Department of Eltx.& Comm. Engg.

LESSON PLAN

Program Name	Diploma in Eltx. & Comm. Engg.
Course Name	Microcontroller and Applications
Course Code	ECPC202
Course Co-ordinator Name	Sh. Navjot Singh Suryal

Evaluation Scheme

Sr. no.	CourseName	Study scheme (Hrs./Week)	Marks in Evaluation Scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Microcontroller and Applications	(Th-3,DCS-1) (Pr-2,DCS-1)	40	40	60	60
Reference Books	(i) The 8051 Micro Controller and Embedded Systems Muhammad Ali Mazidi & Janice Gilli Mazidi					
	(ii) Microprocessor & Microcontroller Architecture: Programming & Interfacing using 8085, 8086, 8051Soumitra Kumar					

Course Outcomes (COs)

CO 1	To introduce students with the architecture and operation of typical microcontrollers
CO 2	To familiarize the students with the programming and interfacing of microcontrollers.
CO 3	To provide strong foundation for designing real world applications using microcontrollers.

Teaching Plan

Sr. No.	Name of Topic	Proposed Date	Actual Date	Remarks
1.	Introduction to Microprocessors and Microcontrollers	27-01-2025		
2.	Introduction to Microprocessors and Microcontrollers	28-01-2025		
3.	Architectures [8085, 8086]	30-01-2025		
4.	Architectures [8085, 8086]	03-02-2025		
5.	Architectures [8085, 8086]	04-02-2025		
6.	Architectures [8085, 8086]	06-02-2025		
7.	Architectures [8085, 8086]	07-02-2025		
8.	Intel MCS- 51 family features – 8051 -organization and architecture.	10-02-2025		
9.	Intel MCS- 51 family features – 8051 -organization and architecture.	11-02-2025		
10.	Intel MCS- 51 family features – 8051 -organization and architecture.	13-02-2025		
11	8051 instruction set	14-02-2025		
12	8051 instruction set	17-02-2025		
13	8051 instruction set	18-02-2025		
14	addressing modes	20-02-2025		
15	addressing modes	21-02-2025		
16	conditional instructions	24-02-2025		
17	I/O Programming	25-02-2025		
18	Arithmetic logic instructions	27-02-2025		

19	Arithmetic logic instructions	28-02-2025		
20	single bit instructions	03-03-2025		
21	interrupt handling	04-03-2025		
22	programming counters	06-03-2025		
23	Timers and Stack	07-03-2025		
24	User interface – keyboard	10-03-2025		
25	User interface – LCD	11-03-2025		
26	**Class Test-I**	13-03-2025		
27	User interface – LED	17-03-2025		
28	Real world interface - ADC	18-03-2025		
29	Real world interface -DAC	20-03-2025		
30	SENSORS Communication interface	21-03-2025		
31	SENSORS Communication interface	24-03-2025		
32	I/O Programming,	25-03-2025		
33	Timers/counters	27-03-2025		
34	Timers/counters	28-03-2025		
35	Serial Communication	01-04-2025		
36	Serial Communication	03-04-2025		
37	Interrupt	04-04-2025		
38	Interrupt	07-04-2025		
39	User Interfaces- LCD	08-04-2025		
40	User Interfaces- Keypad	10-04-2025		
41	User Interfaces- Keypad	11-04-2025		
42	**Class Test-II**	17-04-2025		
43	User Interfaces- LED and communication interfaces [RS232]	21-04-2025		
44	User Interfaces- LED and communication interfaces [RS232]	22-04-2025		
45	User Interfaces- LED and communication interfaces [RS232]	24-04-2025		
46	Need for RISC Processor-ARM processor fundamentals	25-04-2025		
47	Need for RISC Processor-ARM processor fundamentals	28-04-2025		
48	Need for RISC Processor	01-05-2025		
49	ARM processor fundamentals	02-05-2025		
50	ARM processor fundamentals	05-05-2025		
51	ARM core based controller [LPC214X] IO ports	06-05-2025		
52	ARM core based controller [LPC214X] IO ports	08-05-2025		
53	ARM core based controller [LPC214X] IO ports	09-05-2025		
54	ADC/DAC	19-05-2025		
55	ADC/DAC	20-05-2025		
56	Timers.	22-05-2025		
57	Timers.	23-05-2025		
58	Revision	26-05-2025		
59	Revision	27-05-2025		

Assignments

Assignment Serial	Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	30% of syllabus	08.03.2024		
A-2	70 % of syllabus	10.05.2024		

