	2	2	1
Total			3	0	2	5	4
Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HPWL-711	Design of Welds	3	1	0	4	4
Total			3	1	0	4	4
Semester-VIII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
3	HPWL-721	Project- Honors	0	0	8	8	4
Total			0	0	8	8	4

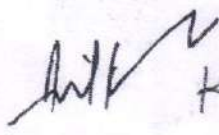
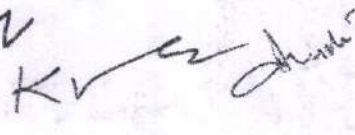
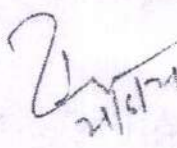
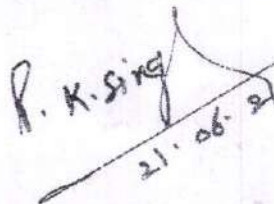
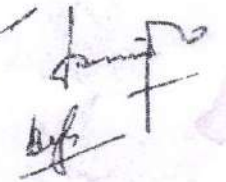




 21.06.21

P. N. Singh
 21.06.21


Study Scheme of Minor degree in "Mechanical Engineering"

Semester-III							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDME-511	Metrology	2	1	0	3	3
2	MDME-512	Metrology lab	0	0	2	2	1
Total			2	1	2	5	4
Semester-IV-A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDME-521	Manufacturing Processes	3	1	0	4	4
Total			3	1	0	4	4
Semester-V							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDME-611	Industrial Engineering	3	1	0	4	4
Total			3	1	0	4	4
Semester-VI-A							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDME-621	Thermal Engineering	3	1	0	4	4
Total			3	1	0	4	4
Semester-VII							
S No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	MDME-711	CAD/CAM	2	1	0	3	3
2	MDME-712	CAD/CAM lab	0	0	2	2	1
Total			2	1	2	5	4

Sri Lankapala Institute of Engineering & Tech, Longowal
 Department of Management & Humanities

From: HOD (M&H)
 To: Dean (Academics)

With Ref. No: SLIET/AS/1919 dated 17/12/2022, the department of Management and Humanities is offering the following open elective subjects:

Sr. No	Subject Code	Name of The Subject	L	T	P	Semester
1.	OEHD-621	ENGLISH LANGUAGE SKILLS FOR COMPETITIVE EXAMS	3	0	0	VI
2.	OEHD-622	PROFESSIONAL COMPREHENSION AND LITERARY SKILLS	3	0	0	VI
3.	OEHD-613	ENGINEERING AND LAW	3	0	0	VI
4.	OEHD-615	ORGANISATIONAL BEHAVIOUR	3	0	0	VI
5.	MDMH-401	BUSINESS COMMUNICATION SKILLS	3	1	0	VI

Prepared by:

[Signature]
 20/12/2022

[Signature]
 20/12/2022
 HOD (M&H)

No such code as mentioned at S.No 3 & 4 are running in scheme. Deptt. may be requested to clarify for further action con.

UAC
 27/12/22

Need for has been done
 27/12/22

D.No. Dean (Acad.) 2175
 Dated 21/12/22

M&H-1413
 20/12/2022

R.No. Dean (Acad.) 1323
 Dated 21/12/22

1885
 Receipt SLIET/AS/1919
 Date 21/12/22
 Dispatch SLIET/AS/1919
 Date 21/12/22

20/12/2022



ACADEMIC SECTION

Ref. No. SLIET/AS/ 4980

Date: 27/12/19

Circular

This is for the information of all the concerned that as per approval of the competent authority, the following subject code of study scheme of UG & PG 2018 has been rationalized.

UG	OLD			NEW		
Sem	Subject Code	Subject Name	Deptt.	Subject Code	Subject Name	Deptt.
Sem I & II	MC-401, MCMH-401	Environment studies	GFT,GCT, GCS,GEC	MCCH-401	Environment studies	All Deptt.
		Mandatory Course I	GIN, GEE,GME			
Sem III & IV	MCMH- 501, MC-501	Mandatory Course II	GME, GIN, GEE,	MCMH- 501	Indian Constitution	All Deptt.
		Indian Constitution	GCS, GEC			
		Blank	GCT, GFT			
Sem III & IV	BSBL-501	Biology For Engineers		BSBL-501	Biology For Engineers	All Deptt.
Sem VII	PROJEE-711, PROJME-711, PR#-711, PROJEC-711	Project stage I and Seminar	GEE, GME,GWT, GCT, GEE	PREE-711, PRME-711, PRCH-711	Project stage I and Seminar	All Deptt.
Sem VIII	PROJEE-721, PROJME-721	Project stage II	GEE, GME, GWT	PREE-721, PRME-721,	Project stage II	All Deptt.
PG	Subject Code	Subject Name	Deptt.	Subject Code	Subject Name	Deptt.
Sem I	CGIE- 811,1AXXX, RM-811.	Research Methodology and IPR	CSE, ECE, EIE, FET, ME (MSE), ME (WLF)	RMAL-811	Research Methodology and IPR	All Deptt.
	ACMH-811, ACIE-811, 1AXXX, MC- 811	Audit Course-I	CSE, ECE, EIE, FET, ME (MSE), ME(WLF)	ACMH-811	English research paper writing & Professional Communication	
Sem II	BLANK, ACIE- 821, 2AXXX, MC-821	Audit Course-II	CSE,ECE, EIE,FET,ME (MSE), ME (WLF)	ACMH-821	Constitution of India	

