



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
US02MIELE03 : SUBJECT NAME : ELECTRONICS
ACTIVE ELECTRONIC COMPONENTS

Date: 05 – 03 – 2025, Day: WEDNESDAY

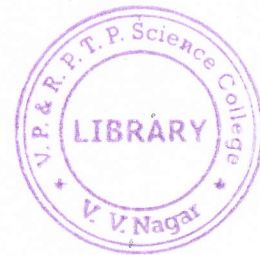
Time: 12: 45 P.M. TO 1:45 P.M.

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 PN junction in reverse biased has an effective capacitance called ____ capacitance.
 (a) Depletion. (b) Diffusion.
 (c) Barrier. (d) Reverse bias.
- 2 The cut in voltage of a silicon diode is ____
 (a) 0.3 (b) 0.7
 (c) 3.0 (d) 7.0
- 3  is the symbol of ____ diode.
 (a) Shottky. (b) Zener.
 (c) Tunnel. (d) Varactor.
- 4 Which circuit smoothes the pulsating dc in to pure dc?
 (a) Transformers. (b) Rectifiers.
 (c) Regulators. (d) Filters.
- 5 How much is the PIV of diode in half wave rectifier?
 (a) V_m (b) $2V_m$
 (c) Zero. (d) Infinite.
- 6 How much is the forward resistance of PN junction diode?
 (a) Infinite. (b) Very low
 (c) Zero. (d) Very high.



Q-2 With necessary circuit diagram explain VI characteristics of PN junction diode. [07]

OR

Q-2 Write a note on schottlky diode. [07]

Q-3 What is rectifier? Explain construction and working of half wave rectifier. [07]

OR

Q-3 What is zener breakdown? Explain voltage regulator using zener diode. [07]