COUR	SE COURSE NAME L-T-P-	YEAR (OF		
EC20	E C II 5 FLECTDONIC CIDCUITS 3104	<u>NIKUDU(</u> 2016	LIION		
EC20	5 ELECTRONIC CIRCUITS 5-1-0-4	2010			
Prerequisite: Nil					
Course objectives:					
• T	o develop the skill of analysis and design of various analog circ	cuits using	discrete		
el S-llabua	ectronic devices as per the specifications.				
Synabus		IT 1	•••		
High pas	s and low pass RC circuits, Differentiator, Integrator, Analysis of B	JT biasing	circuits,		
small sig	analysis of transistor configurations using small signal nyc	1:fing W	de hand		
amplifier	s Earthack amplifiers Oscillators Tuned amplifiers Power amplifi	inters, wh			
ampriner and mult	ivibrators, transistor voltage regulator, DC analysis of MOSEET ci	reuits sma	ll signal		
equivaler	t circuit Small signal analysis of MOSFET amplifier circuits Ana	alveis of m	ultistage		
MOSFET	amplifiers	11y515 01 111	unistage		
Expected	l outcome:				
	t the end of the course students will be able to analyse and d	esign the	different		
• A el	ectronic circuits using discrete electronic components	csign the	uniterent		
Text Boo	ks:				
• S	edra A. S. and K. C. Smith Microelectronic Circuits 6/e. Oxford Uni	versity Pres	ss. 2013		
• N	lillman L and C. Halkias Integrated Electronics 2/e. McGraw-Hill 2	010			
Reference	res:	.010			
1 Nasman D. Electronic Circuits Analysis and Dasign 3/2 TMH 2007					
1 N	eamen D. Electronic Circuits - Analysis and Design 3/e TMH 2007	7			
1. N 2 R	eamen D., Electronic Circuits - Analysis and Design, 3/e, TMH, 2007 ashid M. H. Microelectronic Circuits - Analysis and Design, Cengage	7 e Learning	2/e		
1. N 2. R 20	eamen D., Electronic Circuits - Analysis and Design, 3/e, TMH, 2007 ashid M. H., Microelectronic Circuits - Analysis and Design, Cengago 011	7 e Learning,	2/e,		
1. N 2. R 20 3. St	eamen D., Electronic Circuits - Analysis and Design, 3/e, TMH, 2007 ashid M. H., Microelectronic Circuits - Analysis and Design, Cengage D11 pencer R. R. and M. S. Ghausi, Introduction to Electronic Circuit Des	7 e Learning, ign. Pearso	2/e, n. 2003		
1. N 2. R 20 3. S 4. R	eamen D., Electronic Circuits - Analysis and Design, 3/e, TMH, 2007 ashid M. H., Microelectronic Circuits - Analysis and Design, Cengage 011 pencer R. R. and M. S. Ghausi, Introduction to Electronic Circuit Des azavi B., Fundamentals of Microelectronics, Wiley, 2015	7 e Learning, ign, Pearso	, 2/e, n, 2003		
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	its effect on input and output impedance, Feedback amplifier			
	circuits in each feedback topologies (no analysis required)			
	Oscillators & Tuned Amplifiers: Classification of oscillators,	6		
	Barkhausen criterion, Analysis of RC phase shift and Wien bridge			
	oscillators, Working of Hartley, Colpitts and Crystal oscillators;			
	Tuned amplifiers, synchronous and stagger tuning			
SECOND INTERNAL EXAM				
V	Power amplifiers: Classification, Transformer coupled class A	6	20	
	power amplifier, push pull class B and class AB power amplifiers,	N A		
	efficiency and distortion, Transformer-less class B and Class AB	IVI		
	power amplifiers, Class C power amplifier (no analysis required)	A T		
	Switching Circuits: Simple sweep circuit, Bootstrap sweep circuit,	5		
	Astable, Bistable, and Monostable multivibrators, Schmitt Trigger	B. And		
VI	Transistor based voltage regulator: Design and analysis of shunt and	4	20	
	series voltage regulator, load and line regulation, Short circuit			
	protection			
	MOSFET amplifiers: Biasing of MOSFET amplifier, DC analysis of	5		
	single stage MOSFET amplifier, small signal equivalent circuit.			
	Small signal voltage and current gain, input and output impedances			
	of CS configuration, MOSFETCascade amplifier			
END SEMESTER EXAM				
			1	

Question Paper Pattern

The question paper consists of three parts. Part A covers modules I and II, Part B covers modules III and IV and Part C covers modules V and VI. Each part has three questions. Each question can have a maximum of four subparts. Among the three questions one will be a compulsory question covering both the modules and the remaining two questions will be as one question from each module, of which one is to be answered. Mark pattern is according to the syllabus with maximum 60 % for theory, derivation, proof and 40% for logical/numerical problems.