[Signature]
D. R. (Academics)
27/12/19

Copy to:-

1. Director Cell : For kind information please.
2. Dean (Academic) : For kind information please.
3. All HOD's with request to make the necessary corrections in the study schemes.
4. All the dealing hands . Academic sections

Nationalization of subject codes of common courses in the study schemes of UG / PG applicable w.e.f Academic 2018-19

While going through the study schemes of UG & PG applicable w.e.f., academic session 2018-2019, it is observed that the subject code / subject names of the common subject are not uniform. In order to rationalise the UG & PG schemes the following modifications are proposed:

UG						
Existing				Proposed		
Semr	Subject Code	Subject Name	Deptt.	Subject Code	Subject Name	Deptt.
Sem I & II	MC-401, MCMH-401	Environment studies	GFT, GCT, GCS, GEC	MC-401	Environment studies	All Deptt.
		Mandatory Course I	GIN, GEE, GME			
Sem III & IV	MCMH-501, MC-501	Mandatory Course II	GME, GIN, GEE,	MCMH-501	Indian Constitution	All Deptt.
		Indian Constitution	GCS, GEC			
		Blank	GCT, GFT			
Sem III & IV	BSBL-501	Biology For Engineers		BSFT-501	Biology For Engineers	All Deptt.
Sem VII	PROJEE-711, PROJME-711, PRM-711, PROJEC-711	Project stage I and Seminar	GEE, GME, GWT, GCT, GEE	PREE-711, PRME-711, PRCH-711	Project stage I and Seminar	All Deptt.
Sem VIII	PROJEE-721, PROJME-721	Project stage II	GEE, GME, GWT	PREE-721, PRME-721	Project stage II	All Deptt.

PG						
	Subject Code	Subject Name	Deptt.	Subject Code	Subject Name	Deptt.
Sem I	CCIE-811, 1AXXX, RM-811,	Research Methodology and IPR	CSE, ECE, EIE, FET, ME (MSE), ME (WLF)	RM-811	Research Methodology and IPR	All Deptt.
	ACMH-811, ACIE-811, 1AXXX, MC-811	Audit Course-I	CSE, ECE, EIE, FET, ME (MSE), ME(WLF)	ACMH-811	English research paper writing & Professional Communication	
Sem II	BLANK, ACIE-821, 2AXXX, MC-821	Audit Course-II	CSE, ECE, EIE, FET, ME (MSE), ME (WLF)	ACMH-821	Constitution Of India	

* Some of the departments provided the study scheme up to 4th semester. the proposed code will be consider as and when the departments submit the study scheme and if the subject codes are different.

Further it is observed that pattern of subject codes of M. Tech. in Food Engineering & Technology is totally different from the pattern followed for other M.Tech programs at institute level. The HOD (FET) was consulted in this regards and the department agreed to change the codes. In view of the proposal for rationalizing the subject codes of FET Department is as follows:

Existing Subject Code	Subject Name	Proposed Subject Code	
Semester-I			
1FT01	Engineering Properties of Biomaterials and Applications	Core Course -1	PCFT-811
1FT02	Food Rheology and Microstructure	Com Course -2	PCFT-812
1FT03A	Flavor Technology	Com Elective -1	PEFT-811A
1FT03B	Advances in Dairy Engineering and Technology	Core Elective -1	PEFT-811B
1FT04A	Food Quality and Plant Management	Core Elective -2	PEFT-812A
1FT04B	Advances in Fruits and Vegetable Processing Technology	Core Elective -2	PEFT-812B
1AXXX	Research Methodology and IPR		RM-811
1AXXX	English For Research Paper Writing & Professional Communication		ACMH-811
1FT05	Lab -1	Audit Course -1	
1FT06	Lab -2	Core Course lab	PCFT-813
		Core Elective lab	PEFT-813

Copy of the approval
Subject code/name etc.
Provided to all the concerned
For n/a Please

Ms P.D - 49.

Mr. Ramesh Kumar 49
Mr. Subash Choudhary PG

Raj
28/11/19