

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026***Third Semester**Electronics and Communication Engineering***UECT24302 - ELECTRONIC DEVICES AND CIRCUITS***Regulations - 2024**Duration : 3 Hrs**Maximum : 100 Marks**PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

<i>Q.No</i>	<i>Questions</i>	<i>BTL</i>	<i>CO</i>	<i>Marks</i>
1.	Draw the structure of PN junction diode.	L1	1	2
2.	Define- transition capacitance in diodes.	L2	1	2
3.	What is the load line and how is it used to determine the operating point?	L1	2	2
4.	State the importance of small signal model of a MOSFET.	L2	2	2
5.	List the features of a cascode amplifier.	L1	3	2
6.	What is frequency response?	L2	3	2
7.	What are the advantages of negative feedback in amplifiers?	L1	4	2
8.	Describe the conditions for oscillations in positive feedback amplifiers.	L2	4	2
9.	State the classification of power amplifiers.	L1	5	2
10.	List the applications of Buck converter.	L2	5	2

*PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)*

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Explain the V-I characteristics of MOSFET and explain its applications in circuits.	L2	1	16
	Or			
	b Design a full-wave rectifier circuit using diodes and explain its operation.	L2	1	16
12.	a Explain in detail about BJT CE amplifier with their frequency response .	L2	2	16
	Or			
	b Perform a comparative analysis of Common-Source (CS), Common-Gate (CG), and Source-Follower (Common-Drain, CD) amplifier configurations with circuit diagrams and suitable equations.	L2	2	16
13.	a Draw the block diagram of a two-stage cascaded amplifier and explain the need for cascading amplifier stages.	L2	3	16
	Or			
	b Draw the circuit diagram of a single tuned amplifier and explain its operation.	L2	3	16

14.	a	Evaluate the performance of Hartley and Colpitts oscillators with respect to frequency.	L5	4	16
		Or			
	b	Illustrate with examples the use of series and shunt feedback in amplifiers.	L5	4	16
15.	a	Analyze the efficiency and distortion in Class AB power amplifier. Discuss in detail with design considerations.	L4	5	16
		Or			
	b	Analyze the performance of DC-DC converters with design considerations. Why are they preferred in high power applications?	L4	5	16