House Test/Class Test

Name of test	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
Class Test-I	30 % of syllabus	13-03-2025		
Class Test-II	next 30 % of syllabus	17-04-2025		
House Test	80% of syllabus	3rd week of May		

Lab Plan

Sr. no.	Name of Practical	Proposed Date G-I	Proposed Date G-II	Actual Date G-I	Actual Date G-II	Remarks
1.	Programming 8051 Micro controller using ASM and C, and implementation in flash 8051 microcontroller.	31-01-2025	27-01-2025			
2.	Programming 8051 Micro controller using ASM and C, and implementation in flash 8051 microcontroller.	31-01-2025	27-01-2025			
3.	Programming with Arithmetic logic instructions [Assembly].	07-02-2025	03-02-2025			
4.	Program using constructs (Sorting an array) [Assembly].	14-02-2025	10-02-2025			
5.	Programming using Ports [Assembly and C].	21-02-2025	17-02-2025			
6.	Delay generation using Timer [Assembly and C]	28-02-2025	24-02-2025			
7.	Programming Interrupts [Assembly and C]	07-03-2025	03-03-2025			
8.	Implementation of standard UART communication (using hyper terminal) [Assembly and C]	21-03-2025	10-03-2025			
9.	Interfacing LCD Display. [Assembly and C]	28-03-2025	17-03-2025			
10.	Interfacing with Keypad [Assembly and C]	04-04-2025	24-03-2025			
11.	Programming ADC/DAC [Assembly and C]	11-04-2025	07-04-2025			
12	Interfacing with stepper motor. [Assembly and C]	25-04-2025	21-04-2025			
13	Pulse Width Modulation. [Assembly and C] Programming ARM Micro controller using ASM and C using simulator.	02-05-2025	28-04-2025			
14	GPIO programming in ARM microcontroller. [C Programming]	09-05-2025	05-05-2025			
15	Timers programming in ARM Microcontroller. [C Programming]	16-05-2025	19-05-2025			
16	Timers programming in ARM Microcontroller. [C Programming]	23-05-2025	26-05-2025			

(Signature of HOD)

(Signature of Teacher)

(Navjot Singh Sunyal)

LESSON PLAN

Program Name	**ELTX & COMM. ENGG.**
Course/Subject Name	**CONSUMER ELECTRONICS**
Course/Subject Code	**ECPC 206**
Course/Subject Coordinator Name	**ANIL KUMAR**

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory		Theory	
1.	CONSUMER ELECTRONICS	TH [3+1(DCS)]	40		60	
Reference books			1. Consumer Electronics Bali S.P. Pearson Education India,2010, latest edition 2. Audio video systems: Principle practices & troubleshooting Bali R and Bali S.P Khanna Book Publishing Co. (P) Ltd., 2010Delhi, India, latest edition 3. Modern Television practices Gulati R.R. New Age International Publication (P) Ltd. New Delhi Year 2011, latest edition 4. Audio video systems Gupta R.G. Tata Mc Graw Hill, New Delhi, India 2010, latest edition 5. Mastering Digital Television Whitaker Jerry & Benson Blair McGraw-Hill Professional, 2010, latest edition 6. Standard handbook of Audio engineering Whitaker Jerry & Benson Blair McGraw-Hill Professional, 2010, latest edition.			

Course Outcomes: After the completion of the course the student will be able :

CO: 1 Describe the Audio & Video fundamentals.

CO: 2 Define the various Colour Television systems with a greater emphasis on television standard DCS

CO::3 To study the advanced topics in Digital Television and High-Definition Television.

TEACHING PLAN : [14 x 4 = 56]

