Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 07

BCA (Sem – 2)

COMPUTER SYSTEM ARCHITECTURE

Subject Code : UGCA-1908

M.Code : 77416

Date of Examination : 15-12-22

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

a) What is the use of register transfer language?

b) Write a short note on associate mapping.

c) Draw the flow chart for instruction cycle.

d) Write about direct / indirect addressing

e) Explain the conversion of an expression from SOP to POS form.

f) What are the main advantages of Hardwired control?

g) What is a T flip flop? Explain.

h) What is the principle of working of a Cache memory?

i) What is Von-Neumann Architecture?

j) Why DMA have priority over CPU when both request a memory transfer?

SECTION-B

2. What is control unit? Explain the micro programmed control unit.

3. a) Draw the diagram of a JK master flip-flop and explain its operation.

   b) Show how AND, OR, NOT gates can be realized from NAND gates?

4. Compare and contrast the features of RISC and CISC.

5. What is DMA data transfer? In what circumstances this scheme of data transfer is employed? What are burst mode and cycle stealing mode in DMA?

6. Solve the following function to SOP and POS forms using 5 variable Karnaugh map

$$F = \sum m\ (2, 3, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 26, 27)$$

7. Briefly discuss the following I/O schemes :

   a) Programmed I/O

   b) Interrupt initiated I/O

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.