

No of printed pages: 01

Seat No.:



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester II) Internal Examination - 2025
US02IDELE03 : SUBJECT NAME : ELECTRONICS
SEMICONDUCTOR DIODE AND POWER SUPPLY

Date: 06 – 03 – 2025, Day: THURSDAY

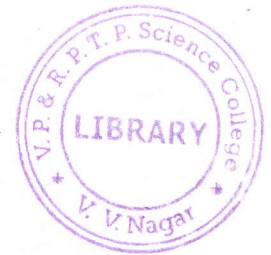
Time: 12: 45 P.M. TO 1:45 P.M.

Total marks :20

Note: Figures to the right indicate marks of the question.

Q-1 Write the most appropriate answer from the following multiple-choice questions. [06]

- 1 Which of the following is used to convert ac signal into dc signal?
(a) Rectifier (b) Capacitor
(c) Transformer (d) Inductor
- 2 The PIV of the center tapped full wave rectifier is _____.
(a) V_m (b) $2V_m$
(c) $3V_m$ (d) $4V_m$
- 3 Which is the best filter circuit?
(a) Series inductor filter (b) LC filter
(c) π filter (d) Shunt capacitor filter
- 4 Zener diode is also referred as _____ diode.
(a) forward bias (b) reverse bias
(c) avalanche (d) breakdown
- 5 The junction Capacitance of a pn junction diode is _____ proportional to the width of the depletion layer.
(a) inversely (b) direct
(c) Square root (d) square
- 6 Solar cell converts light energy into electrical energy through the _____.
(a) reverse biased (b) photovoltaic effect
(c) forward biased (d) Photoconductive effect



Q-2 Draw the block diagram of power supply and explain function of each block. [07]

OR

Q-2 What is rectifier? Explain construction and working of full wave rectifier. [07]

Q-3 Discuss the operation and characteristics of varactor diode. [07]

OR

Q-3 Write a note on solar cell. [07]