Q.P. Code : **1485**

(3 Hours)　　　　　　　　　Total Marks : 100

N.B: (1) Q.1 is compulsory.
 (2) Attempt any four questions from the remaining six questions.
 (3) Figure to be right indicate full marks.

1. Solve **any four** of the following :　　　　　　　　　　　　　　　　20
 (a) Define the following terms
  (i) Fan in　(ii) Fan out　(iii) Noise immunity　(iv) Propagation delay
 (b) Draw all basic gates using NOR gate only.
 (c) Convert the following :
  (i) $(1050)_{10} = ()_2$　　　　(ii) $(455)_{10} = ()_2$
 (d) Compare microprocessor and microcontroller.
 (e) Draw and explain basic gates with truth table.

2. (a) Draw and explain light dimmer circuit using diac and triac.　　10
 (b) Draw and explain monostable multivibrator using IC-555 internal block diagram.　　10

3. (a) Draw and explain digital circuit reduction method.　　10
 (b) Explain with diagram 2 input totem pole logic family.　　10

4. (a) Draw neat diagram of 8085 microprocessor and explain it.　　10
 (b) Explain working of differentiator and integrator circuits.　　10

5. (a) Discuss in detail the over voltage protection of D.C motor.　　10
 (b) Explain interrupts of 8085 microprocessor.　　10

6. (a) Draw and explain D flipflop and T flipflop.　　10
 (b) How speed of A.C motor is controlled by frequency controlled method ? Explain.　　10

7. Write short note on following (any four) :　　　　　　　　20
 (i) Summing amplifier
 (ii) De'morgans Theorem
 (iii) Half Adder circuit
 (iv) V-I characteristics of SCR
 (v) Flip-Flop
 (vi) One bit memory cell

_____

QP-Con. 11607-15.