

R.K.

Pranesh Kumar

**STUDY SCHEME
4 YEARS DEGREE
PROGRAMME
2K14 & 2K15 NEW**

1/19 + 20 open elec

Semester-I (UG)

(Dr. R.K. Saxena) → (Dr. P.S. Panesar)
 (Dr. A.S. Shahi) → (Dr. K. Singam)
 (Dr. Daman Singh) → (Dr. J.S. Bhilori)
 (Dr. Rampal) → (Dr. Sati Shuja)
 (Dr. D.C. Saxena) → (Dr. Kulwant Singh)
 (Dr. P.K. Bhawanani) → (Dr. J.S. Ubbhi)

GCS

2/19

Semester-V (UG)								
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	HU-611	Engineering Economics and Entrepreneurship	3	0	0	3	3	
2	PH-611	Material Science	3	0	2	5	4	
3	CS-611	Algorithm Analysis and Design	2	2	0	4	3	
4	CS-612	Software Engineering	3	0	2	5	4	
5	CS-613	Discrete Mathematics	2	2	0	4	3	
6	CS-614	Microprocessor and Applications	3	0	2	5	4	
7	CS-615	Seminar	0	0	2	2	1	
Total			16	4	8	28	22	

Semester-VI (UG)								
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	CS-621 (A-D)	Elective-I	3	0	0	3	3	
2	CS-622	Automata and Formal Languages	2	2	0	4	3	
3	CS-623	Computer Graphics and Multimedia	3	0	4	7	5	
4	CS-624	Software Reliability and Testing	3	0	2	5	4	
5	CS-625	Simulation and Modelling	2	0	0	2	2	
6	CS-626	Network Programming	2	0	4	6	4	
7	CS-627	Emerging Technologies Lab	0	0	4	4	2	
Total			15	2	14	31	23	

Semester-VII A (UG:Industrial Training)								
TP-701	Industrial Training during summer vacations (6 weeks)					200		

Semester-VII B (UG)								
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	CS-711 (A-D)	Elective-II	3	0	0	3	3	
2	CS-712	Advanced Computer Architecture	3	0	0	3	3	
3	CS-713	Artificial Intelligence	3	0	2	5	4	
4	CS-714	Data Mining and Warehousing	3	0	0	3	3	
5	CS-715	Compiler Design	2	2	0	4	3	
7	CS-716	Advance Technology Lab	0	0	4	4	2	
8	CS-717	Project	0	0	4	4	2	
9	TP-701E	Industrial Training (Evaluation Only)					2	
Total			14	2	10	26	22	

Semester-VIII (UG)								
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	HU-721	Technical Communication & Soft Skills	2	0	2	4	0	
2	CS-721 (A-D)	Elective-III	3	0	0	3	3	
4	CS-722	Soft Computing	3	0	2	5	4	
5	CS-723	High Speed Communication Network	3	0	0	3	3	
6	CS-724	Parallel Computing	3	0	0	3	3	
3	OE-729*	OP-Elective	3	0	0	3	3	
7	CS-725	Project	0	0	8	8	4	
Total			17	0	12	29	20	

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LIST OF ELECTIVES

Sr.	Subject	Subject Name	L	T	P	Cr
Elective I						
1	CS-621 A	Advance Microprocessor	3	0	0	3
2	CS-621 B	Cryptography	3	0	0	3
3	CS-621 C	Digital Signal Processing	3	0	0	3
4	CS-621 D	Natural Language Processing	3	0	0	3
Elective II						
1	CS-711 A	Operating System Internals	3	0	0	3
2	CS-711 B	Distributed Systems	3	0	0	3
3	CS-711 C	Operation Research	3	0	0	3
4	CS-711 D	Client-Server Architecture	3	0	0	3
Elective III						
1	CS-721 A	Mobile Communication Systems	3	0	0	3
2	CS-721 B	Embedded Systems	3	0	0	3
3	CS-721 C	Visual Programming	3	0	0	3
4	CS-721 D	Digital Image Processing	3	0	0	3

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B.Tech.(Chemical Engineering)								
Semester-I (UG)								
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	AM-411	Engineering Mathematics	4	0	0	4	4	
2	PH-411	Applied Physics	3	0	2	5	4	
3	HU-411	Communication Skills/ Professional Communication	2	0	2	4	3	
4	WS-411	Workshop Technology & Practice-I	2	0	4	6	4	
5	ME-411	Engineering Drawing	0	0	4	4	2	
6	CS-411	Elements of Computer Programming	2	0	4	6	4	
7	CH-411	Introduction to Chemical Engineering	3	0	0	3	3	
Total			16	0	16	32	24	