Sr. No.	Topic Covered	Proposed Date	Actual Date	Remarks
1	**UNIT: 1, Audio fundamental & Devices** ;(Basic characteristic of sound)	28-1-2025	28-1-2025	
2	Audio level metering	29-1-2025		
3	Decibel acoustic measurement level in	30-1-2025		
4	Microphone	31-1-2025		
5	Types of microphone	4-2-2025		
6	Speaker	5-2-2025		
7	Types of speakers	6-2-2025		
8	Working principle of microphone	7-2-2025		
9	Working principle of speaker	11-2-2025		
10	Sound recording system	13-2-2025		
11	Sound recording principle	14-2-2025		
12	Sound recording principle types	18-2-2025		
13	**UNIT:2 Audio systems,(** CD player)	19-2-2025		
14	Home theatre sound system	20-2-2025		
15	Surround sound	21-2-2025		
16	Digital console	25-2-2025		
17	Digital console block diagram	27-2-2025		
18	Working principle & application of Digital console	28-2-2025		
19	Working principle & application of Digital console	4-3-2025		
20	IC,s used in FM tuner TDA 7021T	5-3-2025		
21	TDA7021 PIN Diagram	6-3-2025		
22	IC,s used in FM tuner TDA 7021T	7-3-2025		
23	PA system	11-3-2025		
24	**UNIT :3 Television System**, (Monochrome TV)	12-3-2025		
25	TV standard DCS	13-3-2025		
26	CT-1	18-3-2025		
27	Scanning process&Aspect ratio	19-3-2025		
28	Persistence of vision & flicker	20-3-2025		
29	Interlaced scanning	21-3-2025		
30	Picture resolution	25-3-2025		
31	Composite video signal	26-3-2025		
32	Color TV standard DCS,Color theory (characteristics)	27-3-2025		
33	Different Types of TV Camera	28-3-2025		
34	Transmission standard DCS	1-4-2025		
35	**UNIT :4 Television receiver & video systems**,(PAL-D Colour TV receiver)	2-4-2025		
36	Digital TV,s	3-4-2025		
37	LCD TV	4-2-2025		
38	LED TV	8-4-2025		
39	PLASMA TV	9-4-2025		
40	HDTV	10-4-2025		
41	3-D TV& Projection TV	11-4-2025		
42	DTH Receiver, Video Interface	16-4-2025		
43	CT-2	17-4-2025		
44	Digital video SDL,HDMI Multimedia interface	22-4-2025		
45	CD & DVD player	23-4-2025		
46	**UNIT :5 Home/ office Appliances** (Fax Controller diagram WP)	24-4-2025		

47	Working principle photocopier	25-4-2025		
48	Washing MC	30-4-2025		
49	Working of Washing MC	1-5-2025		
50	PTM	2-5-2025		
51	HT	6-5-2025		
52	HT	7-5-2025		
53	HT	8-5-2025		
54	Micro wave oven	13-5-2025		
55	Diagrams Micro wave oven, Washing MC	14-5-2025		
56	BD Washing MC	15-5-2025		
57	Air conditioner	16-5-2025		
58	Refrigeration process	20-5-2025		
59	Digital Camera	21-5-2025		
60	Cam Coder	22-5-2025		
61	Block diagram of Fax controller repeated	23-5-2025		
62	Photocopier working Repeated	27-5-2025		
63	Microwave oven working repeated	28-5-2025		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Audio fundamental & Devices	27-02-2025		
A-2	Television System	26-03-2025		
A-3	Television receiver & video system	22-04-2025		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	18-3-2025		
CT-II	Next 30% of the syllabus	17-4-2025		
House Test	80% of the syllabus	6-5-2025 to 8-5-2025		

(Signature of Teacher)

(Signature of HOD/ OIC)

Department of Elex.& Comm. Engg

LESSON PLAN

Program Name	Diploma in Elex& Communication Engg.
Course/Subject Name	Digital Communication Systems
Course/Subject Code	ECPC 208
Course/Subject Co-ordinator Name	Mrs. Aradhana

Evaluation Scheme

Sr. no.	Subject Name	Study scheme (Hrs/Week)	Marks in Evaluation Scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1	Digital communication	Theory-4/week Practical-3/week	40	40	60	60
Reference Books		(i)Electronic Communication system by George Kennedy				
		(ii)Digital Communication by Sanjay Sharma				

Course Outcomes (COs)

C.O. 1	To understand the concept of digital communication system
C.O.2	To understand different modulation techniques
C.O.3	To determination of power spectral density of band pass digital modulation formats.

