

(i) Printed Pages: 3

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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Bachelor of Computer Applications 6th Semester

1048

COMPUTER ORGANIZATION

Paper—BCA-602

Time Allowed : Three Hours]

[Maximum Marks : 90

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

SECTION—A

1. (a) Explain Von Neumann architecture for computer organization. What are the drawbacks of Von Neumann Architecture ? 9
- (b) What is a logic gate ? Explain OR, AND and NOT gates with truth tables and circuit diagram. Which gates are known as universal blocks and why ? 9
2. (a) What is a multiplexer ? Explain working of 8×1 multiplexer. 9
- (b) Explain JK master-slave flip-flop. Draw transition tables, characteristic equation, state and timing diagram. 9

SECTION—B

3. (a) Why are addressing modes used ? Discuss various addressing modes in detail. 9
- (b) Explain difference between strobe based and handshaking based communication. 9
4. Explain how I/O data transfer takes place with the help of DMA. In what way is it better than input-output data transfer techniques ? Explain with suitable diagrams. 18

SECTION—C

5. (a) What is associative memory ? Describe its hardware organization and working. 9
- (b) What are the various mapping procedures used in cache memory organization ? Explain each in detail. 9
6. (a) How are subroutines handled in an assembly language ? Explain with a suitable example. 9
- (b) What is Register Transfer Language and Micro-operations ? How micro-operations are carried out by using Register Transfer Language ? 9

SECTION—D

7. (a) What are different expansion cards available for a PC ? Explain in detail. 12
- (b) Write the steps to install software in a PC. 6
8. (a) What is the difference between worm, virus and Trojan horse ? 9
- (b) What are the essential activities to be done for computer system maintenance ? 9

SECTION—E

9. Answer the following in brief :

- (a) How addition is performed with 2's complement ? Give an example.
- (b) Define Decoder.
- (c) What is an Interrupt ?
- (d) How floating point numbers are represented in memory ?
- (e) What is a bus ?
- (f) Differentiate between Machine Language and Assembly Language.
- (g) Write names of two antivirus software.
- (h) What is dynamic RAM ?
- (i) What is the role of Pseudo Operations in Assembly Language ?

$$9 \times 2 = 18$$