Semester-II A (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	CY-421	Applied Chemistry	3	0	2	5	4	
2	MC-421	Environmental Studies	2	0	0	2	2	
3	EC-421	Elements of Electronics Engineering	3	0	2	5	4	
4	WS-421	Workshop Technology & Practice-II	2	0	4	6	4	
5	EE-421	Elements of Electrical Engineering	3	0	2	5	4	
6	CH-421	Fluid Flow	3	2	0	5	4	
7	CH-422	Fluid and Particle Mechanics	0	0	4	4	2	
Total			16	2	14	32	24	

UG:Practical Training)

TP-401	Two weeks Practical Training during summer vacations				80	S/US
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Semester-III (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3	
2	CY-511	Industrial Chemistry	3	0	2	5	4	
3	PH-511	Material Science	3	0	2	5	4	
4	CH-511	Chemical Process Calculations	3	2	0	5	4	
5	CH-512	Chemical Engineering Thermodynamics	3	2	2	7	5	
6	CH-513	Chemical Technology-I	3	0	2	5	4	
Total			18	4	8	30	24	

Semester-IV (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	AM-521	Numerical Analysis ✓	3	0	2	5	4	
2	MC-521	Human Values and Professional Ethics ✓	1	0	0	1	0	
3	CH-521	Mass Transfer-I ✓	3	2	0	5	4	
4	CH-522	Heat Transfer ✓	3	2	2	7	5	
5	CH-523	Chemical Reaction Engineering-I ✓	3	2	2	7	5	
6	CH-524	Chemical Technology-II ✓	3	0	2	5	4	
Total			16	6	8	30	22	

Semester-V (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits	
1	CH-611	Mass Transfer-II ✓	3	2	4	9	6	
2	CH-612	Chemical Reaction Engineering-II ✓	3	2	0	5	4	
3	CH-613	Industrial Pollution Control ✓	3	2	0	5	4	
4	CH-614	Mechanical Operations ✓	3	2	0	5	4	
5	CH-615	CAD for Chemical Engineers ✓	2	0	2	4	3	
6	CH-616	Seminar ✓	0	0	2	2	1	
Total			14	8	8	30	22	

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Semester-VI (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CH-621	Elective-I	3	0	0	3	3
2	HU-621	Engineering Economics and Entrepreneurship	3	0	0	3	3
3	CH-622	Process Dynamics & Control	3	2	2	7	5
4	CH-623	Transport Phenomena	3	2	0	5	4
5	CH-624	Process Equipment Design	1	0	4	5	3
6	CH-625	Chemical Process Instrumentation	3	0	2	5	4
7	CH-626	Environmental Testing & Analysis Lab	0	0	2	2	1
Total			16	4	10	30	23

UG:Industrial Training)

TP-701	Industrial Training during summer vacations (6 weeks)				200	
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Semester-VII B (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CH-711	Elective-II	3	0	0	3	3
2	HU-711	Technical Communication & Soft Skills	2	0	2	4	0
3	CH-712	Plant Design & Economics	3	0	2	5	4
4	CH-713	Modelling & Simulation	3	0	4	7	5
5	CH-714	Chemical Process Safety & Plant Utilities	3	2	0	5	4
6	CH-715	Project	0	0	4	4	2
7	TP-701E	Industrial Training (Evaluation Only)					2
Total			14	2	12	28	20

Semester-VIII (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CH-721	Elective-III	3	0	0	3	3
2	OE-729 *	OP-Elective	3	0	0	3	3
3	CH-723	Computational Techniques for Chemical Engineers	2	2	0	4	3
4	CH-724	Energy Technology	3	0	2	5	4
5	CH-725	Petroleum Refining Engineering	3	0	2	5	4
6	CH-726	Project	0	0	8	8	4
Total			14	2	12	28	21

Elective I (CH-621)

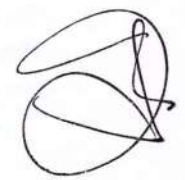
- A. Energy Audit & Management
- B. Polymer Science & Engineering
- C. Pulp & Bleaching Technology
- D. Paint Technology
- E. Electrochemical Technology

Elective II (CH-711)

- A. Stock Preparation & Paper Making
- B. Novel Separation Techniques
- C. Advanced Polymer Materials
- D. Agro-Residue Utilization
- E. Hazardous Waste Management

Elective III (CH-721)

- A. Chemical Recovery Processes
- B. Solid Waste Management
- C. Petrochemical Technology
- D. Application of Nano Technology in Chemical Engineering
- E. Rubber Technology



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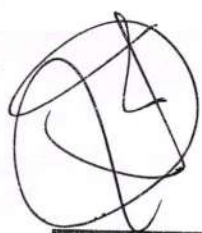
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Sant Longowal Institute of Engineering & Technology
Study Scheme B.E. Electronics and Communication Engg
For 2014 and onward batches only; January 2014

