



Gayatri Vidya Parishad College of Engineering for Women
(Autonomous)
(Affiliated to Andhra University, Visakhapatnam)
Madhurawada, Visakhapatnam

B.Tech. - I Semester Regular Examinations, December / January – 2026

Elements of Electronics Engineering –(24EC11RC04)

Scheme of Valuation

Q No	Question
1(a)	Energy Band theory of solids explanation-----(2M) Classification of materials explanation-----(1M) Explanation of Semi-conductors,conductors with neat diagram-----(2M) Explanation of Insulators with neat diagram -----(2M)
1 (b)	Role of doping in semiconductors -----(3M) Effect of doping on carrier concentration -----(2M) Formation of P type and N type semiconductor-----(2M)
2(a)	Explanation of diffusion current-----(2M) Diagram----(1M) Derivation -----(4M)
2(b)	Mobility of electrons&Holes -----(2M) Formula-----(1M) Reasons why mobility of electrons is higher than that of holes in semiconductors-----(4M)
3(a)	Symbol of schottky diode -----(1M) Diagram of schottky diode-----(2M) Working ,characteristics of schottky diode -----(3M) Advantages over PN diode----(1M)
3(b)	Equations of DC current,rectifier efficiency-----(2M) calculate Dc current -----(2M) Calculate rectifier efficiency-----(3M)
4(a)	Circuit diagram of half wave rectifier using capacitor filter -----(2M) Operation ----(3M) Input ,Output Waveforms-----(2M)
4(b)	Definitions,formula of ripple factor----(2M) Efficiency definition ,formula----(2M) Comparison of half wave ,full wave rectifier ----(3M)
5(a)	Construction,working of PNP transistor -----(2M) Construction,working of NPN transistor -----(2M) Diagrams----(3M)
5(b)	Input Characteristics of CE configuration----(2M) Output Characteristics of CE configuration---(2M) Regions of operation----(3M)
6(a)	Voltage divider bias circuit diagram---(2M) Working----(2M) Thermal stability compared to fixed bias---(3M)

6(b)	Definition of thermal runaway----(1M) Causes----(3M) Methods----(3M)
7(a)	Circuit diagram----(2M) Expression for voltage gain----(2M) Expression for efficiency----(3M)
7(b)	Frequency response curve of transistor amplifier----(2M) Explanation---(3M) Significance ----- (2M)
8(a)	Circuit diagrams of CE,CB,CC amplifier----(3M) Comparison----(4M)
8(b)	Need of multistage amplifier ----- (2M) Two stage RC coupled amplifier circuit diagram---(2M) Explanation----(2M) Frequency response----(1M)
9(a)	Formula for drain current----(1M) Problem ----(6M)
9(b)	Diagram for depletion mode MOSFET----(2M) Construction ----(3M) Transfer characteristics----(2M)
10(a)	Advantages of FET over BJT----(3M) Input impedance ----(2M) Noise parameters----(2M)
10(b)	Comparison for Drain characteristics of enhancement mode and depletion mode MOSFET— (4M) Applications ----- (3M)

verified


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