R20 Regulation *Subject code: 3P3DC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, June 2026

ELECTRONIC CIRCUIT ANALYSIS

(ECE)

Maximum Marks: 70 Date: 11.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	Write various possibilities of inter-stage coupling of amplifiers.	2M	1	L1
2	Draw a small signal low frequency model of a transistor.	2M	1	L1
3	Draw simplified high frequency model of CE amplifier.	2M	2	L1
4	Define the terms f_β and f_T	2M	2	L1
5	List comparison of performance with BJT & JFET Amplifiers.	2M	3	L1
6	Draw the frequency response of CS amplifier with resistive load.	2M	3	L1
7	What is the effect of negative feedback on amplifier gain.	2M	4	L1
8	State the frequency for RC phase shift oscillator.	2M	4	L1
9	Write the advantages of class B push pull amplifier.	2M	5	L1
10	Write the classification of tuned amplifier.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Draw the circuit diagram of a common base amplifier along with its equivalent circuit by using approximate analysis. Derive expressions for A_V ,R_I,A_I and R_0.	10M	1	L2
	OR			
12	Analyze the CC amplifier and derive the input and output resistance.	10M	1	L2
13	Write short note on: Hybrid -Pi model for a transistor in CE configuration.	10M	2	L2
	OR			
14	Derive the expression of gain bandwidth product for current.	10M	2	L2
15	Explain the Analysis of CG JFET Amplifier.	10M	3	L2
	OR			
16	Draw the circuit diagram of common source amplifier with Diode connected load? Explain its operation.	10M	3	L2
17	Discuss quantitatively about the effect of negative feedback on i) Gain ii) Bandwidth iii) Distortion iv) Input Impedance v) Output Impedance	(5*2M)	4	L2

	OR			
18	Derive the expression for the frequency of Hartley oscillators.	10M	4	L2
19	What is class B amplifier? Why is it employed? Give its circuits, design equations, characteristics & limitations.	10M	5	L2
	OR			
20	Draw the circuit and explain the working principle of a complementary symmetry push-pull power amplifier and state its disadvantages?	10M	5	L2