Semester-I (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-411	Engineering Mathematics	4	0	0	4	4
2	CY-411	Applied Chemistry	3	0	2	5	4
3	HU-411	Communication Skills/ Professional Communication	2	0	2	4	3
4	WS-412	Workshop Technology & Practice	2	0	4	6	4
5	ME-411	Engineering Drawing	0	0	4	4	2
6	CS-411	Elements of Computer Programming	2	0	4	6	4
✓7	EC-411	Electronics Measurement & Instrumentation	3	0	0	3	3
		Total	16	0	16	32	24
Semester-II A (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PH-421	Applied Physics	3	0	2	5	4
2	MC-421	Environmental Studies	2	0	0	2	2
✓3	EC-421	Elements of Electronics Engineering	3	0	2	5	4
4	EC-422	Electronic Workshop	2	0	6	8	5
5	EE-421	Elements of Electrical Engineering	3	0	2	5	4
6	EC-423	Electronic Devices & Circuits	3	0	4	7	5
		Total	16	0	16	32	24
Semester-II B (UG: Practical Training)							
	TP-401	Two weeks Practical Training during summer vacations				80	S/US
Semester-III (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3
2	MC-511	Human Values and Professional Ethics	1	0	0	1	0
3	EC-511	Network Analysis & Synthesis	3	2	0	5	4
4	EC-512	Analog Communication	3	2	2	7	5
5	EC-513	Digital Electronics	3	2	2	7	5
6	EC-514	Analog Electronics Circuits	3	2	2	7	5
		Total	16	8	6	30	22

Semester-IV (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-521	Numerical Analysis ✓	3	0	2	5	4
2	CY-521	Industrial Chemistry	3	0	2	5	4
3	PH-521	Material Science	3	0	2	5	4
4	EC-521	Microprocessor & its Applications	3	0	4	7	5
5	EC-522	Signals & Systems	3	0	0	3	3
6	EC-523	EMF & Transmission Lines	3	2	0	5	4
		Total	18	2	10	30	24
Semester-V (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HU-611	Engineering Economics and Entrepreneurship	3	0	0	3	3
2	EC-611	Digital Communication	3	0	2	5	4
3	EC-612	Digital System Design	3	2	2	7	5
4	EC-613	Linear IC's & Applications	3	2	2	7	5
5	EC-614	Control System Engg.	3	2	0	5	4
		Total	15	6	6	27	21
Semester-VI (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	EC-621 (A-E)	Elective-I	3	0	0	3	3
2	EC-622	Microcontroller & Embedded System	3	0	2	5	4
3	EC-623	Antenna Wave Propagation	3	0	2	5	4
4	EC-624	Industrial Electronics & Application	3	0	2	5	4
5	EC-625	Wireless Communication	3	0	0	3	3
6	EC-626	Microelectronics	3	0	0	3	3
7	EC-627	Seminar	0	0	2	2	1
		Total	18	0	8	26	22



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S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	EC-621	Elective-I	3	0	0	3	3
	A	Nanotechnology					
	B	MEMS					
	C	Information Theory & Coding					
	D	Device & Circuit simulation					
	E	Pulse Digital Switching circuit					
2	EC-711	Elective-II	3	0	0	3	3
	A	Optoelectronics Devices & Circuits					
	B	Satellite Communication					
	C	Neural Networks & Fuzzy Logic					
	D	MOS Device physics & Modelling					
	E	Medical Imaging					
	F	Wireless Sensor Networks					
3	EC-721	Elective-III	3	0	0	3	3
	A	VLSI Physical Design					
	B	Digital Image Processing					
	C	Mixed Signal Design					
	D	Analog VLSI Design					
	E	Programming with MATLAB					
	F	Electronics System Design					

