

PLANNED SYLLABUS COVERAGE(Theory)

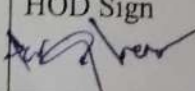
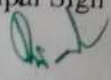
PLANNED SYLLABUS COVERAGE (Theory)						
G P Kangra		Department: <u>Electronics & Comm Engg</u>		Subject: <u>Principles of Electronic Comm</u>		
		Course: <u>Program Core</u>		Duration: <u>6 Months</u>		
SYLLABUS COVERAGE		Total Periods <u>T = 56</u>		Theory <u>T = 56</u>		
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	10	Analog Modulation	- Concept of Freqⁿ Translation - Amplitude modulation - Description of Full A.M. - DCSB, SSB & VSB in time & freqⁿ Domains - Methods of DC generation & Demodulation - Description of signal in time & Freqⁿ Domains.	Electronic & Comm System. George Kennedy	Internet	
2	12	Pulse Analog Modulation	- Ideal Sampling - Sampling Theorem - aliasing - interpolation - Natural & Flat top Sampling - Time & Freqⁿ Domains			
3	10	PCM & Delta Modulation System.	- Uniform & Non-uniform quantization - PCM & Delta Modulation - Signal to quantization noise ratio in PCM & Delta Modulation.			

To be approved from concerned HOD within seven days from beginning of semester & will be kept with the concerned teacher

4	12	Digital Modulation	- Base Band Transmission and coding (RZ, NRZ) - Inter Symbol Interference - Pulse Shaping - Nyquist criterion for distortion free base band transmission, raised cosine spectrum. - Baseband Transmission - Quadrature Signal, orthogonalization.		
5	12	Spread Spectrum Modulation	- Introduction - Pseudo-noise sequences - Direct sequence spread spectrum with coherent BPSK - Processing gain. - probability of Error - Frequency-hop spread spectrum - Appⁿ of spread spectrum CDMA.		

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

Approved / Not approved	
Date 4/8/2016	HOD Sign 
Date	Principal Sign 

Use additional sheets (if required).

Practical Planning & Coverage Status

Department:
Course:

Laboratory:

Subject: *principles of Electronic Communication*

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	HOD Sign.	Remarks
		Equipment Set up	STD Ref. Write up					
1	Harmonic analysis of a square wave of modulated waveform: measures modulation index.							
2	To modulate a high frequency carrier with sinusoidal signal to obtain FM signal.							
3	To study and observe the operation of a super heterodyne receiver.							
4	To modulate a pulse carrier with sinusoidal signal to obtain PWM signal and demodulate it.							
5	To modulate a pulse carrier with sinusoidal signal to obtain PPM signal and demodulate it.							
6	To observe pulse amplitude modulated waveform and its demodulation							
7	To observe the operation of a PCM encoder and decoder. To consider reason for using digital signal transmission of analog signal							
8	To study & observe the amplitude response of automatic gain controller (AGC).							

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PLANNED SYLLABUS COVERAGE(Theory)

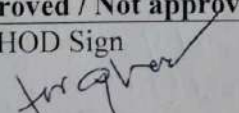
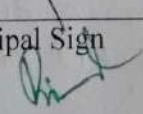
G P Kangra		Department: <u>ECE</u> Subject <u>EDC</u>				
SYLLABUS COVERAGE		Course <u>Diploma</u> Duration <u>3 years.</u>				
		Total Periods _____ Theory <u>56</u> P- <u>P-</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.		Semiconductors and Diodes.	Definition, Extrinsic/Intrinsic, N type & P-type P-N junction diode, Forward and Reverse bias charact. Zener diode - Principle characteristics, construction and working. Diode Rectifiers - Half wave & full wave. Filters - C, LC and π Filters.	Electronic Devices & ccts by Jacob Millman McGraw Hill	Electronic Devices & ccts theory by Boyestad & Nashelsky Pearson Education India.	
2.		Bipolar Junction Transistors (BJT)	NPN & PNP Transistors operation & characteristics CB configuration - charact. & working. CE configuration charact. & working. CC configuration charact. & working. High freq model of BJT. Classification of Amplifiers, -ve feedback.	- do -	- do -	
3.		Field Effect Transistor (FET)	working principle, classification, MOSFET small signal models. N-channel P-channel MOSFETS, charact. Enhancement & Depletion mode MOSFET as a switch Common source Amplifier UJT equivalent ckt and operation.	- do -	- do -	

