Regulation R18 *Subject code:2P3DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech III Semester Supplementary Examinations, July 2022

ANALOG ELECTRONIC CIRCUIT ANALYSIS

(Electronics and Communication Engineering)

Maximum Marks: 70 Date:23.07.2022 **Duration: 3 Hours**

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 State Miller's theorem.
2 What is Gain of an amplifier?
3 Define Input Impedance.
4 Define f_T.
5 Define the gain bandwidth product of common Emitter amplifier.
6 Give any two comparisons of performance with BJT & JFET Amplifiers.
7 Define Negative feedback.
8 Define an Oscillator.
9 List the classification of power amplifiers.
10 Write down the applications of Tuned circuit?

Part-B

Answer all the questions (10MX 5=50Marks)

11 Draw the circuit diagram of a CC amplifier along with its equivalent circuit. Derive expressions for A_V ,R_I,A_I and R_0. (10M)

OR

12 Explain the Darlington Pair and derive the values of A_I ,R_I, A_V &R_O. (10M)

13 Obtain an expression for CE short circuit current gain. (10M)

OR

14 Explain the Analysis of CD JFET Amplifier. (10M)

15 Derive the expression for the input resistance with feedback R_{if} and output resistance with feedback R_{Of} in the case of (a) Voltage series feedback amplifier. (b) Voltage shunt feedback amplifier. (10M)

OR

16 Explain the different types of Feedback and the advantages of negative feedback. (10M)

17 Draw the circuit and Derive the expression for the frequency of oscillations of Colpitts oscillator circuit.(10M)

OR

18a. Explain the classification of Oscillators (5M)

18b Explain the operation of Oscillatory Circuit. (5M)

19 Draw the circuit and explain the working principle of a Class B power amplifier (10M)

OR

20 Explain single tuned Amplifier and list the advantages of tuned circuit. (10M)