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DEPARTMENT OF ELECTRICAL AND INSTRUMENTATION ENGINEERING							
FOUR YEAR DEGREE PROGRAM IN ELECTRICAL ENGINEERING							
Semester-I (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-411	Engineering Mathematics	4	0	0	4	4
2	CY-411	Applied Chemistry	3	0	2	5	4
3	HU-411	Communication Skills/ Professional Communication	2	0	2	4	3
4	WS-412	Workshop Technology & Practice	2	0	4	6	4
5	ME-411	Engineering Drawing	0	0	4	4	2
6	CS-411	Elements of Computer Programming	2	0	4	6	4
7	EE-411	Principles of Electrical Engineering	3	0	0	3	3
		Total	16	0	16	32	24
Semester-II A (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	PH-421	Applied Physics	3	0	2	5	4
2	MC-421	Environmental Studies	2	0	0	2	2
3	EC-421	Elements of Electronics Engineering	3	0	2	5	4
4	EE-422	Circuit Theory	3	0	2	5	4
5	EE-423	Elements of Electrical Machines and Power System	3	0	2	5	4
6	EE-424	Electrical Engineering Materials	3	0	0	3	3
7	EE-425	Electrical Workshop	0	0	2	2	1
8	EE-426	Electrical Engineering Practises	0	0	2	2	1
		Total	17	0	12	29	23
Semester-II B (UG:Practical Training)							
	TP-401	Two weeks Practical Training during summer vacations			5	80	S/US
Semester-III (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3
2	MC-511	Human Values and Professional Ethics	1	0	0	1	0
3	EE-511	Network Analysis & Synthesis	3	2	2	7	5
4	EE-512	Electrical Machines(DC machines and Transformers)	3	2	2	7	5
5	EE-513	Electrical and Electronic Measurement and Instrumentation	4	0	0	4	4
6	EE-514	Transmission and Distribution of Electrical Power	3	2	0	5	4
7	EE-515	Simulation Lab	0	0	2	2	1
		Total	17	6	6	29	22
Semester-IV (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CY-521	Industrial Chemistry	3	0	2	5	4
2	PH-521	Material Science	3	0	2	5	4
3	EE-521	Digital Electronics and Logic Circuit Design	3	0	2	5	4
4	EE-522	Electrical Machine (Asynchronous)	3	2	2	7	5
5	EE-523	Electrical Power Generation(Conventional and Non-Conventional)	3	0	0	3	3
6	EE-524	Sensor and Signal conditioning	3	0	2	5	4
		Total	18	2	10	30	24
Semester-V (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HU-611	Engineering Economics and Entrepreneurship	3	0	0	3	3
2	AM-611	Numerical Analysis	3	0	2	5	4
3	EE-611	Linear Control Systems	3	2	2	7	5
4	EE-612	Electrical Machines (Synchronous and special machines)	3	2	2	7	5
5	EE-613	Electromagnetic Field Theory	3	2	0	5	4
6	EE-614	Seminar	0	0	2	2	1
		Total	15	6	8	29	22

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Semester-VI (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	EE-621(A-D)	Elective-I	3	0	0	3	3
2	EE-622	Power Electronics	3	2	2	7	5
3	EE-623	Non Linear and Discrete Control Systems	3	2	0	5	4
4	EE-624	Microprocessor and Applications	3	0	2	5	4
5	EE-625	Power System Protection	3	0	2	5	4
6	EE-626	Utilization of Electrical Energy	3	0	0	3	3
7	EE-627	Advance Simulation Lab-I	0	0	2	2	1
Total			18	4	8	30	24
Semester- VII A (UG:Industrial Training)							
	TP-701	Industrial Training during summer vacations (6 weeks)				200	
Semester-VII B (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	EE-711A-D	Elective-II	3	0	0	3	3
2	EE-712	Computer Aided Power System Analysis	3	2	2	7	5
3	EE-713	Energy Management Auditing	3	0	0	3	3
4	EE-714	Microcontroller and Embedded System	3	0	2	5	4
5	EE-716	Power System Operation & Control	3	2	0	5	4
6	EE-715	Project-Minor	0	0	4	4	2
7	TP-701E	Industrial Training (Evaluation Only)					2
Total			15	4	8	27	23
Semester-VIII (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	HU-721	Technical Communication & Soft Skills	2	0	2	4	0
2	EE-721A-D	Elective-III	3	0	0	3	3
3	OE-729*	OP-Elective	3	0	0	3	3
4	EE-722	High Voltage Engoineering	3	0	0	3	3
5	EE-723	Electric Drives	3	0	2	5	4
6	EE-724	Project-Major	0	0	8	8	4
7	EE-725	Advance Simulation Lab-2	0	0	2	2	1
Total			14	0	14	28	18
			Credits	Total		180	

Elective-I

- EE-621A Data Acquisition and Telemetry
- EE-621B Communication System
- EE-621C Industrial Instrumentation
- EE-621D DSP & Application

Elective-II

- EE-711A Process Dynamics and Control
- EE-711B Artificial Intelligence
- EE-711C Conventional and Computer Aided Electrical Machine Design
- EE-711D Building Automation

Elective-III

- EE-721A Biomedical Engineering
- EE-721B Optimization Techniques
- EE-721C FACTS & HVDC Transmission
- EE-721D Distributed Control System

Open Elective

- OE-729* Elements of Power System
- OE-729* Power Plant Engineering
- OE-729* Energy Conservation Practices
- OE-729* Electrical Energy Utilization
- OE-729* Optimization techniques

