SC

[52] SEAT No._____ No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

S.Y.B.Sc. (Sem- III[rd]) EXAMINATION- Nov.-2018

Electronic Devices

SUB. CODE:-US03CELE01

DATE:-24/11/2018, Saturday TIME:-2:00 pm to 5:00 pm MARKS-70

Q-1 Choose correct answer [10]

1. Reactance of inductor is given by X_L=_____
   (A) 2πfL (C) 2fL
   (B) 1/2πfL (D) None of these
2. Reactance of capacitor is given by X_C=_____.
   (A)2πfC (C) fC
   (B)1/2πfC (D) None of these
3. The output of a voltage multiplier is _____volt.
   (A) DC (C) AC-DC
   (B) AC (D) None of these
4. Pure semiconductor material is referred as _____ material.
   (A) intrinsic (C) extrinsic
   (B) doped (D) None of these
5. When reverse bias is applied to P-N junction diode the barrier potential_____.
   (A) increases (C) decreases
   (B) no change (D) None of these
6. When Forward bias is applied to P-N junction diode barrier potential _____.
   (A) increases (C) decreases
   (B) no change (D) None of these
7. C.C. D means _____.
   (A) charge couple device (C) charge stop device
   (B) charge decoupled device (D) None of these
8. Thermistor has _____temperature coeficient.
   (A) negative (C) positive
   (B) no (D) None of these
9. In amplitude modulation, the amplitude of carrier is _____as per modulating signal.
   (A) changing (C) constant
   (B) not changing (D) None of these
10. Square-law diode modulator uses _____ portion of the characteristic.
    (A) linear (C) both (A) and (B)
    (B) non-linear (D) None of these

Q-2 Short answer type question. (any ten) [20]

1. Draw a diagram of wire wound resistor.
2. Write a note on surface mount resistor.
3. List different types of inductors,Explain any one in brief.

(P.T.O)

4. Define Extrinsic semiconductor.
5. Define modulation index .
6. Write a note on N-type semiconductor.
7. Draw the basic circuit of linear diode detector.
8. Draw the diagram of principle of voltage variable capacitor diode.
9. Draw the diagram of hyperabrupt junction VVC.
10. Draw the input t arrangement of CCD.
11. Define amplitude modulation.
12. Explain temperature effects on reverse bias PN junction diode.

Q.3 List different types of fixed resistor and explain any two fixed capacitors in detail. **[10]**

OR

Q.3 List different types of fixed capacitor and explain any two fixed capacitors in detail. **[10]**

Q.4 Give an account of step voltage response of RL circuit. **[10]**

OR

Q.4 Give an account of Forward bias PN junction diode and Reverse biase PN junction diode. **[10]**

Q.5 Give an account of amplitude modulation and derive necessary derivations. **[10]**

OR

Q.5 List different application of diode and explain any two in detail. **[10]**

Q.6 Write a note on voltage variable capacitor diode. **[10]**

OR

Q.6 Give an account of Forward bias Tunnell diode and Reverse bias tunnell diode. **[10]**

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