B.C.A. (Part—I) Semester—II Examination
2ST3 : DIGITAL TECHNIQUES—II

Time : Three Hours]   [Maximum Marks : 60

Note :— (1) **All** questions are compulsory.

(2) Draw neat diagrams wherever necessary.

(3) Due credit will be given to neatness.

1. (A) What is D-Flip-Flop ? Explain with Diagram and Truth Table.   6
   (B) Explain construction and working of astable multivibrator with suitable diagram.   6

OR

2. (A) Define Flip-Flop and differentiate RS and CLKRS Flip-Flop.   6
   (B) Explain :
   (i)   Monostable transistorized multivibrator
   (ii) Bistable transistorized multivibrator.   6

3. (A) What is Counter ? Explain Asynchronous 4-bit Counter with Diagram and Truth Table.   6
   (B) Explain up-down counters with suitable diagram.   6

OR

4. (A) State and explain applications of Modified Asynchronous Counter.   6
   (B) Draw and explain the diagram of IC 74931.   6

5. (A) Explain :
   (i)   SISO
   (ii) PISO.   6
   (B) Explain IC version of Shift register-7495 with connection diagram.   6

OR

6. (A) Explain the working of Ring Counter with neat diagram.   6
   (B) What is Johnson's Counter ? Explain with Connection Diagram and Truth Table.   6

7. (A) Explain difference between Primary and Secondary Memory.   6
   (B) Explain :
   (i)   RAM
   (ii) ROM
   (iii) EPROM.   6

OR

8. (A) Explain static RAM Cell with suitable diagram.   6
   (B) What is meant by Winchester disk ? Explain.   6

9. (A) What is A/D and D/A converter ? Explain the working of weighted resistor type D/A Converter.   6
   (B) Draw and explain IC ADC 0808 with block diagram.   6

OR

10. (A) Draw and explain IC DAC 0808 with suitable diagram.   6
    (B) Draw the block diagram of successive approximation type A/D Converter and explain. 6