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Course Scheme for GFT									
Semester-I (UG)									
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits		
1	AM-411	Engineering Mathematics	4	0	0	4	4		
2	PH-411	Applied Physics	3	0	2	5	4		
3	HU-411	Communication Skills/ Professional Communication	2	0	2	4	3		
4	WS-411	Workshop Technology & Practice-I	2	0	4	6	4		
5	ME-411	Engineering Drawing	0	0	4	4	2		
6	CS-411	Elements of Computer Programming	3	0	2	5	4		
7	FT-411	Introduction to Food Processing	3	0	0	3	3		
Total			17	0	14	31	24		
Semester-II (UG)									
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits		
1	CY-421	Applied Chemistry	3	0	2	5	4		
2	MC-421	Environmental Studies	2	0	0	2	2		
3	EC-421	Elements of Electronics Engineering	3	0	2	5	4		
4	WS-421	Workshop Technology & Practice-II	2	0	4	6	4		
5	EE-421	Elements of Electrical Engineering	3	0	2	5	4		
6	FT-421	Food Chemistry	3	0	2	5	4		
7	FT-422	Food Microbiology	3	0	2	5	4		
Total			19	0	14	33	26		
Semester-III A (UG: Practical Training)									
	TP-401	Two weeks Practical Training during summer vacations				80	S/US		
Semester-III B (UG)									
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits		
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3		
2	CY-511	Industrial Chemistry	3	0	2	5	4		
3	PH-511	Material Science	3	0	2	5	4		
4	FT-511	Food Biochemistry and Nutrition	3	0	2	5	4		
5	FT-512	Heat and Mass Transfer	3	0	2	5	4		
6	FT-513	Unit Operations	3	0	2	5	4		
Total			18	0	10	28	23		
Semester-IV (UG)									
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits		
1	AM-521	Numerical Analysis	3	0	2	5	4		
2	MC-521	Human Values and Professional Ethics	1	0	0	1	0		
3	FT-521	Food Engineering	3	0	2	5	4		
4	FT-522	Biotechnology	3	0	2	5	4		
5	FT-523	Dairy Engineering	3	0	2	5	4		
6	FT-524	Fluid Flow Operations and Rheology	3	0	2	5	4		
7	FT-525	Seminar	0	0	2	2	1		
Total			16	0	12	28	21		
Semester-V (UG)									
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits		
1	FT-611	Biochemical Engineering	3	0	2	5	4		
2	FT-612	Technology of Cereal Processing	3	0	2	5	4		
3	FT-613	Technology of Animal Products	3	0	2	5	4		
4	FT-614	Food Analysis and Quality Control	3	0	2	5	4		
5	FT-615	Food Storage Engineering	3	0	2	5	4		
6	FT-616	Technology of Fruits and Vegetable Products	3	0	2	5	4		
Total			18	0	12	30	24		

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Semester-VI (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	FT-621	Elective-I	3	0	0	3	3
2	HU-621	Engineering Economics and Entrepreneurship	3	0	0	3	3
3	FT-622	Packaging Technology	3	0	2	5	4
4	FT-623	Technology of Fats and Oils	3	0	2	5	4
5	FT-624	Technology of Beverages	3	0	2	5	4
6	FT-625	Technology of Bakery and Confectionery Products	3	0	2	5	4
Total			18	0	8	26	22
Semester- VII A (UG:Industrial Training)							
	TP-701	Industrial Training during summer vacations (6 weeks)				200	
Semester-VII B (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	FT-711	Spices and Flavour Technology	3	0	2	5	4
2	FT-712	Food Processing Plant Layout & Design	3	0	0	3	3
3	FT-713	Health and Functional Foods	3	0	2	5	4
4	FT-714	Elective - II	3	0	0	3	3
5	HU-711	Technical Communication & Soft Skills	2	0	2	4	0
6	FT-715	Project	0	0	4	4	2
7	TP-701E	Industrial Training (Evaluation Only)					2
Total			14	0	10	24	18
Semester-VIII (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	FT-721	Process Technologies for Pulses and Oilseeds	3	0	2	5	4
2	FT-722	Innovative Techniques in Food Processing	3	0	0	3	3
3	FT-723	Food Laws and Regulations	4	0	0	4	4
4	FT-724	Elective-III	3	0	2	5	4
5	OP-729*	OP-Elective	3	0	0	3	3
6	FT-725	Project	0	0	8	8	4
Total			16	0	12	28	22
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1		Elective-I					
	FT-621A	Post Harvest Engineering	3	2	0	5	4
	FT-621B	Statistical Quality Control	3	2	0	5	4
2		Elective-II					
	FT-714A	Numerical Computations in Food Processing Industry	3	0	0	3	3
	FT-714B	Industrial Microbiology	3	0	0	3	3
3		Elective-III					
	FT-724A	Technology of Snack Foods	3	0	2	5	4
	FT-724B	Food Additives and Ingredients	3	0	2	5	4