Teaching Plan

S.N	Name of Topic	Proposed Date	Actual Date	Remarks
1	UNIT-1 (Introduction) Basic block diagram of digital communication systems.	27-01-2025		
2	Block diagram and sub-system description of a digital communication system.	28-01-2025		
3	Sampling of low pass and band-pass signals,	29-01-2025		
4	Sampling of low pass and band-pass signals,	30-01-2025		
5	PAM, PCM	03-02-2025		
6	PAM, PCM	04-02-2025		
7	PAM, PCM	05-02-2025		
8	signal to quantization noise ratio analysis of linear and nonlinear quantizes	06-02-2025		
9	signal to quantization noise ratio analysis of linear and nonlinear quantizes	10-02-2025		
10	Line codes and bandwidth considerations	11-02-2025		
11	Line codes and bandwidth considerations	13-02-2025		
12	PCM TDM hierarchies	17-02-2025		
13	PCM TDM hierarchies	18-02-2025		
14	Frame structures.	19-02-2025		
15	Frame synchronization and bit stuffing.	20-02-2025		
16	Frame synchronization and bit stuffing.	24-02-2025		
17	2. Quantization noise analysis of Delta Modulation & Adaptive Delta Modulation	25-02-2025		
18	Quantization noise analysis of Delta Modulation & Adaptive Delta Modulation	27-02-2025		
19	Low bit rate coding of speech & video signals.	03-03-2025		
20	Low bit rate coding of speech and video signals.	04-03-2025		
21	Baseband transmission	05-03-2025		

22	Baseband transmission	06-03-2025		
23	Matched filter	10-03-2025		
24	Performance in additive Gaussian noise; Inter symbol interference (ISI),	11-03-2025		
25	Performance in additive Gaussian noise; Inter symbol interference (ISI),	12-03-2025		
26	Nyquist criterion for zero ISI, sinusoidal roll-off filtering	13-03-2025		
27	Nyquist criterion for zero ISI, sinusoidal roll-off filtering	17-03-2025		
28	**CLASS TEST-1**	18-03-2025		
29	Correlative coding, equalizers and adaptive equalizers	19-03-2025		
30	Correlative coding, equalizers and adaptive equalizers	20-03-2025		
31	Digital subscriber lines.	24-03-2025		
32	Geometric representation of signals,	25-03-2025		
33	Geometric representation of signals,	26-03-2025		
34	maximum likelihood decoding;	27-03-2025		
35	maximum likelihood decoding;	1-04-2025		
36	Correlation receiver, equivalence with matched filter.	2-04-2025		
37	Correlation receiver, equivalence with matched filter.	3-04-2025		
38	Generation, detection, and probability of error analysis of BPSK	7-04-2025		
39	Generation, detection, and probability of error analysis of BPSK	8-04-2025		
40	Coherent and non-coherent FSK,	9-04-2025		
41	Coherent and non-coherent FSK,	10-04-2025		
42	**CLASS TEST-2**	16-04-2025		
43	QPSK and DPSK	17-04-2025		
44	QAM, MSK and multicarrier modulation;	21-04-2025		
45	QAM, MSK and multicarrier modulation;	22-04-2025		
46	Comparison of bandwidth and bit rate of digital modulation schemes.	23-04-2025		
47	Introduction to Information and Coding Theories: Information Theory: information measures,	24-04-2025		
48	The concept of entropy, Shannon entropy,	28-04-2025		
49	The concept of entropy, Shannon entropy,	30-04-2025		
50	Differential entropy, mutual information,	01-05-2025		
51	Capacity theorem for point-to-point channels with discrete and continuous alphabets.	05-05-2025		
52	Capacity theorem for point-to-point channels with discrete and continuous alphabets.	06-05-2025		
53	Coding Theory: linear block codes – definitions	07-05-2025		
54	Coding Theory: linear block codes – definitions	08-05-2025		
55	Properties	13-05-2025		
56	Properties	14-05-2025		
57	BounDCS on minimum distance (singleton,	15-05-2025		
58	BounDCS on minimum distance (singleton, hamming)	19-05-2025		

59	Revision of unit 1	20-05-2025		
60	Revision of unit 2	21-05-2025		
61	Revision of unit 3	22-05-2025		
62	Revision of unit 4	26-05-2025		
63	Revision	27-05-2025		
64	Revision	28-05-2025		
65	Practical	29-05-2025		

Assignments

Assignment Serial	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-I,II	10-03-2025		
A-2	Unit-III	10-04-2025		

House Test/Class Test

Name of test	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
Class test-I	30% of the syllabus	3rd week of March		
Class test-II	30% of the syllabus	3rd week of April		
House test	80% of the syllabus	As approved in academic calendar		

