Bachelor of Computer Applications 2nd Semester
1048
COMPUTER ORGANIZATION
Paper–BCA-16-202

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :– Attempt **one** question each from Sections A, B, C and D. Section E is compulsory.

SECTION–A

1. (a) What is Stored Program Architecture ? Explain the limitations of Stored Program Architecture.   6

   (b) What are combinational blocks ? Explain the working of a 3-to-8 line decoder with the help of logic symbol, logic diagram and truth table.   7

2. (a) What is a flip-flop ? What is the use of flip-flops ? Explain the working of any two flip-flops.   6

   (b) Multiply-12 and –9 using Booth's algorithm.   7

SECTION–B

3. (a) What is addressing mode ? Explain Direct, Indirect, Displacement and Register addressing modes.   7

(b) What are microinstructions ? Explain various Arithmetic and Logic microinstructions.   6

4. (a) What is instruction Cycle ? Explain with the help of a flowchart.   7

(b) Explain Strobe based and handshake based communication.   6

SECTION–C

5. (a) What is memory hierarchy ? Explain different types of memories used in a computer.   7

(b) Explain the working of Virtual Memory with the help of a diagram.   6

6. (a) What are the differences between Assembly Language and Machine Language ? What is the use of pseudo instructions in Assembly Language ?   6

(b) Write an Assembly Language program using subroutines to perform multiplication of two numbers.   7

SECTION–D

7. (a) What is motherboard ? List and explain various components attached on a motherboard.   5

(b) What is an Expansion card ? Explain any three expansion cards.   8

8. (a) What are the various diagnostics performed on a Personal Computer for its maintenance? 6

(b) What is a computer virus? What are the various symptoms that indicate infection of a PC by a virus? How virus can be removed from an infected computer? 7

SECTION–E

9. Attempt **all** questions :

(a) What is a half adder? 2

(b) Define Cache Initialization 2

(c) Perform $(12)_{10} + (27)_{10}$ using 2's complement. 3

(d) What is an instruction set? 2

(e) What is cycle stealing in DMA? 2

(f) What is boot sector virus? 2