K19U 0095

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS-Reg./Supple./Improv.) Examination, April 2019
(2014 Admission Onwards)
CORE COURSE IN COMPUTER SCIENCE
6B15CSC : Computer Organization

Time : 3 Hours

Max. Marks : 40

SECTION – A

1. **One word** answer : **(8×0.5=4)**
   a) MAR holds the address of the location to be accessed (True/False).
   b) Stores the content of AC into the memory word specified by effective address
   c) RISC stands for
   d) Who showed that arithmetic expression can be represented in prefix notation ?
   e) How many non-printing characters ASCII represents ?
   f) A _____ transmission can send and receive data in both directions simultaneously.
   g) The performance of cache memory is frequently measured in terms of a quantity called
   h) Which algorithm allocates a fixed-length time slice of bus time that is offered sequentially to each processor, in round-robin fashion ?

SECTION – B

Write short notes on **any seven** of the following questions : **(7×2=14)**

2. What is memory access time ?
3. What is instruction code ?
4. What is the purpose of BUN instruction ?
5. What is control word ?
6. Which are four types of commands that an interface may receive ?

P.T.O.

7. What is baud rate ?

8. What are priority interrupts ?

9. Draw the truth table of the priority encoder.

Inputs				Outputs			Boolean functions
I_0	I_1	I_2	I_3	x	y	IST	
1	x	x	x	0	0	1	
0	1	x	x	0	1	1	$x = I_0' I_1'$
0	0	1	x	1	0	1	$y = I_0' I_1 + I_0' I_2'$
0	0	0	1	1	1	1	$(IST) = I_0 + I_1 + I_2 + I_3$
0	0	0	0	x	x	0	

10. What is the disadvantage of direct mapping ?

11. What is the advantage of multiport memory ?

SECTION – C

Write short notes on **any four** of the following questions : **(4×3=12)**

12. Which are the three ways by which signed integer numbers can be represented ? Represent -14 with 8 bits in all these ways.

13. Discuss memory read and write operations.

14. Explain the execution of register reference instruction.

15. Demonstrate interrupt cycle before and after interrupt.

16. Discuss the organization of a micro-programmed control unit.

17. What are replacement algorithms ? Give examples.

SECTION – D

Write short notes on **any two** of the following questions : **(2×5=10)**

18. Explain stored program organization in detail.

19. Discuss mapping of instructions in micro-programmed control.

20. Discuss DMA transfer operation with the help of a block diagram.

21. Explain direct mapping of cache memory.