Lab Plan

Sr. no	Name of Practical	Proposed Date		Actual Date		Remarks
		G1	G2	G1	G2	
1	Pulse Code Modulation and Differential Pulse Code Modulation.	28-01-2025	29-01-2025			
2	Delta Modulation and Adaptive Delta modulation.	4-02-2025	5-02-2025			
3	Simulation of Band Pass Signal Transmission and Reception • Amplitude Shift Keying •Frequency Shift Keying • Phase Shift Keying	11-02-2025	19-02-2025			
4	Performance Analysis of Band Pass Signal Transmission and Reception •ASK • FSK • PSK	18-02-2025	5-03-2025			
5	Implementation of Amplitude Shift Keying	25-02-2025	12-03-2025			
6	Implementation of Amplitude Shift Keying	4-03-2025	19-03-2025			
7	Implementation of Freq. shift keying	11-03-2025	26-03-2025			
8	Implementation of Freq. shift keying	18-03-2025	2-04-2025			
9	Implementation of Phase Shift Keying	25-03-2025	9-04-2025			
10	Implementation of Phase Shift Keying	1-04-2025	16-04-2025			
11	Time Division Multiplexing: PLL (CD 4046)based synch, clock and data extraction.	8-04-2025	23-04-2025			
12	T DM : PLL (CD 4046) based synch, clock and data extraction,	22-04-2025	30-04-2025			
13	Revision of practicals	6-05-2025	7-05-2025			
14	Viva voce	13-05-2025	14-05-2025			
15	Revision of practicals	20-05-2025	21-05-2025			
16	Revision of practicals	27-05-2025	28-05-2025			

Aradhana

LESSON PLAN

Program Name	**ELTX & COMM. ENGG.**
Course Title/Subject Name	**Electronic Equipment Maintenance**
Course/Subject Code	**ECPE202(I)**
Course/Subject Coordinator Name	**Aman Kumar Sood**

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory		Theory	
1.	Electronic Equipment Maintenance	TH [3]+[1]DCS	40		60	
Reference books			1. Modern Electronic Equipment: Trouble- shooting, Repair and Maintenance Khandpur TMH 2006 2. Electronic Instruments and Systems: Principles, Maintenance and Troubleshooting R. G. Gupta Tata McGraw Hill Edition 2001 3. Student Reference Manual for Electronic Instrumentation Laboratories David L Terrell Butterworth-Heinemann. 4. Electronic Testing and Fault Diagnosis G. C. Loveday, A. H Wheeler Publishing.			

Program Specific Outcomes (COs):	
CO 1	Classification and generalization of testing procedure for semiconductor components.
CO 2	Acquires skill of troubleshooting analog and digital circuits
CO 3	Gets acquainted with fault diagnosis procedure
CO 4	Familiarization of various IC Packages and logic families

Teaching Plan: (T=14*4=56)

Lecture No.	Topic Covered	Proposed Date	Actual Date
1	1. Fundamental Troubleshooting Procedures Inside an Electronic Equipment: Reading Drawings and Diagrams – Block Diagram.	27/01/2025	
2	Circuit Diagram, Wiring Diagram.	29/01/2025	
3	Disassembly and re-assembly of equipment.	31/01/2025	
4	Equipment Failures and causes such as poor design, production deficiencies.	01/02/2025	
5	careless storage and transport, inappropriate operating conditions.	03/02/2025	
6	Nature of faults, Fault location procedure.	05/02/2025	
7	Nature of faults, Fault location procedure.	07/02/2025	
8	Fault finding aids – Service and maintenance manuals and instruction manuals.	10/02/2025	
9	Test and Measuring instruments.	14/02/2025	
10	special tools	15/02/2025	
11	Troubleshooting techniques,Approaching components for tests.	17/02/2025	
12	Troubleshooting techniques,Approaching components for tests.	19/02/2025	
13	Grounding systems in Electronic Equipment	21/02/2025	
14	Temperature sensitive Intermittent problems Corrective actions,	22/02/2025	
15	Temperature sensitive Intermittent problems Corrective actions.	24/02/2025	
16	Situations where repairs should not be attempted.		
17	**Passive Components and Their Testing**: Passive Components- Resistors, Capacitors, Inductors.	28/02/2025	
18	Failures in fixed resistors,	01/03/2025	
19	testing of resistors	03/03/2025	
20	variable resistors, variable resistors as potentiometers,	05/03/2025	
21	failures in potentiometers	07/03/2025	
22	testing of potentiometers, servicing potentiometers	10/03/2025	
23	LDRs and Thermistors.	12/03/2025	
24	Types of capacitors and their performance	15/03/2025	
25	CT-I	17/03/2025	
26	Types of capacitors and their performance	19/03/2025	
27	Failures in capacitors.	21/03/2025	
28	testing of capacitors and precautions therein, variable capacitor types testing of capacitors and precautions therein, variable capacitor types testing of capacitors and precautions therein.	22/03/2025	

