[Total No. of Questions: 5] SEAT No. :

[Total No. of Pages: 2]

F.Y.B.Sc. (Computer Science)
ELECTRONIC SCIENCE
ELC-122: Basics of Computer Organization (Backlog)
(New 2019 Pattern) (CBCS) (Semester -II) (Paper-II)

[Time: 2 Hours] *[Max. Marks: 35]*

Instructions to the candidates:

1) *Question 1 is compulsory.*
2) *Solve any three questions from Q.2 to Q.5.*
3) *Figures to the right indicate full marks.*
4) *Draw neat diagrams wherever necessary.*
5) *Questions 2 to 5 carry equal marks.*

Q.1) Solve any five of following. [5]

a) Draw the logic symbol of SR flip flop.

b) Write full form of T flip-flop.

c) Define Counter.

d) What is virtual memory?

e) State any two applications of shift registers?

f) Using 10 address lines _____ word can be addressed.

Q.2) A) Attempt the following:

i) Draw logic diagram of 3 bit SISO shift register in right shift mode and explain its working. [3]

ii) Explain basic computer organization with block diagram. [3]

B) Draw neat block diagram of CPU and explain working of each block. [4]

Q.3) **A) Attempt the following:**

i) What is ring counter? Draw and explain it. **[3]**

ii) Discuss various types of memories used in computer in short. **[3]**

B) Explain the concept of J-K flip flop and draw its block diagram with truth table. **[4]**

Q.4) **A) Attempt the following:**

i) Explain concept of T flip flop in detail. **[3]**

ii) What is important of I/O interface discuss details. **[3]**

B) Explain in brief need of cache memory. **[4]**

Q.5) **Attempt any Four of the following:** **[4 × 2.5 = 10]**

a) Explain how SR-flip flop can be converted into D-flip flop.

b) Compare computer architecture and organization.

c) Draw logic circuit diagram of three bits asynchronous up counter.

d) Compare CD and DVD (any three).

e) Write short note on Latch.

f) How much time required paralleling in and serial out shift a 4 bit data in shift register operation at the clock frequency is 10 KHz.

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