Question Paper Code: R18A22EC03

R18

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, Jan/Feb-2024

ELECTRONIC CIRCUITS & ANALYSIS

(ELECTRONICS AND COMMUNICATION ENGINEERING)

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

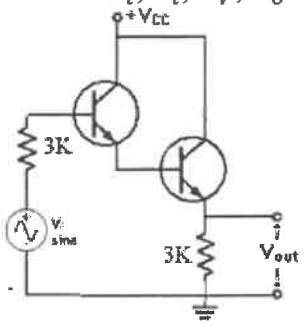
Section – A (Short Answer type questions) (25 Marks)

Answer All Questions	Course Outcome	B.T Level	Marks
1. Tabulate typical Value of CE, CB, CC , h-parameter	CO1	L2	2M
2. Define distortion in amplifier. List out the types of distortion.	CO1	L1	3M
3. Define gain bandwidth product.	CO2	L1	2M
4. Represent hybrid pi model of a transistor.	CO2	L2	3M
5. List various steps involved in an analysis of RC coupled BJT amplifiers.	CO3	L1	2M
6. Write a note on cascade amplifier and mention its application.	CO3	L1	3M
7. Classify power amplifier	CO4	L2	2M
8. Write a note on thermal stability.	CO4	L1	3M
9. Define tuned amplifier and list out the types	CO5	L1	2M
10. The bandwidth of single tuned amplifier is 20KHz. Predict the bandwidth if such three stages are cascaded	CO5	L2	3M

Section B (Essay Questions)

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

		Course Outcome	B.T Level	Marks
11. A)	Analyze common emitter amplifier using h parameter model and derive current gain, input resistance, voltage gain, output resistance.	CO1	L3	10M
	OR			
B)	In a single stage amplifier, CB amplifier circuit $R_L = 10K$ ohms, $R_S = 500$ohms, $V_{CC} = 20V$, Calculate A_i, R_i, A_V, R_o	CO1	L3	10M
12. A)	Analyze high frequency response of BJT amplifier. Obtain expressions for alpha, beta, cut off frequency and gain bandwidth product.	CO2	L3	10M
	OR			
B)	With necessary mathematical expression, demonstrate the low frequency response of the BJT amplifier with coupling and bypass capacitor.	CO2	L3	10M
13. A)	Explain transformer coupled amplifier with relevant circuit diagram.	CO3	L3	10M
	OR			
B)	For the circuit shown calculate A_i, R_i, A_V, R_o	CO3	L3	10M



14. A)	Analyze direct coupled series fed class A power amplifier and derive efficiency, maximum efficiency and power dissipation.	CO4	L3	10M
	OR			
B)	Illustrate that conversion efficiency of transformer coupled class A power amplifier is 50%	CO3	L3	10M
15. A)	Analyze single tuned capacitive coupled amplifier with neat circuit diagram.	CO5	L3	10M
	OR			
B)	Demonstrate the effect of cascading single tuned amplifiers on bandwidth with suitable equations.	CO5	L3	10M