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Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
4.		SCR, DIAC & TRIAC	SCR construction, operation working, Charact. DIAC- construction, operation working, Charact. TRIAC-const. operation, working, Charact. SCR & MOSFET as a s/w. DIAC as bidirectional s/w. Comparison of SCR, DIAC, TRIAC MOSFET.	- do -	- do -	
5.		Amplifiers & Oscillators.	Feedback Amplifiers — Properties of -ve feedback. Impact of feedback on different parameters. Basic feedback Amplifier topologies voltage series, voltage shunt current series, current shunt oscillator - Basic principles, x-tal oscillator. Nonlinear pulse oscillators.	- do -	- do -	

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

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Date 01/08/2026	Principal Sign 

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Practical Planning & Coverage Status

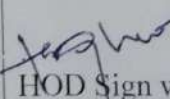
Laboratory:

Subject: EDC

Department: ECE
Course: Diploma

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date
		Equipment Set up	STD Ref. Write up		
1.	Construct the ckt & plot the VI charact. of PN diode and find cut in voltage.	PN diode trainer kit	PN Kit		
2.	Construct the ckt and plot the VI charact. of Zener diode. Find the breakdown voltage.	Zener diode trainer kit	Zener trainer kit.		
3.	Construct a half wave rectifier and obtain regulation characteristics without filters and with filters and compare the result.	Half wave Fw Rectifier Kit	Rectifier Kit		
4.	Construct a full wave centre tap rectifier and obtain regulation charact. without filters and with filters and compare the result.	Fw Rectifier Kit	Fw Rectifier Kit		
5.	Construct a bridge rectifier and obtain regulation charact. without filters and with filters	Fw Rectifier Kit	Fw Rectifier Kit		

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Practical Planning & Coverage Status

Department: ECE
Course: Diploma.

Laboratory:
Subject: EDC.

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Respon y
		Equipment Set up	STD Ref. Write up			
6.	Obtain the characteristics of DIAC & TRIAC.	DIAC/TRIAC Kit	DIAC/TRIAC			
7.	Simulate half wave, full wave and bridge rectifier using simulation tool like P-spice ORCAD/multisim.	P-spice Software	P-spice			
8.	Develop a simulation model for voltage series and voltage shunt feedback amplifiers. Develop ckt for vsec and voltage shunt F/B Amplifiers and obtain op plots. Compare the result with simulation model.	P-spice ORCAD multisim software	P-spice			
9.	Develop a simulation model for current series & current shunt feedback Amplifiers.	ORCAD multisim software	Multisim			
10.	Develop ckt for current series and current shunt F/B Amplifier and obtain op plots. Compare the result with simulation model.	current series and current shunt F/B Amplifier simulator	ORCAD multisim			

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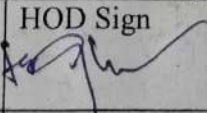
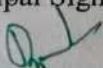
PLANNED SYLLABUS COVERAGE(Theory)

G P Kangra		Department: <u>Electronics & Comm. Engg</u>		Subject <u>Digital Electronics</u>		
SYLLABUS COVERAGE		Course <u>Program Core</u>		Duration <u>6 months</u>		
		Total Periods <u>7 = 56</u>		Theory <u>= 56</u>		
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1	12	Number system & Boolean Algebra	- Introduction to different No. systems octal, decimal etc. - Conversion from one number system to other - Boolean variables - Rule & Law of Boolean algebra - De Morgan's Theorem. - Karnaugh maps - Use - Simplification Boolean Expression.	R.P. Jain	Insane	
2	12	Logic Gates	- Logic Gates AND, OR, NOT, NAND NOR, XOR, XNOR - Symbolic Representation & Truth Tables. - Implementation of Boolean expression & logic functions using gates Simplification etc.			
3	12	Combinational Logic Circuits	- Arithmetic circuit Addition Subtraction 1's & 2's complements - Adders (Half, Parallel and serial) - Adder encoder, decoder - Multiplexers (1-2, 1-4, 1-8) - De-multiplexers - 1-2, 1-4, 1-8 Demux, etc.			