29	. Testing of inductors and inductance measurement	24/03/2025	
30	Testing of inductors and inductance measurement	26/03/2025	
31	**Testing of Semiconductor Devices**: Types of semiconductor devices.	28/03/2025	
32	Types of semiconductor devices	29/03/2025	
33	Causes of failure in Semiconductor Devices	02/04/2025	
34	Types of failure	04/04/2025	
35	Test procedures for Diodes	05/04/2025	
36	Special types of Diodes	07/04/2025	
37	Bipolar Junction Transistors	09/04/2025	
38	Field Effect Transistors	11/04/2025	
39	CT-II	16/04/2025	
40	Field Effect Transistors, Thyristors.	19/04/2025	
41	Operational Amplifiers. Fault diagnosis in Op-Amp circuits, Fault diagnosis in Op-Amp circuits	21/04/2025	
42	**Logic IC families**: Packages in Digital ICs, IC identification, IC pin-outs, Handling ICs.	23/04/2025	
43	Troubleshooting methods – typical faults, testing digital ICs with pulse generators Logic clip.	25/04/2025	
44	Digital Logic Probe, Logic Pulser,	26/04/2025	
45	Logic Comparator ,Special consideration for fault diagnosis in digital circuits	28/04/2025	
46	Handling precautions for ICs sensitive to static electricity	30/04/2025	
47	Testing flip-flops	02/05/2025	
48	Logic Current Tracer, counters, registers,	03/05/2025	
49	Multiplexers and de-multiplexers, encoders and decoders; Tri-state logic.	05/05/2025	
50	**Rework and Repair**: Rework and repair of Surface Mount Assemblies. Surface Mount Technology and surface mount devices	07/05/2025	
51	Surface Mount Semiconductor packages – SOIC, SOT, LCCC, LGA, BGA, COB.	09/05/2025	
52	Surface Mount Semiconductor packages – SOIC, SOT, LCCC, LGA, BGA, COB,	14/05/2025	
53	House Test	16/05/2025	
54	Flat packs and Quad Packs, Cylindrical Diode.	17/05/2025	
55	Packages	19/05/2025	

56	Packaging of Passive Components as SMDs	21/05/2025	
57	Repairing Surface Mount PCBs, Rework Stations.	23/05/2025	
58	Repairing Surface Mount PCBs, Rework Stations.	24/05/2025	
59	Revision	26/05/2025	
60	Revision	28/05/2025	

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	**Fundamental Troubleshooting Procedures Inside an Electronic Equipment: Reading Drawings and Diagrams – Block Diagram, Passive Components and Their Testing**	**17/03/2025**		
A-2	**Testing of Semiconductor Devices, Logic IC families**	**05/05/2025**		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	**17/03/2025**		
CT-II	Next 30% of the syllabus	**16/04/2025**		
House Test	80% of the syllabus	**2nd Week of May**		

(Signature of Teacher)

(Aman Kumar Singh)

(Signature of HOD)

LESSON PLAN

Program Name	Electronics & Communication Engineering
Course Title/Subject Name	Industrial Electronics
Course/Subject Code	ECPE204(II)
Course/Subject Coordinator Name	Aman Kumar Sood

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Industrial Electronics	TH [4]+PR[2]+DCS [1]	40	40	60	60
Reference books			1. Power Electronics by P. C. Sen Tata McGraw Hill. New Delhi 2. Power Electronics by P. S. Bhimbhra, Khanna Publishers, New Delhi 3. Power Electronics by M. S. Berde, Khanna Publishers, New Delhi. 4. Power Electronics by M. D. Singh and K. B. Khanchandani, Tata Mc-Graw Hill, New Delhi. 5. Industrial Electronics and Control by S. K. Bhattacharya and S. Chatterji, New Age Publications, New Delhi 6. Power Electronics by S Rama Reddy, Narosa Publishing House Pvt. Ltd., New Delhi			

Program Specific Outcomes (COs):	
CO 1	Understanding the working mechanisms of various power devices.
CO 2	Understanding the controlled power conversion concepts A DC, DC to AC, AC to AC and DC to DC conversion.
CO 3	Understanding of working mechanism of DC electri drives
CO 4	Use of power devices in different areas

Teaching Plan: (T=14*4=56)

