Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 75479

5 year M.Sc. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Second Semester

Software Engineering

ESE 022 — COMPUTER ARCHITECTURE

(Regulation 2010)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the different types of assembler directives.

2. What is the purpose of stack?

3. What is Binary multiplication? Give an example.

4. How are signed binary numbers represented?

5. Define block replacement.

6. What are the advantages and disadvantages of horizontal and vertical organisation?

7. List the merits and demerits of SRAM.

8. What is the use of write back protocol?

9. Define Handshaking.

10. What is Interrupt Latency?

PART B — (5 × 16 = 80 marks)

11. (a) What is byte addressability? Explain its various types.

Or

(b) Explain briefly the various types of addressing modes. Explain each with an example.

12. (a) Explain the floating point add/sub rule? Write a detailed flowchart and Explain how floating Point addition/subtraction is performed.

Or

(b) (i) Compare Hardwired control from Microprogrammed control. (8)

(ii) Explain the standard form of floating point numbers. (8)

13. (a) Explain in detail about the working of a micro programed control unit. List out the Pros and Cons of it?

Or

(b) Define data hazards and explain the various pipelining hazards and their remedies in the Processor.

14. (a) Draw the typical block diagram of a DMA controller and explain how it is used for direct data transfer between memory and peripherals.

Or

(b) Describe the various mechanism for accessing I / O devices.

15. (a) Explain in detail about the different mapping methods of cache memory.

Or

(b) What is virtual memory? Explain virtual memory address translation in detail.

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