Shri Vile Parle Kelavani Mandal's

SHRI BHAGUBHAI MAFATLAL POLYTECHNIC

Course:Computer engineering **Course Code:** BEX238911

Subject: Basic Electronic

Unit 1 Semi Conductors

	Question	Marks
Q. 1	Define Semiconductor and Enlist the Properties of Semiconductor.	4
Q. 2	Give the energy band description of semiconductors.	4
Q. 3	Describe the effect of temperature on semiconductors.	4/6
Q. 4	Differentiate between Extrinsic and intrinsic semiconductors	4
Q. 5	Explain with neat diagram N-type and P type semiconductors	4/6/8
Q. 6	Compare P and N type Semiconductor	4/6
Q. 7	Explain the formation of PN junction.	4/6
Q. 8	Define 1) Diffusion 2)Potential barrier 3) Depletion Region	4/6
Q. 9	Define Diode draw its Symbol and write its application	4
Q. 10	With neat diagram explain VI characteristics of Diode	6
Q.11	With neat circuit diagram explain working of PN junction in Forward and Reverse bias	6
Q12	Define Zener diode and list its properties	4/6
Q13	Explain with neat diagram the VI Characteristics of Zener diode	6/8
Q14	Draw the symbol of crystal diode with equivalent Circuits	4

Unit 2 **Application of Semiconductors**
A Rectifier

Q. 1	Define the following terms PIV, Knee voltage, Breakdown voltage	4/6
Q. 2	Describe a half-wave rectifier using a crystal diode.	4/6
Q. 3	Explain the working of Centre-tap full-wave rectifier with neat diagram.	6/8
Q. 4	Explain the working of Full-wave bridge rectifier with neat diagram.	6/8
Q. 5	Define Ripple Factor. Give the value of R.F for half wave and Full wave rectifier.	4
Q. 6	Define 1) Rectifier efficiency 2) Ripple factor	4
Q. 7	Compare half-wave rectifier with Centre-tap full-wave and Full-wave bridge rectifier.	8
Q. 8	Define the following terms: a) Ripple Factor b) Filter circuits	4
Q 9	Explain the working principle of Capacitor Filter.	4
Q 10	Explain the working principle of Choke input Filter.	4/6
Q11	Explain the working principle of Capacitor input Filter.	4/6
Q 12	Give the classification of Photoelectric devices	4
Q 13	Explain working of LED help of diagram and Characteristics	4/6
Q 14	Explain working of photovoltaic cell with help of diagrams list its applications	4/6/8
Q 15	Explain working of Photo diode with help of diagram and Characteristics	4/6
Q 16		

Unit 3 **Transistor**

Q. 1	Define transistor, draw its symbol, why it is called Transistor?	4
Q. 2	Explain with neat diagram the transistor action in NPN or PNP transistor	6/8
Q. 3	With neat diagram explain Transistor as an Amplifier	6/8
Q. 4	Draw the neat diagram of Transistor common base configuration and define its Current amplification factor	4/6
Q. 5	Draw the neat diagram of Transistor common emitter configuration and define its Base Current amplification factor	4/6
Q.6	Derive the relation between α and β	4/6