MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

A Govt. Added UGC Autonomous and NAAC Accredited Institute, Affiliated to R.G.P.V, Bhopal

DEPARTMENT OF ELECTRONICS ENGINEERING

Multiple Mode Teaching Learning Pattern

Name of Course with Code: Analog Integrated Circuits (2140411)	**Class:** B. Tech. II Year	**Session :**July-Dec 2023

S. No.	Unit	Content to be Covered	Teaching Session	Mode
1.	Unit 1	Introduction and classification of power amplifier, Effect of Q point location on power amplifier	1	Offline & Open discussions
2.		Class A amplifier: efficiency and power dissipation calculation	2	Offline & Open discussions
3.		Harmonic distortion and push pull amplifier	3	Offline & Open discussions
4.		Class B amplifier: efficiency and power dissipation calculation, cross over distortion	4	Offline & Open discussions
5.		Problem based on Class A and Class B amplifier	5	Offline & problem solving based learning
6.		Class AB and Class C amplifier, power transistor Heat sinking	6	Offline & Open discussions
7.	Unit 2	Introduction and classification of multistage amplifier, Frequency response of amplifier and types of coupling	7	Offline & Open discussions
8.		Two stage RC coupled amplifier	8	Offline & Open discussions
9.		Numerical based on two stage RC coupled amplifier	9-11	Offline & problem solving based learning
10.		Direct coupled amplifier and numerical based on it	12-13	Offline & problem solving based learning
11.	Unit 3	Introduction of 555 timer and its internal block diagram.	14	Offline & Open discussions
12.		Detail explanation of Astable multivibrator (AM) and AM using 555 times	15-16	Online & demonstration based learning
13.		Detail explanation of monostable multivibrator using 555 timer	17	Offline & demonstration based learning
14.		VCO, phase detector and Phase locked loop	18	Offline & open discussions
15.		numerical based on it	19	Offline & problem solving based learning
16.		Differential amplifier and analysis, and numerical based on it	20-22	Offline & problem solving based learning

17.	**Unit 4**	Operational amplifier: Block diagram, basic characteristic and different parameters of OPAMP	23-24	Offline & Open discussions
18.		OP AMP Application circuits	25-30	Online & demonstration based learning
19.	**Unit 5**	Different passive and active filters	31-32	Offline & Open discussions
20.		Butterworth 1st and 2nd order Low pass, High pass and band pass filters	33	Online & demonstration based learning
21.		Chebyshev filter characteristics, Band reject filters, Notch filter; all pass filters, self-tuned filters	34	Offline & problem solving based learning
22.		Numerical based on it	35	Offline & problem solving based learning

Online	Offline						
	Black Board Teaching	Group based Learning	Learning through projects	Learning through demonstration	Learning through experimentation	Activity based Learning	Onsite/field based learning
25.71%	74.28%	37.21%	13.95%	3.84%	48.84.%	13.95%	-%

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

A Govt. Added UGC Autonomous and NAAC Accredited Institute, Affiliated to R.G.P.V, Bhopal

DEPARTMENT OF ELECTRONICS ENGINEERING

Multiple Mode Teaching Learning Pattern

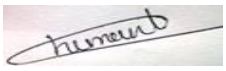
Name of Course with Code: Project Management & Financing (1000005)	**Class:** B. Tech. III Year	**Session:** July-Dec 2023

S. No.	Unit	Content to be Covered	Teaching Session	Mode
1.	Unit 1	Introduction to Project Management	1	Offline & Open discussions
2.		Difference between Project and Production	2	Offline & activity based learning
3.		Attributes of a Project	3	Offline & Open discussions
4.		Time, Cost, Quality and Safety	4-5	Offline & Experiment with problem solving in group based learning
5.		Stakeholders of a Project.	6	Online & demonstration based learning
6.		Project life cycle	7	Offline & Open discussions
7.		Project Planning:	8	Offline & Experiment with problem solving in group based learning
8.		Types of Project Plans and feasibility.	9	Offline & problem solving based learning
9.	Unit 2	**Project Network logic**	10	Offline & problem solving based learning
10.		Project Networking and work flows	11	Offline & problem solving based learning
11.		Activity duration and methods of estimating activity duration.	12	Offline & problem solving based learning
12.		One time estimate three time estimates.	13	Offline & problem solving based learning
13.		Duration estimation procedure.	11	Offline & problem solving based learning
14.		Use of Bar Charts, Mile stone charts and networks	12	
15.		Network representation schemes	13	
16.		Arrow and Activity on Node Networks (**A-o-A** & **A-o-N**),	14	
17.		Logic behind developing project network and simple network calculations	15	

