Question Paper Code: R18A22EC01

R18

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, June/July-2024

ANALOG ELECTRONIC CIRCUITS

(ELECTRICAL AND ELECTRONICS ENGINEERING)

Time: 3 Hours **Max. Marks: 75**

Section – A (Short Answer type questions) (25 Marks)

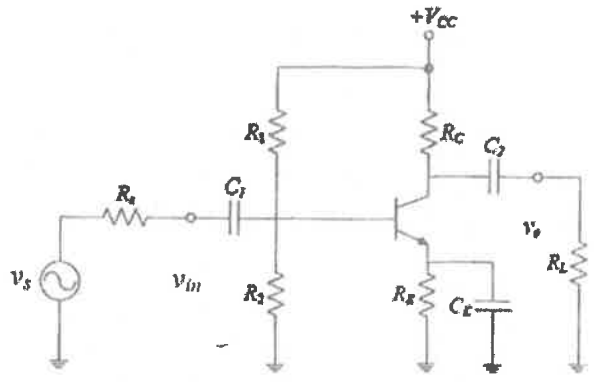
Answer All Questions

		Course Outcome	B.T Level	Marks
1.	List out the benefits of h–parameter?	CO1	L1	2M
2.	Explain its impact on operational frequency.	CO1	L2	3M
3.	Compare the characteristics of large signal and small signal amplifiers	CO2	L3	2M
4.	What is the drawback of class B amplifier. How its overcome in class AB amplifier.	CO2	L2	3M
5.	List any 5 applications of clipper circuits.	CO3	L1	2M
6.	Why clamper circuit referred as DC restorer circuits?	CO3	L2	3M
7.	How the diode is acts as a switch?	CO4	L2	2M
8.	Illustrate the phenomenon of "latching" in a transistor switch.	CO4	L3	3M
9.	Define Multivibrator.	CO5	L1	2M
10.	Draw the hysteresis characteristics of the Schmitt trigger circuit and explain.	CO5	L2	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks. **(5 X 10M = 50M)**

11. A)	Explain the high frequency analysis of BJT Amplifier. Define cut-off frequency, transition frequency and derive their values in terms of the circuit parameters.	CO1	L3	10M
	OR			
B)	Consider the common emitter BJT amplifier circuit. Assume V_{CC}=15V, β=150,V_{BE}=0.7V, R_E=1KΩ, R_1=47KΩ, R_C=4.7KΩ ,R_2=10KΩ, R_S=100 Ω, R_L=47KΩ.	CO1	L3	10M



Draw the equivalent circuit and determine R_{in}, R_{out}, A_v, A_i.

12. A)	With a neat diagram, explain the working of complementary Push Pull amplifier	CO2	L2	10M
	OR			
B)	Explain the operation of transformer-coupled class A power amplifier and the need of heat sink in circuits.	CO2	L2	10M
13. A)	Explain with a neat diagram and waveforms explain the operation of different types of clampers.	CO3	L2	10M
	OR			
B)	Illustrate the circuits of different types of clippers and explain their operation.	CO3	L2	10M
14. A)	Explain the terms pertaining to transistor switching characteristics. i) Rise time. ii) Delay time. iii) Turn-on time. iv) Storage time. v) Fall time.	CO4	L2	10M
	OR			
B)	Write Short notes on: i) Diode switching times ii) Switching characteristics of transistors	CO4	L2	10M
15. A)	Describe with neat circuit diagram and waveform of Bistable Multivibrator.	CO5	L2	10M
	OR			
B)	Discuss the operation of collector coupled monostable multivibrator with its output waveforms.	CO5	L2	10M