

V.P & R.P.T.P. SCIENCE, V.V.NAGAR
Internal Exam

B.Sc. (IVth SEM.) INSTRUMENTATION (Voc.)

DATE: 06/03/2018

SUB: US04CINV01

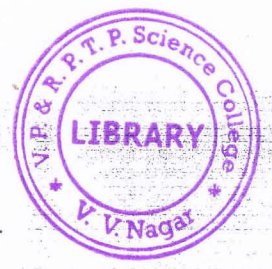
TIME: 3:00 pm to 5:00 pm

MARKS-50

Q-1 Choose correct answer

[08]

1. _____ is bi-lateral device with three terminals.
(A) SCR (C) DIAC
(B) TRIAC (D) None of above
2. Thyristor device is mainly used for _____.
(A) amplification (C) power controlling
(B) rectification (D) None of above
3. _____ is triggered in conduction by applying only positive voltage for gate signal.
(A) SCR (C) UJT
(B) DIAC (D) All of above
4. _____ is used as a relaxation oscillation.
(A) CSCR (C) UJT
(B) SCS (D) All of above
5. The relaxation period of the UJT can be changed by varying the changing rate of _____.
(A) capacitor (C) capacitor and resistor
(B) inductor (D) None of above
6. The total turn on time depends on _____.
(A) rise time (C) Anode circuit parameter.
(B) gate signal amplitude (D) All of above
7. Megger is a portable instrument. It is used for the measurement of _____.
(A) Low resistance (C) medium resistance
(B) High resistance (D) None of above
8. The operating voltage of a Megger is about _____.
(A) 120 volt (C) 400 volt
(B) 500 volt (D) None of above



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

[10]

1. Differentiate SCR and TRIAC.
2. List points designing a gate control circuit of turning on mechanism.
3. What is cycloconverter? List its application.
4. Draw SCS characteristics and symbol.
5. List advantage of A.C circuit over D.C circuit phase control.
6. What is snubber circuit? Briefly explain.
7. List hair drier Possible faults, their causes and remedies.
8. List possible fault in electric toaster.

Q.3 Discuss series connected operation of SCR with necessary figure. [08]

OR

Q.3 (a) Explain SCR principle of operation and characteristics. [04]

Q.3 (b) Explain Turn-OFF mechanism of an SCR with necessary figure. [04]

Q.4 Discuss the constructional mechanism and triggering mode of TRIAC with necessary figure. [08]

OR

Q.4(a) Discuss detail operation of UJT as a relaxation oscillator. [04]

Q.4(b) Explain phase control using a TRIAC. [04]

Q.5 Write a note on logical and digital circuit. [08]

OR

Q.5 Explain thyristor application: (i) Zero voltage switch. [08]
(ii) Over voltage protection.

Q.6 Explain ^{Megger} construction and working principle with testing of wiring installation. [08]

OR

Q.6 Explain principle of working electric iron and possible fault in automatic iron with their causes and remedies. [08]

