Q.P. Code: 16EC411 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations February-2022

ANALOG ELECTRONIC CIRCUITS

(Electrical and Electronics Engineering)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Derive the equation for the overall voltage gain of a multistage amplifier in terms of theindividual voltage gains.	**10M**
	b	What are multi-stage amplifiers?	**2M**

OR

2		Draw the block diagram of two stage RC coupled using FET amplifier and it frequency response.	**12M**

UNIT-II

3	a	Give the detailed analysis of voltage Series feedback amplifier.	**7M**
	b	An amplifier has an open loop gain of 1000 and a feedback ratio of 0.04. if the open loopgain changes by 10% due to temperature ,find the percentage change in gain of the amplifierwith feedback.	**5M**

OR

4	a	Draw the block diagram of an amplifier with feedback and explain its concept.	**6M**
	b	Derive the stabilization gain of negative feedback amplifier.	**6M**

UNIT-III

5	a	What is piezoelectric effect? Draw and explain a.c equivalent circuit of a crystal.	**6M**
	b	In a Hartley oscillator, L_2 = 0.4 mH and C = 0.004 μF. if the frequency of the oscillator is 120kHz , find the value of L_1 . Neglect the mutual inductance.	**6M**

OR

6	a	Draw the circuit diagram of Wien- bridge oscillator and explain its working.	**7M**
	b	In a Wien – bridge oscillator , if the value of R is 100 KΩ, and frequency of oscillations is 10kHz, Find the value of capacitor C.	**5M**

UNIT-IV

7	a	What is crossover distortion? Explain.	**7M**
	b	In a class B amplifier, V_{CE} (min) = 1V and supply voltage V_{CC} = 18 v. Find the collectorcircuit efficiency.	**5M**

OR

8	a	Discuss the primary function of phase inverters.	**6M**
	b	What are the Advantages & disadvantages of push pull class B amplifier?	**6M**

UNIT-V

9		With help of diagram explain the operation of Schmitt Trigger circuit using transistors.	**12M**

OR

10	a	Explain the negative clamper circuit with wave forms.	**7M**
	b	With help of diagram explain the operation of Mono stable Multivibrator.	**5M**

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