Lecture No.	Topic Covered	Proposed date	Actual Date
1	**Introduction to thyristor family:** Overview of SCR, DIAC and TRIAC. Different methods of SCR triggering	28/01/2025	
2	Different methods of SCR triggering	29/01/2025	
3	Different commutation circuits for SCR	01/02/2025	
4	Different commutation circuits for SCR	04/02/2025	
5	Series &parallel operation of SCR.	05/02/2025	
6	Construction, working principle of UJT, V-I characteristics of UJT	06/02/2025	
7	Construction, working principle of UJT, V-I characteristics of UJT	11/02/2025	
8	UJT as relaxation oscillator	13/02/2025	
9	Brief introduction to Gate Turnoff thyristor (GTO).	15/02/2025	
10	**Controlled Rectifiers** Single phase half wave controlled rectifier with R & R-L load.	18/02/2025	
11	Single phase fully controlled full wave bridge rectifier R &R-L Load.	19/02/2025	
12	Single phase fully controlled full wave bridge rectifier R &R-L Load.	20/02/2025	
13	Single phase fully controlled full wave bridge rectifier R &R-L Load.	22/02/2025	
14	Single phase fully controlled full wave bridge rectifier R &R-L Load.	25/02/2025	
15	Single phase fully controlled full wave center tap rectifier R&R-L Load	27/02/2025	
16	Single phase fully controlled full wave center tap rectifier R&R-L Load	01/03/2025	

17	Single phase fully controlled full wave center tap rectifier R&R-L Load	04/03/2025	
18	Single phase fully controlled full wave center tap rectifier R&R-L Load	05/03/2025	
19	Single phase half controlled full wave rectifier with R & R-L Load.	06/03/2025	
20	Single phase half controlled full wave rectifier with R & R-L Load.	11/03/2025	
21	Single phase half controlled full wave rectifier with R & R-L Load.	12/03/2025	
22	Single phase half controlled full wave rectifier with R & R-L Load.	13/03/2025	
23	**Inverters, Choppers, Dual Converters and Cyclo converters:** Principle of operation of basic inverter circuits,.	15/03/2025	
24	Principle of operation of basic inverter circuits,.	18/03/2025	
25	concepts of duty cycle, series &parallel inverters & their applications	19/03/2025	
26	CT-I	20/03/2025	
27	concepts of duty cycle	22/03/2025	
28	series &parallel inverters & their applications	25/03/2025	
29	Choppers: Introduction	26/03/2025	
30	types of chopper Class A	27/03/2025	
31	types of choppers B	29/03/2025	
32	types of choppers C	01/04/2025	
33	types of choppers Class D	02/04/2025	
34	Step up and step down choppers.	03/04/2025	
35	Dual Converter	05/04/2025	
36	cyclo-converters	08/04/2025	
37	Introduction, types & basic working principle of dual converters and cyclo converters & their applications.	09/04/2025	
38	cyclo converters & their applications	10/04/2025	
39	Introduction, types & basic working principle of dual converters	16/04/2025	
40	Introduction, types & basic working principle of dual converters	17/04/2025	
41	CT-II	19/04/2025	

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	**Introduction to thyristor family, Controlled Rectifiers**	**13/03/2025**		
A-2	**Inverters, Choppers, Dual Converters and Cyclo converters, Thyristorised Control of DC drives**	**24/04/2025**		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	**20/03/2025**		
CT-II	Next 30% of the syllabus	**19/04/2025**		
House Test	80% of the syllabus	**2nd week of May**		

Lab Plan:

Exp. No.	Name of experiment	Proposed &Actual date		Remarks
		G-1	G-2	
1	To plot VI characteristic of an SCR and measure latching current and holding current.	**29/01/2025, 05/02/2025**	**28/01/2025, 04/02/2025**	
2	To plot VI characteristics of DIAC and measure its break over voltage.	**19/02/2025**	**11/02/2025**	
3	To plot VI characteristics of TRIAC for various firing angles.	**05/03/2025**	**18/02/2025**	
4	To plot VI characteristics of UJT and its use as relaxation oscillator	**12/03/2025**	**25/02/2025**	

5	To observe the wave shape of voltage at relevant point of single-phase half wave controlled rectifier and effect of change of firing angle.	**19/03/2025**	**04/03/2025**	
6	To observe the wave shapes of voltage at relevant point of single phase full wave controlled rectifier and effect of change of firing angle	**26/03/2025**	**11/03/2025**	
7	To observe the wave shapes and measurement of voltage at relevant points in TRIAC based AC phase control circuit for varying lamp intensity.	**02/04/2025**	**18/03/2025**	
8	To control the speed of universal motor using SCR.	**09/04/2025**	**25/03/2025**	

(Signature of Teacher)

