

15/12/14

SE - Mech.  
IV (Cold)  
Ind. Electronics

(OLD COURSE)

(3 Hours)

QP Code :14456

[Total Marks : 100

Instructions:

- 1] Question No.1 is Compulsory.
- 2] Answer any four from the remaining six questions.
- 3] Figures to the right indicate full marks.
- 4] Assume suitable DATA if Necessary.

- Q.1] Answer any four of following. 20
- a) Draw and Explain Diac and Triac with Characteristics.
  - b) Enlist industrial application of thyristors.
  - c) Explain UJT relaxation oscillator.
  - d) What are the advantages of electronic control of motor?
  - e) Draw and explain astable multivibrator using IC-555.
- Q.2] a) Enlist commutation circuits for SCR and explain one in Detail. 10  
b) Draw and explain three Phase series Inverter. 10
- Q.3] a) Explain architecture of 8085 microprocessor. 10  
b) Write detail notes on Jone's chopper. 10
- Q.4] a) Realize Basic gates using NAND and NOR gate. 10  
b) How light Dimmer is achieved using Diac and Triac. 10
- Q.5] i) Write down specifications of IC-741. 10  
ii) Draw and explain Integrator circuit. 10
- Q.6] a) Explain overvoltage protection and overload protection of D.C.motor. 10  
b) i) State and Prove De'Morgans Theorem. 05  
ii) Convert the Following, 05  
a)  $(101)_{10} = ( )_2$  b)  $(275)_{10} = ( )_2$
- Q.7] Answer any four of the following. 20
- a) Explain use of Mux, De-Mux, Boolean Algebra, Encoder
  - b) Enlist application of Rectifier Diode, Zener Diode, LED, Photo Diode.
  - c) Compare series and parallel Inverter.
  - d) Explain SCR I-V Characteristics on the basis of modes of operation.
  - e) Compare TTL and CMOS.

LM-Con.:11451-14.