Question Paper Code: R22A22EC06

R22

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Regular Examinations, June/July – 2024

ELECTRONIC CIRCUIT ANALYSIS

(ELECTRONICS & COMMUNICATION ENGINEERING)

Time: 3 Hours **Max.Marks:60**

Section – A (Short Answer type questions) (10 Marks)

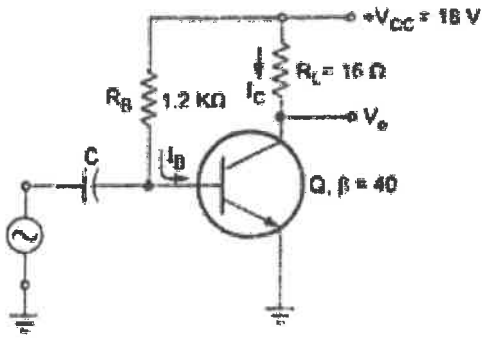
Answer All Questions

		Course Outcome	B.T Level	Marks
1.	What are the features of power amplifier?	CO1	1	1M
2.	Define circuit efficiency.	CO1	1	1M
3.	What is dissipation factor?	CO2	1	1M
4.	Define Q factor of resonant circuit.	CO2	1	1M
5.	Define Multivibrators.	CO3	1	1M
6.	Which multivibrator is used as square wave generator? Why?	CO3	2	1M
7.	What are 'Restoration time' and 'Sweep time' of a time base signal?	CO4	1	1M
8.	What is a sweep circuit?	CO4	1	1M
9.	What are the operational principles of four-diode sampling gates?	CO5	2	1M
10.	How does a sweep circuit generate varying output frequencies?	CO5	1	1M

Section B (Essay Questions)

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

11. A)	A series fed Class A amplifier shown if the Fig, operates from dc source and applied sinusoidal input signal generates peak base current 9mA. Calculate: i) Quiescent current ICQ, ii) Quiescent voltage VCEQ, iii) DC input power P_{DC}, iv) AC output power P_{AC} and v) Efficiency.	CO1	3	10M



OR

B)	Explain the operation of transformer coupled class A amplifiers and derive its efficiency.	CO1	3	10M
12. A)	What is tuned amplifier? Draw and explain single tuned amplifier.	CO2	3	10M
	OR			
B)	Explain in detail about stagger-tuned amplifier	CO2	3	10M
13. A)	Explain bistable Multivibrator and its types?	CO3	3	10M
	OR			
B)	Explain about speedup capacitors or commutating capacitors	CO3	3	10M

14. A)	Explain the concept of Transistor Miller Time base generator.	CO4	3	10M
	OR			
B)	Write about BJT Bootstrap sweep generator.	CO4	3	10M
15. A)	How does frequency division work in sweep circuits, and what are the key components involved in achieving this division?	CO5	3	10M
	OR			
B)	How does a sinusoidal divider utilizing regeneration and modulation achieve precise frequency division, and what are its applications and limitations in electronic circuit design?	CO5	3	10M