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DEPARTMENT OF ELECTRICAL AND INSTRUMENTATION ENGINEERING						
FOUR YEAR DEGREE PROGRAM IN INSTRUMENTATION AND CONTROL ENGINEERING						
Semester-I (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	AM-411	Engineering Mathematics	4	0	0	4 4
2	CY-411	Applied Chemistry	3	0	2	5 4
3	HU-411	Communication Skills/ Professional Communication	2	0	2	4 3
4	WS-412	Workshop Technology & Practice	2	0	4	6 4
5	ME-411	Engineering Drawing	0	0	4	4 2
6	CS-411	Elements of Computer Programming	3	0	2	5 4
7	IE-411	Measurement Science	3	0	0	3 3
Total			17	0	14	31 24
Semester-II A (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	PH-421	Applied Physics	3	0	2	5 4
2	MC-421	Environmental Studies	2	0	0	2 2
3	EC-421	Elements of Electronics Engineering	3	0	2	5 4
4	IE-421	Instrumentation Workshop	2	0	4	6 4
5	EE-421	Elements of Electrical Engineering	3	0	2	5 4
6	IE-422	Electrical and Electronic measurements	3	0	0	3 3
7	ME-424	Fundamentals of Mechanical Engineering	3	0	0	3 3
Total			19	0	10	29 24
Semester-II B (UG:Practical Training)						
	TP-401	Two weeks Practical Training during summer vacations				80 S/US
Semester-III (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	AM-511	Higher Engineering Mathematics	3	0	0	3 3
2	MC-511	Human Values and Professional Ethics	1	0	0	1 0
3	IE-511	Digital Electronics	3	0	2	5 4
4	IE-512	Linear Integrated Circuits	3	0	2	5 4
5	IE-513	Signals and Systems	3	2	0	5 4
6	IE-514	Electrical Machines	3	2	2	7 5
7	IE-515	Circuit Theory	3	0	0	3 3
Total			19	4	6	29 23
Semester-IV (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	CY-521	Industrial Chemistry	3	0	2	5 4
2	PH-521	Material Science ✓	3	0	2	5 4
3	IE-521	Process Dynamics and Control	3	0	2	5 4
4	IE-522	Control System	3	2	2	7 5
5	IE-523	Industrial Instrumentation-I	3	0	2	5 4
6	IE-524	Seminar	0	0	2	2 1
Total			15	2	12	29 22
Semester-V (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	HU-611 ✓	Engineering Economics and Entrepreneurship ✓	3	0	0	3 3
2	AM-611 ✓	Numerical Analysis ✓	3	0	2	5 4
3	IE-611 ✓	Microprocessor and Applications ✓	3	0	2	5 4
4	IE-612 ✓	Simulation Lab ✓	0	0	4	4 2
5	IE-613 ✓	Analytical Instrumentation ✓	3	0	2	5 4
6	IE-614 ✓	Non Linear and Discrete Control System ✓	3	0	0	3 3
7	IE-615 ✓	Industrial Instrumentation-II ✓	3	0	2	5 4
Total			18	0	12	30 24
Semester-VI (UG)						
S.No	Sub Code	Subject Name	L	T	P	Hrs. Credits
1	IE-621A-E	Elective-I	3	0	0	3 3
2	IE-622	Statistical and Optimization Techniques	3	2	0	5 4
3	IE-623	Data Communication and Networking	3	0	0	3 3
4	IE-624	Data Acquisition System	3	0	2	5 4
5	IE-625	Biomedical Instrumentation	3	0	2	5 4
6	IE-626	Computer Control of Processes	3	0	0	3 3
7	IE-627	Microcontroller and Embedded Systems	3	0	2	5 4
Total			21	2	6	29 25

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Elective-I

- IE-621A Nuclear Instrumentation
- IE-621B Robotics
- IE-621C Optimal Control System
- IE-621D Environmental Instrumentation
- IE-621E Image Processing

Elective-II

- IE-711A Machine Vision
- IE-711B Renewable Energy Resources
- IE-711C Reliability Engineering
- IE-711D Building Automation
- IE-711E Modelling and Simulation

Elective-III

- IE-721A Switchgear and Protection
- IE-721B Industrial Safety Engineering
- IE-721C Advance Digital Signal Processing
- IE-721D Introduction to MEMS
- IE-721E Biomedical Signal Processing

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UG- ME(Manufacturing Engineering) to be renamed as "Mechanical Engineering"

