

[107]

SEAT No. _____



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SARDAR PATEL UNIVERSITY. V.V. NAGAR.

T.Y.B.Sc. Sem-III ELECTRONICS EXAMINATION, SUB. CODE:-US03CELE21

Electronics Devices

DATE:-29/11/2021, Monday TIME:-3:00PM to 5:00PM

MARKS-70

[10]

Q-1 Choose correct answer

- 1.. When forward biased is applied in PN junction diode barrier potential _____.
(A) Decreases (C) No change
(B) Increases (D) None of these.
2. Intrinsic semiconductor material means _____ semiconductor material.
(A) Doped (C) ionic
(B) Undoped (D) None of these
3. In RL circuit voltage in R & L has _____ phase difference.
(A) 90 degree (C) 360 degree
(B) 180 degree (D) None of these
4. Diode clamper circuit is used in _____.
(A) T.V. (C) Power supply
(B) Radio. (D) None of these
5. Voltage doubler uses _____ property of diode.
(A) Rectifying (C) Triggering
(B) Limiting (D) None of these
6. In _____ modulation amplitude of carrier is changed.
(A) Frequency (C) Amplitude
(B) Phase (D) None of these
7. _____ is a two terminal negative resistance device.
(A) Tunnel diode (C) FET
(B) BJT (D) None of these
8. Voltage variable capacitor is known as _____.
(A) Mini-transistor (C) Resistor
(B) Inductor (D) None of these
9. Thermistor has _____ temperature coefficient.
(A) Positive (C) Negative
(B) Zero (D) None of these
10. In wire wound resistor winding is _____.
(A) Clockwise (C) A & B
(B) Anticlockwise (D) None of these



Q.2 Fill in the Blanks & True or False

(08)

[a] Fill in the blanks.

(04)

- 1) Full form of CCD _____
- 2) In tunnel diode p-type and N-type are _____ doped
- 3) Trimmer capacitor is a _____ value capacitor.
- 4) Surface mount resistors are used in _____.

[b] Answer True or False

(04)

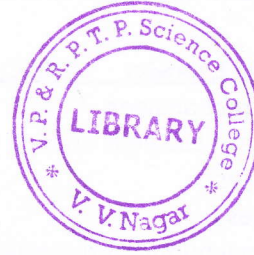
- 1) In variable gang capacitor dielectric material is air.
- 2) In VVC diode depletion region behaves as dielectric.
- 3) In diode limiter circuit two diodes are used.
- 4) In full wave rectifier o/p voltage is pure ac.

(P.T.O.)

Q-3 Short answer type question. (any ten)

[20]

1. Write a note on ceramic Capacitor.
2. Write a note on Mica Capacitor.
3. Write a note on Electrolytic Capacitor.
4. Write a note on N-type semiconductor
5. Define Demodulation.
6. Write a note on P-type semiconductor.
7. Draw the basic circuit of linear diode detector.
8. List different applications of Tunnel diode.
9. Draw the diagram of hyper-abrupt junction VVC.
10. Draw the output arrangement of CCD.
11. Draw the circuit of half wave rectifier.
12. Explain temperature effects on reverse bias PN junction diode.



Q.4 Answer any four out of eight question

32

- Q.(a) Give an account of Forward biased Tunnel diode & Reverse biased Tunnel diode. [8]
- Q.(b) List different types of fixed Resistor and explain any three in detail. [8]
- Q.(c) Give an account of step voltage response of RL circuit. [8]
- Q.(d) Give an account of un biased PN junction diode, what is temperature effect in forward biased PN junction diode. [8]
- Q.(e) Give an account of amplitude modulation and derive necessary derivations. [8]
- Q.(f) Explain working of voltage Doubler & Diode limiter. [8]
- Q.(g) Write a note on voltage variable capacitor diode. [8]
- Q.(h) List different types of fixed inductors and explain any one in detail. [8]

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