9	12	Sequential logic circuits - flip-flops SR, JK, T, D, JK-MF. - Triggery counts - 4-bit up-down counts - Asynchronous, ripple count - decade count, 3, 7 mode - 4 bit shift registers. - serial in parallel out - parallel in parallel out			
5	8	Memory Devices - Classification - Ram organization - Address lines & memory size. - Bipolar RAM - DRAM, DDR RAM. - ROM - flash memory - DAC & ADC.			

Extra Topics to be covered beyond the scope of the syllabus (as required by industry/ as recommended by Teacher which he/ she finds necessary)

Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

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Date 4/8/2016	HOD Sign 
Date	Principal Sign 

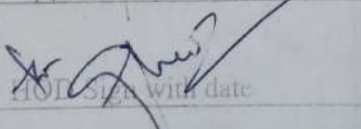
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Practical Planning & Coverage Status

Department: ELECTRONICS & COMM. ENGG.
Course: ECPC 211

Laboratory: DIGITAL ELECTRONICS
Subject: D.E.

Sr. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility
		Equipment Set up	STD Ref. Write up			
1.	To Verify the truth tables for all logic gates - NOT, OR, AND, NAND, NOR, XOR, XNOR. Using CMOS Logic Gates and TTL Logic Gates.	Standard Kit or Trainer Board.	Manual or write up.	G1 G2		
2.	Implement and realize Boolean Expressions with Logic Gates.	- do -	- do -	G1 G2		
3.	Implement Half adder, Full Adder, Half subtractor, Full subtractor using IC's.	- do -	- do -	G1 G2		
4.	Implement parallel and serial full adder using IC's.	- do -	- do -	G1 G2		
5.	Design and development of Multi-plexer and De-multiplexer using	- do -	- do -	G1 G2		
6.	Verification of the function of SR, D, JK & T Flip Flops.	- do -	- do -	G1 G2		
7.	Design controlled shift Registers	- do -	- do -	G1 G2		
8.	Construct a single digit Decade Counter (0-9) with 7 segment display.	- do -	- do -	G1 G2		
9.	To Design a programmable up-down counter with 7 segment display.	- do -	- do -	G1 G2		

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Principal

S.No.	Detail of Practicals	Availability of		Likely Turn/Date	Actual Date	Response
		Equipment Set up	Std Ref. Write up			
1A.	Study of different memory IC's.	- do -	- do -	G1 } G2 }		
1B.	Study digital to-Analog and Analog to Digital Converter.	- do -	- do -	G1 } G2 }		
1C.	Simulate in software (such as Pspice) an Analog to Digital Converter.	- do -	- do -	G1 } G2 }		

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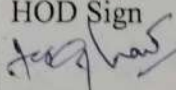
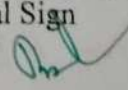
G P Kangra		Department: <u>Electronics & Comm. Engg</u>		Subject <u>Electronic Measurement & Instrumentation</u>		
SYLLABUS COVERAGE		Course <u>Program Core</u>		Duration <u>6 months</u>		
		Total Periods <u>T=56, P=42</u>		Theory <u>56</u>		
		<u>= 98</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
Unit 1	10	Basics of Measurements & Bridges	- Accuracy, Precision, Resolution - Type of Errors - DC Bridges - Wheatstone, Kelvin Double - AC Bridges - Maxwell, Hay's, Anderson, Bridge - De - Sauty's Bridge	A.K Sawhney	Internet Contents	
Unit 2	10	Potentiometers	- Basic of slide wire potentiometer - Crompton's D.C. potentiometer - Appⁿ of D.C. potentiometer - A.C. potentiometers - Appⁿ of A.C. Pot.			
Unit 3	10	Measuring instruments	- Permanent magnet moving coil inst (PMMC) - Moving iron type inst (MI) - Electro dynamo type inst. - single phase Energy			

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Unit 4	10	Electronic Instruments	- Electronic voltmeters - Digital voltmeters - Electronic multimeters - Q meter - Vector impedance mtrs		
Unit 5	10	Oscilloscopes	- Cathode Ray tube - Const operation, screens - graticles, vertical - Deflection systems, - Delay line, measurement of - freq, time delay, CRO - probes etc.		
Unit 6	6	Transducers	- classification - characteristics - Const, working principle - types of flexing TD's - RTD - TC, LVDT, Load cell, Piezo - etc etc.		