18.		Critical paths and floats.	16	
19.		Review of Unit-II	17	Online
20.	**Unit 3**	**Decision making through networks: CPM, PERT & PDM**.	18	Offline & Experiment with problem solving in group based learning
21.		Use of network in Decision Making	19	Offline & Experiment with problem solving in group based learning
22.		Importance of critical path, Monitoring the progress and updating the project plan.	20	Offline & Experiment with problem solving in group based learning
23.		Use of floats in Resource smoothening	21	Offline & Experiment with problem solving in group based learning
24.		Introduction to Precedence Diagramming Method (PDM).	22	Offline & Experiment with problem solving in group based learning
25.		Different lag and lead relations in terms of SS(Start to Start).	23	Offline & Open discussions
26.		SF(Start to Finish), Finish to Start(FS), and Finish to Finish(FF) and composite relations	24	
27.	**Unit 4**	**Project Cost Control.**	25	Offline & Experiment with problem solving in group based learning
28.		Breakeven analysis in planning stage.	26	Offline & Experiment with problem solving in group based learning
29.		Direct and indirect cost, slope of direct cost curve	27	Offline & Experiment with problem solving in group based learning
30.		Total project cost and optimum duration.	28	Offline & Experiment with problem solving in group based learning
31.		Contracting the network for cost optimization.	29	Offline & Learning through projects
32.		Escalation & Variation in prices.	30	Online & demonstration based learning
33.	**Unit 5**	**Projects Financing**	31	Online & demonstration based learning
34.		Role of governments in financing projects.	32	Offline & group based learning
35.		Funder and Concessionaire: Economic multiplier effects of Projects.	33	Online & demonstration based learning
36.		Means of financing-public finance and	34	Offline & Experiment with problem solving in group based learning

		private finance, Granting authority.		
37.		**World Bank** Group, **IMF, ADB,** Micro and Small Enterprises Funding Scheme (**MSME**)	35	Offline & Open discussions
38.		Elementary understanding of Procurement of infrastructure projects through Public Private Partnership (**PPP**) route.	36	Offline & Onsite/ field visit based Learning
39.		Build Operate Transfer (**BOT**), Build Operate Own & Transfer (**BOOT**).	37	Offline & Onsite/ field visit based Learning
40.		Perspectives, Lifecycle of PPP projects	38	Offline & Onsite/ field visit based Learning
41.		Micro & Macro economics concepts and its application in Project Financing.	39	Offline & Open discussions
42.		Review of Unit-V	40	Online & demonstration based learning

Online	Offline						
	Black Board Teaching	Group based Learning	Learning through projects	Learning through demonstration	Learning through experimentation	Activity based Learning	Onsite/field based learning
22.8	11.42	5.71	2.85	2.85	31.42	11.42	11.42



Dr. Hemant Choubey

Assistant Professor
Dept. of Electronics Engg
MITS, Gwalior

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)

A Govt. Added UGC Autonomous and NAAC Accredited Institute, Affiliated to R.G.P.V, Bhopal

DEPARTMENT OF ELECTRONICS ENGINEERING

Multiple Mode Teaching Learning Pattern

Name of Course with Code: Analog Communication (2140320)	**Class:** B. Tech. II Year (EC)	**Session:** August-December 2023

S. No.	Unit	Content to be Covered	Teaching Session	Mode
2.	**Unit 1**	Introduction to Fourier series	1	Offline & activity based learning
3.		Introduction to Fourier Transforms	2	Offline & Open discussions
4.		Fourier Transforms properties & problems	3-4	Offline & Experiment with problem solving in group based learning
5.		Fourier transform of important functions	5	Online & demonstration based learning
6.		Autocorrelation, Cross correlation and their properties	6	Offline & Open discussions
7.	**Unit 2**	Needs of modulation, Amplitude modulation,	7	Offline & problem solving based learning
8.		SSB, DSB,VSB suppressed carrier modulation,	8	Offline & problem solving based learning
9.		Modulation techniques their generation, detection and spectral analysis,	9	Offline & problem solving based learning
10.		Square law modulators, Switching modulator	10	Online & demonstration based learning
11.		Envelope and square law detector	11	Offline & problem solving based learning
12.		Balanced modulator & application	12	Offline & problem solving based learning
13.		Power calculation for AM, DSB-SC & SSB-SC	13-14	Offline & Experiment with problem solving in group based learning
14.	**Unit 3**	Relationship between Frequency and phase modulation	15	Offline& Onsite/ field visit based Learning
15.		Frequency and phase deviation, types of FM	16	Offline& Onsite/ field visit based Learning
16.		Comparison NBFM & AM signal	17	Offline & Open discussions
17.		Carson's rule, spectrum of FM signal,	18	Online & demonstration based learning
18.		Comparison of narrow band and wide band FM, generation of FM.	19-20	Offline & Onsite/ field visit based Learning

19.	Unit 4	Random variable	21	Offline & Open discussions
20.		Sample space and event	22	Online & demonstration based learning
21.		Probability and its properties, cumulative distribution function, probability density function	23-24	Online & demonstration based learning
22.		Statistical average, variance, moment	25	Offline & Open discussions
23.		Distributions: Binomial, Poisson density function	26	Online & demonstration based learning
24.		Gaussian and Rayleigh probability density function	27	Online & demonstration based learning
25.	**Unit 5**	Various sources of noise	28	Offline & Open discussions
26.		Types of noise with their characteristics	29	Offline & activity based learning
27.		Mathematical representation of noise figure	30	Online & demonstration based learning
28.		Noise bandwidth	31	Offline & Experiment with problem solving in group based learning
29.		Noise temperature	32	Offline & Open discussions
30.		Noise figure of amplifiers in cascades	33	Offline & Onsite/ field visit based Learning
31.		Figure of merit of modulation techniques	34	Offline & Onsite/ field visit based Learning
32.		Comparison of modulation scheme for noise.	35	Offline & Open discussions

Online	Offline						
	Black Board Teaching	Group based Learning	Learning through projects	Learning through demonstration	Learning through experimentation	Activity based Learning	Onsite/field based learning
20.93%	69.77%	37.21%	13.95%	27.90%	48.84.%	13.95%	9.30%

Dr. Karuna Markam