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K16U 0167

Reg. No. :

Name :

VI Semester B.Sc. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2016
Core Course in Computer Science
6B15 CSC : COMPUTER ORGANIZATION

Time : 3 Hours

Max. Weightage : 21

SECTION – A

Answer all questions. Weightage for a Bunch of 4 questions is 1.

1. _____ contains the memory address of the next instruction to be executed.
a) PC ✓ b) IR c) MAR d) MDR
2. The two phases of executing an instruction are
a) Instruction decoding and storage
b) Instruction fetch and instruction execution ✓
c) Instruction execution and storage
d) Instruction fetch and instruction processing
3. In reverse polish notation, expression $A*B + C*D$ is written as
a) $AB*CD*+ ✓$ b) $A*BCD*+$
c) $AB*CD+*$ d) $A*B*CD+$
4. The communication between the components in a microcomputer takes place via the address and
a) I/O bus ✓ b) Data bus
c) Address bus d) Control lines

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5. An interface that provides I/O transfer of data directly to and from the memory unit and peripheral is termed as
 - a) DDA
 - b) Serial interface
 - c) BR
 - d) DMA ✓
6. A Stack-organized Computer uses instruction of
 - a) Indirect addressing
 - b) Two-addressing
 - c) Zero addressing ✓
 - d) Index addressing
7. Cache memory acts between
 - a) CPU and RAM ✓
 - b) CPU and Hard Disk
 - c) ROM and RAM
 - d) None of these
8. What characteristics of RAM memory makes it not suitable for permanent storage ?
 - a) Too slow
 - b) Unreliable
 - c) It is volatile ✓
 - d) Too bulky (2x1=2)

SECTION - B

Answer **any five** questions. Weightage **1** for **each**.

9. What is Computer Organization ?
10. What you mean by gray code ?
11. Define a bus. ✓
12. What is asynchronous transmission ? ✓
13. Differentiate among direct mapping and associate mapping. ✓
14. What is meant by Input-output processor ? ✓
15. Briefly explain bit-Oriented Protocol.
16. Give a brief note on Address space and Memory space. (5x1=5)



SECTION - C

Answer **any five** questions. Weightage **2** for **each**.

- 17. What are functional units ? Discuss the basic functional units of a computer. ✓
- 18. Explain about floating point representation. ✓
- 19. Define interrupt. Why priority of interrupt is required ? How it is restored ? ✓
- 20. List the differences between a subroutine call and an interrupt. ✓
- 21. Define hit ratio and explain its significance. ✓
- 22. Differentiate between virtual memory and cache memory.
- 23. What are the major characteristics of a RISC processor ? ✓
- 24. Explain how DMA controller communicates and transfers data between the peripheral devices and RAM. ✓ (5×2=10)

SECTION - D

Answer **any one** question. Weightage **4** for **each**.

- 25. List different addressing modes. Explain in detail. ✓
- 26. Discuss the different mapping techniques used for cache memory. What is the need of mapping techniques ? ✓ (1×4=4)

Handwritten notes in red ink at the bottom of the page, including:
P02 P20 - 12
P03 P21 - 10
P02 P20 - 10
P02 P20 - 10