Semester-I (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-411	Engineering Mathematics	4	0	0	4	4
2	PH-411	Applied Physics	3	0	2	5	4
3	HU-411	Communication Skills	2	0	2	4	3
4	WS-411	Workshop Technology & Practice-I	2	0	4	6	4
5	ME-411	Engineering Drawing	0	0	4	4	2
6	CS-411	Elements of Computer Programming	3	0	2	5	4
7	MC-411	Environmental Studies	2	0	0	2	2
Total			16	0	14	30	23

Semester-II A (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CY-421	Applied Chemistry	3	0	2	5	4
2	EC-421	Elements of Electronics Engineering	3	0	2	5	4
3	WS-421	Workshop Technology & Practice-II	2	0	4	6	4
4	EE-421	Elements of Electrical Engineering	3	0	2	5	4
5	ME-421	Engineering Mechanics	3	0	2	5	4
6	ME-422	Machine drawing	0	0	4	4	2
7	ME-423	Basic Engineering Thermodynamics	3	0	0	3	3
Total			17	0	16	33	25

Semester-II B (UG:Practical Training)

TP-401	Two weeks Practical Training during summer vacations	80	S/US
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Semester-III (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3
2	CY-511	Industrial Chemistry	3	0	2	5	4
3	PH-511	Material Science	3	0	2	5	4
4	ME-511	Applied Thermodynamics	3	0	2	5	4
5	ME-512	Manufacturing Processes	3	0	2	5	4
6	ME-513	Fluid Mechanics	3	2	2	7	5
Total			18	2	10	30	24

Semester-IV (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-521	Numerical Analysis	3	0	2	5	4
2	MC-521	Human Values and Professional Ethics	1	0	0	1	0
3	ME-521	Physical Metallurgy and Heat Treatment	3	0	2	5	4
4	ME-522	Fluid Machinery	3	0	2	5	4
5	ME-523	Strength of Materials	3	2	2	7	5
6	ME-524	Kinematics of Machines	3	2	2	7	5
Total			16	4	10	30	22

Semester-V (UG)

S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ME-611	Mechanical Design-I	3	2	0	5	4
2	ME-612	Dynamics of Machines	3	2	2	7	5
3	ME-613	Heat and Mass Transfer	3	2	2	7	5
4	ME-614 A-D	Elective-I	3	0	0	3	3
5	ME-615	Advanced Strength of Materials	3	2	0	5	4
Total			15	8	4	27	21

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ME-614	Elective-I
A	Metal Cutting and Forming ✓
B	Concurrent Engineering
C	Tool Design
D	Industrial Tribology
ME-621	Elective-II
A	Mechanical Vibrations
B	System Dynamics and Control
C	Robotics
ME-711	Elective-III
A	Quality, reliability and Maintainability
B	Power Plant Engineering
C	Industrial Maintenance
ME-715	Elective-IV
A	Smart Manufacturing
B	Design of Experiments
C	Sustainable Design & Manufacturing
D	Industrial Safety
ME-721	Elective-V
A	Non-Conventional Machining
B	Cryogenics Engineering
C	Finite Element Methods

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UG- ME(Welding)							
Semester-I (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-411	Engineering Mathematics	4	0	0	4	4
2	PH-411	Applied Physics	3	0	2	5	4
3	HU-411	Communication Skills	2	0	2	4	3
4	WS-411	Workshop Technology & Practice-I	2	0	4	6	4
5	ME-411	Engineering Drawing	0	0	4	4	2
6	CS-411	Elements of Computer Programming	3	0	2	5	4
7	MC-411	Environmental Studies	2	0	0	2	2
		Total	16	0	14	30	23

Semester-II A (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	CY-421	Applied Chemistry	3	0	2	5	4
2	EC-421	Elements of Electronics Engineering	3	0	2	5	4
3	WS-421	Workshop Technology & Practice-II	2	0	4	6	4
4	EE-421	Elements of Electrical Engineering	3	0	2	5	4
5	ME-421	Engineering Mechanics	3	0	2	5	4
6	ME-422	Machine drawing	0	0	4	4	2
7	ME-423	Basic Engineering Thermodynamics	3	0	0	3	3
		Total	17	0	16	33	25

Semester-II B (UG:Practical Training)

	TP-401	Two weeks Practical Training during summer vacations				80	S/US
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Semester-III (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-511	Higher Engineering Mathematics	3	0	0	3	3
2	CY-511	Industrial Chemistry	3	0	2	5	4
3	PH-511	Material Science	3	0	2	5	4
4	ME-511	Applied Thermodynamics	3	0	2	5	4
5	ME-512	Manufacturing Processes	3	0	2	5	4
6	ME-513	Fluid Mechanics	3	2	2	7	5
		Total	18	2	10	30	24

