D 50632 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Computer Science

BCS 5B 08—COMPUTER ORGANIZATION AND ARCHITECTURE

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What are registers ?
2. What are the major parts of CPU ?
3. What is meant by pipelining ?
4. What do you mean by addressing mode ?
5. What is micro program ?
6. What are interrupts ?
7. What is a cache memory ?
8. What do you mean by physical address ?
9. What are instruction codes ?
10. What is DMA ?

(10 × 1 = 10 marks)

Part B (Short Answer)

Answer **all** *questions.*
Each question carries 2 *marks.*

11. Define the terms Computer Organization and architecture.
12. What is the purpose of a program counter ? Explain with an example.
13. What is parallel processing ? Explain.
14. What is asynchronous data transfer ?
15. Compare between CISC and RISC.

(5 × 2 = 10 marks)

Turn over

Part C (Short Essays)

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Explain the basic operational concepts of a computer.
17. How are instructions executed ? Explain.
18. Explain the floating point representation of a number.
19. Explain the organization of RAM.
20. Explain the concept of virtual memory.
21. Write notes on micro programmed control.
22. Distinguish between programmed I/O and interrupt initiated I/O.
23. Explain the various instruction formats.

(5 × 4 = 20 marks)

Part D (Essays)

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. Explain in detail the technique behind DMA.
25. Discuss about general register organization.
26. Explain the various types of addressing modes with examples.
27. How are instructions classified ? Explain.
28. Discuss about the design of instruction pipelining.
29. What are the various mapping techniques used in cache memory ? Explain any *two*.
30. What are the different parallel processing architectures ? Explain.
31. Write short notes on :
    (a) Auxiliary memory.
    (b) I/O interface.
    (c) Priority interrupts.

(5 × 8 = 40 marks)