Subject Number: Th.2
Theory   : 4P/W
Total Period s: 60 P/ SEM
Examination: 3 Hours
SEM   : 4th ELECT.ENGG

Class Test   :   20 Marks
End Semester Exam   :   80marks
TOTAL MARKS   :   100 Marks
Class Start   :   14 FEB.2023

WEEK	PERIOD	TOPIC
1st	1st	P-N JUNCTION DIODE: 1.1P-N Junction Diode
	2nd	1.2Working of Diode 1.3 V-I characteristic of PN junction Diode.
	3rd	1.4 DC load line1.5 Important terms such as Ideal Diode, Knee voltage
	4th	1.6Junctions break down. Zener breakdown, Avalanche breakdown
2nd	1st	1.7P-N Diode clipping Circuit .
	2nd	1.8 P-N Diode clamping Circuit,
	3rd	SPECIAL SEMICONDUCTOR DEVICES: 2.1Thermistors
	4th	2.1Sensors & barretters
3rd	1st	2.3 Tunnel Diode
	2nd	2.4 PIN Diode
	3rd	RECTIFIER CIRCUITS & FILTERS: 3.1. Classification of rectifiers 3.2 Analysis of half wave, full wave centre tapped and Bridge rectifiers and calculate
	4th	3.2.1DC output current and voltage, 3.2.1RMS output current and voltage
4th	1st	3.2.3Rectifier efficiency
	2nd	3.2.4Transformer utilization factor,3.2.7 Peak inverse voltage
	3rd	3.Filters: 3.3.1Shunt capacitor filter,
	4th	3.3.2Choke input filter,
5th	1st	3.3.3π filter
	2nd	TRANSISTORS:4.1 Principle of Bipolar junction transistor,
	3rd	4.2Different modes of operation of transistor
	4th	4.3Current components in a transistor
6th	1st	4.4Transistor as an amplifier
	2nd	4.5Transistor circuit configuration & its characteristics4.5.1 CB Configuration
	3rd	4.5.2CE Configuration
	4th	4.5.3CC Configuration
7th	1st	TRANSISTOR CIRCUITS: 5.1 Transistor biasing
	2nd	5.3Stability factor
	3rd	5.3Stability factor
	4th	5.4Different method of Transistors Biasing:5.4.1 Base resistor method
8th	1st	5.4.2Collector to base bias
	2nd	5.4.3Self bias or voltage divider method
	3rd	TRANSISTOR AMPLIFIERS & OSCILLATORS :6.1Practical circuit of transistor amplifier, 6.2DC load line and DC equivalent circuit
	4th	6.3AC load line and AC equivalent circuit ,6.4Calculation of gain
9th	1st	Phase reversal
	2nd	H-parameters of transistors
	3rd	Simplified H-parameters of transistors

		4th	Generalised approximate model
10th	1st		Analysis of CB, CE, CC amplifier using generalised approximate model
			Multi stage transistor amplifier
			R.C. coupled amplifier
	2nd		Transformer coupled amplifier, Feed back in amplifier
	3rd		General theory of feed back .Negative feedback circuit
	4th		Advantage of negative feed back
			Power amplifier and its classification
11th	1st		Difference between voltage amplifier and power amplifier
			Transformer coupled class A power amplifier
	2nd		Class A push – pull amplifier ,Class B push – pull amplifier.
	3rd		Oscillators ,Types of oscillators, Essentials of transistor oscillator
	4th		Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein- bridge oscillator (no mathematical derivations)
12th	1st		Principle of operation of tuned collector, Hartley, colpitt, phase shift, wein-bridge oscillator (no mathematical derivations)
	2nd		7: FIELD EFFECT TRANSISTOR: Classification of FETAdvantages of FET over BJT
	3rd		Principle of operation of BJT
	4th		Principle of operation of BJT
13th	1st		FET parameters (no mathematical derivation) DC drain resistance; AC drain resistance; Trans-conductance
	2nd		FET parameters (no mathematical derivation) DC drain resistance; AC drain resistance; Trans-conductance
	3rd		Biasing of FET
	4th		OPERATIONAL AMPLIFIERS: General circuit simple of OP-AMP and IC – CA – 741 OP AMP, Operational amplifier stages
14th	1st		Equivalent circuit of operational amplifier, Open loop OP-AMP configuration
	2nd		Equivalent circuit of operational amplifier, Open loop OP-AMP configuration
	3rd		OPAMP with fed back Inverting OP-AMP
	4th		Non inverting OP-AMP Voltage follower & buffer
15th	1st		Differential amplifier Adder or summing amplifier
	2nd		Sub tractor Integrator
	3rd		Differentiator
	4th		Comparator

14/2/23

Signature of the Faculty 14-2-23