B.C.A. Part - I Semester - II

# Digital Techniques - II Paper - 2ST3

P. Pages : 4

Time : Three Hours Max. Marks : 60

Notes : 1. All questions are compulsory.
2. Draw neat diagrams wherever necessary.

**Either**

**1.** A) Draw logic diagram of a CK-RSFF and explain its working. Draw its truth table. **6**

B) What is Multivibrator? Explain working of transistorised astable Multivibrator. **6**

**OR**

**2.** A) Explain the working of JKFF with logic diagrams and truthtable. **6**

B) What is race around condition in JKFF? Explain in detail. **4**

C) State uses of PRESET and CLEAR terminals in flip flops. **2**



**Either**

**9.** A) What is A/D and D/A converter? Explain the need of data converters. **4**

B) Explain the working of R-2 R type D/A converter. **4**

C) Draw block diagram of counter type A/D converter and explain its working. **4**

**OR**

**10.** A) Explain the working of weighted resistor type D/A converter. **4**

B) Draw block diagram of successive approximation type A/D converter and explain its working. **4**

C) Draw and explain IC ADC 0808 with pin diagram. **4**

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**Either**

3. A) Define i) Counter
ii) Asynchronous counter
iii) Synchronous counter
iv) Decade counter — **4**

B) Explain working of 3- bit asynchronous counter. — **4**

C) Draw pin diagram of IC 7490 and explain functions of all pins. — **4**

**OR**

4. A) Define i) Modulus of a counter.
ii) Up counter
iii) Down counter
iv) Modified counter. — **4**

B) Draw circuit diagram of a 3-bit synchronous counter and explain its working. — **4**

C) State applications of counters. — **4**

**Either**

5. A) What is shift register? Explain the working of 4-bit SISO shift register. — **6**



B) Explain the working of Ring counter with neat diagram. — **6**

**OR**

6. A) Draw block diagram of PISO shift register and explain its working. — **6**

B) Draw block diagram of IC 7495 and explain it in detail. — **6**

**Either**

7. A) What is memory? Give classification of memories. — **4**

B) Explain construction of floppy disk. — **4**

C) Differentiate between RAM and ROM. — **4**

**OR**

8. A) What is CD-ROM? Explain the working of CD-ROM. — **4**

B) With the help of neat diagram explain the construction of Winchester disk. — **4**

C) Explain PROM and EPROM in detail. — **4**