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(21216)

Roll No.

BCA - III Sem.

18013

B. C. A. Examination, Dec. 2016

Computer Architecture and Assembly Language

(BCA-303)

(New Course)

Time : Three Hours

[Maximum Marks : 75

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Answer all the *five* questions. Each question carries equal marks. Very short answer is required not exceeding 75 words. $3 \times 5 = 15$

1. Give important characteristics of RISC architecture.

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2. What is the advantage of using Booth algorithm?
3. Differentiate between micro-instruction and microprogram.
4. What is the difference between a direct and an indirect address instructions?
5. Convert the following into reverse polish notation :

$$A * B + C.$$

Section-B

(Short Answer Questions)

Answer any *two* questions out of the following three questions. Each question carries equal marks. Short answer is required not exceeding 200 words. $7\frac{1}{2} \times 2 = 15$

6. Discuss Basic Computer Organization. How is it different from computer architecture?
7. What do you understand by pipeline processing? Explain an arithmetic pipeline that adds two normalized floating numbers.

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8. Write a program in assembly to ADD two numbers stored at memory location 2001H and 2002H. Result will be display at 2004H.

Or

What do you understand by Instruction Cycle? What are the different phases of instruction cycle?

Section-C

(Detailed Answer Questions)

Answer any *three* questions out of the following five questions. Each question carries equal marks. Answer is required in detail. $15 \times 3 = 45$

9. What do you understand by Parallel Processing? Discuss in detail how it helps in reducing the running time. Which kind of tasks can be parallelized?
10. What do you mean by Addressing Models? Explain the following addressing modes :
- (a) Immediate (b) Implied.
 - (c) Direct (d) Indirect.
 - (e) Relative (f) Base Register.
 - (g) Indexed.

11. Describe Direct Memory Access (DMA). Explain its functioning of DMA transfer with the help of diagram.
12. Differentiate between :
- (a) General purpose and Special Purpose Register
 - (b) RISC and CISC instruction set
 - (c) Hardwired and micro-programmed control
 - (d) Vector processing and Array processing
 - (e) Interrupt and subroutine
13. What is Priority Interrupt? Explain Polling and Daisy Chaining Priority.