(Aman Kr. Sood)

(Signature of HOD)

LESSON PLAN

Program Name	DIPLOMA IN ECE
Course/Subject Name	Essence Of Indian Knowledge & Tradition
Course/Subject Code	AU202
Course/Subject Coordinator Name	Swati Bhardwaj

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Essence Of Indian Knowledge & Tradition	2 hrs (Th)	40	-	60	-

Reference books:	(1) Cultural Heritage of India- Course Material by V. Sivaramkrishna Bhartiya
	(2) Modern Physics and Vedant by Swami JItatmanand Bhartiya
	(3) The wave of Life by Fritz of Capra
	(4) Tao Of Physics Fritz of Capra
	(5) Science of consciousness Psychotherapy and Yoga Practice by RN Jha, Vidya Nidhi Prakashan
	(6) Himachal Pradesh History, Culture and Economy by Mian Goverdhan Singh and Dr. C.L. Gupta.

Course Outcomes: After the completion of the course the students will be able to:

CO1	Identify the concept of Indian Knowledge system
CO2	Understand the need and importance of protecting traditional knowledge.
CO3	Compare the Indian traditional knowledge and modern science
CO4	Understand the use of Yoga in stress management ,mental health,mindfulness, healthy eating, weight loss and quality sleep
CO5	Aware of the general knowledge of Himachal Pradesh

Teaching Plan

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
1	**Unit-1 Indian knowledge System** Introduction and function of Indian knowledge system	27/01/2025		
2	The Basic Structure of Indian knowledge system The 4 Vedas Rigveda, Yajurveda, Samaveda, Atharvaveda	01/02/2025		
3	The 4 Up Vedas Ayurveda(health -care) Dhanurveda(archery) Gandharva Veda veda(dance , music etc.) and Sthapatya veda (architecture)	03/02/2025		
4	The 6 Vedagangs, Shiksha, Kalpa, Vyakarana, Chhandas ,Nirukta, and Jyotisha.	10/02/2025		
5	Itihasa Ramayana and Mahabharata) and Purana Vishnu Purana Bhagavata Purana	15/02/2025		
6	DharmaShastra,Manusmriti, Yajnavalkya-smriti etc.	17/02/2025		
7	Darshan	22/02/2025		
8	Nayaya (Logic and Epistemology)	24/02/2025		
9	**Unit- 2 Modern Science** Modern Science: Introduction, Characteristics, importance and Example	01/03/2025		
10	Difference between modern Science and Indian knowledge system	03/03/2025		
11	Role of IKS in modern Science	10/03/2025		
12	**Unit-3 Traditional Knowledge** Definition, nature,characteristics, scope and importance	15/03/2025		
13	**CLASS TEST -I**	17/03/2025		
14	Indigenous knowledge(IK); characteristics	22/03/2025		
15	Traditional Knowledge vis-à-vis indigenous knowledge	24/03/2025		
16	Traditional Knowledge vs western knowledge	29/03/2025		
17	The Need for protecting traditional knowledge	05/04/2025		

	Meaning and importance of yoga			
19	Yoga and spiritual health, Yoga and social approach	19/04/2025		
20	**CLASS TEST -II**	21/04/2025		
21	Introduction to Ashtanga yoga, Yogic kriyas(Shat karma)	26/04/2025		
22	Pranayam and it types;Active lifestyle and stress management through yoga	28/04/2025		
23	Physical Fitness, health and wellness: meaning and importance of wellness	03/05/2025		
24	Components of wellness, health and physical fitness	05/05/2025		
25	Traditional sports & Regional Games for promoting wellness	17/05/2025		
26	Leadership through physical activity and sport; Introduction to First Aid	19/05/2025		
27	**Unit-5 Himachal Pradesh : A Basic Information** History, Culture,Heritage/Tradition,customs and mannersRegional knowledge, geographical features, constitutional History	24/05/2025		
28	Tourism Places & scope, Festival and Fairs	26/05/2025		

Assignments:

Assignment serial	Contents of syllabus covered	Actual date	Remarks
A-1	Indian Knowledge System & Modern Science		
A-2	Yoga and Holistic Health Care, H.P : A Basic Information		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed Date	Actual date	Rem
CT-I	30% of the syllabus	3rd week of March, 2025		
CT-II	Next 30% of the syllabus	3rd week of April, 2025		
House Test	80% of the syllabus	2nd week of May, 2025		

(Signature of HOD)

(Signature of Teacher)

(Swati Bhardwaj)