Semester-IV (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	AM-521	Numerical Analysis	3	0	2	5	4
2	MC-521	Human Values and Professional Ethics	1	0	0	1	0
3	ME-521	Physical Metallurgy and Heat Treatment	3	0	2	5	4
4	ME-522	Fluid Machinery	3	0	2	5	4
5	ME-523	Strength of Materials	3	2	2	7	5
6	ME-524	Kinematics of Machines	3	2	2	7	5
		Total	16	4	10	30	22

Semester-V (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ME-611	Mechanical Design-I	3	2	0	5	4
2	ME-612	Dynamics of Machines	3	2	2	7	5
3	ME-613	Heat and Mass Transfer	3	2	2	7	5
4	ME-614 (E-F)	Elective-I	3	0	0	3	3
5	ME-615	Advanced Strength of Materials	3	2	0	5	4
		Total	15	8	4	27	21

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Semester-VI (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ME-621 (D-E)	Elective-II	3	0	2	5	4
2	HU-621	Engineering Economics and Entrepreneurship	3	0	0	3	3
3	ME-622	Mechanical Design-II	3	2	0	5	4
4	ME-623	CAD/CAM	3	0	2	5	4
5	ME-624	Refrigeration & Air Conditioning	3	0	2	5	4
6	ME-625	Work Study & Ergonomics	3	0	2	5	4
7	ME-626	Seminar	0	0	2	2	1
Total			18	2	10	30	24
UG:Industrial Training)							
	TP-701	Industrial Training during summer vacations (6 weeks)				200	
Semester-VII B (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ME-711 (D-E)	Elective-III	3	0	0	3	3
2	HU-711	Technical Communication & Soft Skills	2	0	2	4	0
3	ME-712	Metrology and Mechanical Measurements	3	0	2	5	4
4	ME-713	Industrial Automation and Mechatronics	3	0	2	5	4
5	ME-714	Industrial Engineering and Management	3	0	0	3	3
6	ME-715 (E-F)	Elective-IV	3	0	0	3	3
7	ME-716	Project (Minor Project)	0	0	4	4	2
8	TP-701E	Industrial Training (Evaluation Only)					2
Total			17	0	10	27	21
Semester-VIII (UG)							
S.No	Sub Code	Subject Name	L	T	P	Hrs.	Credits
1	ME-721 (D-E)	Elective-V	3	0	0	3	3
2	OE-729*	Open Elective	3	0	0	3	3
3	ME-722	Operations Research	3	2	0	5	4
4	ME-723	Automobile Engineering	3	0	2	5	4
5	ME-724	Advanced Manufacturing Systems	2	0	0	2	2
6	ME-725	Project (Major Project)	0	0	8	8	4
Total			14	2	10	26	20

ME-614	Elective-I
E	Conventional Welding Processes ✓
F	Inspection and Testing of Welds
ME-621	Elective-II
D	Safety in Welding
E	Weldability of Engineering Materials
ME-711	Elective-III
D	Advanced Welding Processes
E	Welding Codes and Standards
ME-715	Elective-IV
E	Design of Weldments
F	Welding Automation
ME-721	Elective-V
D	Welding Metallurgy
E	Repair and Reclamation in Welding

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Open Electives (Degree Program)

OE- AM-729	Open Elective
A	Discrete Mathematics
B ✓	Advanced Mathematics
C	Statistical and Optimization Techniques

OE- CH-729	Open Elective
A	Environmental Impact Assessment
B	Non-Conventional Energy Sources

OE- CS-729	Open Elective
A	Interactive Computer Graphics
B	Computer Networks
C	Internet Programming (Advanced Java)
D	Software Engineering

OE- EC-729	Open Elective
A	Telemetry & SCADA
B	Fundamentals of VLSI Design
C	Analog Electronics
D	Opto Electronics
E	Radar & Navigational Aids
F	MEMS
G	Fundamentals of Microprocessor
H	Mobile Communication
I	Nano Technology
J	Electronic Communication system
K	Bio-medical Electronics
L	Wavelet theory
M	Mobile Computing

OE- EE-729	Open Elective
A	Elements of Power System
B	Energy Conservation Practises
C	Optimization Techniques

OE- IE-729	Open Elective
A	Industrial instrumentation
B	Virtual Instrumentation
C	Analytical Instrumentation
D	Digital Signal processing
E	Process Plant instrumentation

OE-ME-729	Open Elective
A	Project Management
D	Plant layout and material handling
E	Non-destructive testing and Failure Analysis
G	Production Planning and Control
K	Lean Manufacturing

OE- PH-729	Open Elective
A	Laser and its Applications
B	Semiconductor Physics and Devices
C	Plasma and its Applications

HOD (ECE)

HOD (EEE)

HOD (CSE)

HOD (AET)

HOD (Chem Engg)

HOD (Civil)

HOD (M&H)

HOD (Phy)

HOD (Math)

HOD (Chy)

HOD (Mech)