

(i) Printed Pages: 2 Roll No.

(ii) Questions : 9 Sub. Code :

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Exam. Code :

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Bachelor of Computer Applications 2nd Semester

1059

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 are the main characteristics of Von-Neumann Architecture ? What are its drawbacks ? 5
- (b) What is a combinational circuit ? Explain Encoder with the help of logic gate and truth table. 8
2. (a) What is a Flip Flop ? Explain the working of SR and JK flip flop with the help of symbol, logic circuit, truth table and state table. 7
- (b) Discuss fixed point representation, floating point representation and 2's complement representation. 6

SECTION—B

3. (a) What are addressing modes ? Explain the different types of addressing modes with examples. 7
- (b) What is an instruction cycle ? Explain different phases of instruction cycle with the help of a flowchart. 6
4. (a) What is an interrupt ? Explain the vector and priority interrupts. 9

- (b) Explain how DMA controller communicates and transfers data between the peripheral devices and RAM. 4

SECTION—C

5. (a) What is associative memory ? Describe its hardware organization. 7
 (b) Differentiate between RAM and ROM. 6
6. (a) Write assembly language program to perform integer multiplication with the help of procedure. 8
 (b) Explain the difference between machine and assembly language. 5

SECTION—D

7. (a) What is the meaning of computer hardware ? Describe the working of any two physical components of a computer. 7
 (b) What are the various activities to be performed for physical inspection and diagnostics on a PC ? 6
8. (a) Explain the functional description of any two external cards. 6
 (b) How computer viruses are detected ? What steps you will perform to protect your computer against virus attack ? 7

SECTION—E

9. Attempt *all* questions :
- (a) What is a register ? 2
 (b) $(371)_8 = ()_{16}$. 2
 (c) Define Ransomware. 2
 (d) What is an internal card ? 2
 (e) What are two types of RAMs ? 1
 (f) Draw logic circuit of half adder. 2
 (g) What is DMA ? 2