



SEAT No. \_\_\_\_\_

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[43] SARDAR PATEL UNIVERSITY. V.V. NAGER.

S.Y.B.Sc. Sem-III . ELECTRONICS EXAMINATION,

SUB. CODE:-US03CELE51, ELECTRONIC DEVICES.

DATE:15/11/2022, Tuesday TIME:-10.00AM to 1:00PM

MARKS-70

[10]

Q-1 Choose correct answer

- 1.. The other name of tunnel diode is \_\_\_\_\_.  
(A) leo- Esaki diode (C) ionic-diode  
(B) light emitting diode (B) light emitting diode
2. Extrinsic semiconductor material means \_\_\_\_\_ semiconductor material.  
(A) Doped (C) ionic  
(B) Un-doped (D) None of these
3. Thermistor has \_\_\_\_\_ temperature coefficient.  
(A) Positive (A) Positive  
(B) Zero (B) Zero
4. In wire wound resistor winding is \_\_\_\_\_.  
(A) Clockwise (C) A & B  
(B) Anticlockwise (B) Anticlockwise
5. Intrinsic semiconductor material means \_\_\_\_\_ semiconductor material.  
(A) Doped (C) ionic  
(B) Un-doped (D) None of these
6. In normally doped P &N type semiconductor valence band is \_\_\_\_\_.  
(A) Empty (C) not present  
(B) Filled (D) None of these
7. Voltage variable capacitors is also known as \_\_\_\_\_.  
(A) Vari-caps (C) led  
(B) zener (D) None of these.
8. Reactance of inductor is given by  $X_L =$  \_\_\_\_\_.  
(A) XXXL (C) RRRHK  
(B) LLLX (D) None of these
9. Reactance of Capacitor is given  $X_c =$  \_\_\_\_\_.  
(A) XXXC (C) RRRCC  
(B) LLLXC (D) None of these
10. Out put of voltage doubler circuit is \_\_\_\_\_.  
(A) AC (C) DC  
(B) LLLXC (D) None of these

Q-2 Short answer type question. (any ten)

[20]

- 1 Define Demodulation.
- 2 List different applications of Tunnel diode.
- 3 Draw the figure of principle of voltage variable capacitor diode
- 4 List different applications of diode.
- 5 Write a note on P-Type semiconductor.
- 6 Write a note on N-Type semiconductor.
- 7 Explain temperature effect in Reverse biased PN junction
- 8 Draw the symbol of Tunnel diode, Varactor- diode & Thermistor..
- 9 Write a note on wire wound resistor.

- 10 Write a note on surface mount resistor.
- 11 Draw the circuit of full wave rectifier.
- 12 Define Amplitude Modulation.
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- Q.3(a) List different types of fixed Resistors and explain any one in detail 7
- Q.3(b) List different types of inductors & Explain any one. 3
- OR*
- Q.3.. List different types of fixed Capacitors and explain any two in detail 10.
- Q.4. Explain step response of RL circuit in detail. 10
- OR*
- Q.4(a) Give an account of forward biased PN -Junction diode 5
- Q.4 (b) Give an account of Reverse biased PN -Junction diode 5
- Q.5. Explain amplitude modulation drawing wave form and derive necessary derivation. 10
- OR*
- Q.5(a). Draw the neat circuit of Voltage doubler and explain it working. 5
- Q.5(b). Draw the neat circuit of diode clamper and explain it working. 5
- Q6 Give an account of Thermistor. 10
- OR*
- Q.6 Give an account of Voltage variable capacitor diode 10

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(2)