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Sr. No.	Period No.	Topic Covered	Instruction Reference	Additional Study recommended	Remarks

Approved / Not approved	
Date 4/8/2026	HOD Sign 
Date	Principal Sign 

Use additional sheets (if required).

G P Kangra

Practical Planning & Coverage Status

Department: ECE
Course: ECPC 215Laboratory: Electronic Measurements and Instrumentation
Subject: EM1

Sl. No.	Details of Practical	Availability of		Likely Turn/Date	Actual Date	Responsibility	HOD Sign.	R.S.
		Equipment Set up	STD Ref. Write up					
1.	Measure unknown inductance using following bridge (a) Anderson Bridge (b) Maxwell Bridge.	Standard Kit or Trainer Board	Manual or write up.	G1 } G2 }	G1 } G2 }			
2.	Measure low resistance by Kelvin's Double Bridge.			G1 } G2 }	G1 } G2 }			
3.	Calibrate an ammeter using DC slide wire potentiometer.			G1 } G2 }	G1 } G2 }			
4.	Calibrate a voltmeter using Crompton potentiometer.			G1 } G2 }	G1 } G2 }			
5.	Measure low resistance by Crompton potentiometer.			G1 } G2 }	G1 } G2 }			
6.	Calibrate single phase energy meter by Phantom Loading.			G1 } G2 }	G1 } G2 }			
7.	Study the working of Q meter and measure Q of coils.			G1 } G2 }	G1 } G2 }			
8.	Study the working and application of 1. CRO 2. DSO 3. CRO probes			G1 } G2 }	G1 } G2 }			
9.	Measurement of displacement with the help of LVDT.			G1 } G2 }	G1 } G2 }			
10.	Draw the characteristics of the following temp. transducers (RTD (Pt 100) 2 Thermistor)			G1 } G2 }	G1 } G2 }			
11.	Measurements of strain/force with the help of strain Gauge cell.			G1 } G2 }	G1 } G2 }			

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PLANNED SYLLABUS COVERAGE(Theory)

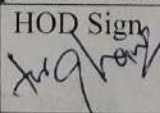
G P Kangra		Department: <u>ECE</u> Subject <u>ECN</u>				
SYLLABUS COVERAGE		Course <u>Diploma</u> Duration <u>3 years</u>				
		Total Periods _____ Theory <u>56</u>				
Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
1.		Basics, of Network and N/w Theorem.	Node and Mesh Analysis Superposition Theorem. Thevenin Theorem Norton Theorem. Max power transfer Theorem Reciprocity Theorem	Network Analysis by M.E Van Valkenburg (PHI)	Engg Ckt Analysis by W.H. Hayt.	
2.		Graph Theory	Concept of Graph, Node tree of Network and incidence matrix and Analysis of resistive N/w using cut set & Tie set Duality theorem and their application in electrical circuits.	-do-	-do-	
3.		Time domain & Frequency domain analysis	Solution of 1 st order & 2 nd order differential equations for Series and parallel R-L, R-C, R-L-C circuits initial & final conditions in network elements. Forced & Free response, time constants. Steady state & Transient State Response. Analysis of electrical ckt using Laplace transform for standard inputs (Unit, Ramp, Step).	-do-	-do-	

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Sr. No.	Period Nos.	Topic	Details	Instruction Reference	Additional Study Recommended	Remarks
4.		Trigonometric & Exponential Fourier Series	Discrete spectra and symmetry of waveforms. Steady state response of a N/w to non-sinusoidal periodic i/p, power factor, effective values. Fourier transform & continuous spectra.	- do -	- do -	
5.		Two port Network	Introduction to the two port N/w and various N/w parameters i.e. o.c impedance parameters, s.c Admittance parameters. Transmission parameters. Introduction to Hybrid parameters.	- do -	- do -	

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