

F-2745

Sub. Code

7BCEA2

U.G. DEGREE EXAMINATION, NOVEMBER 2019

Computer Science

***Allied* — COMPUTER ORGANIZATION**

(CBCS – 2017 onwards)

Time : 3 Hours

Maximum : 60 Marks

Part A

(10 × 1½ = 15)

Answer **all** questions.

1. A computer has 128k of memory. How many bytes does this represents?
2. Calculate the binary equivalent of 5280.
3. Draw the circuit of BCD-TO-Decimal decoder.
4. What is meant by encoder?
5. Show the binary subtraction of 125_{10} from 200_{10} .
6. Draw the circuit of Half-Adder with truth table.
7. Write the memory Reference instructions.
8. Define : Binary Micro Program.
9. Draw the diagram of memory Hierarchy.
10. Write the properties of RISC computers.

Part B

(5 × 3 = 15)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the universality of NAND, NOR gates.

Or

- (b) Explain about the gray code.

12. (a) Using k-map. Simplify $F(A, B, C, D) = \sum_m(7) + d(10, 11, 12, 13, 14, 15)$.

Or

- (b) Briefly explain about Demultiplexers.

13. (a) Show the 8-bit addition of these decimal numbers in 2's complement representation.

(i) +67, -98

(ii) +89, -34.

Or

- (b) Explain about Adder-subtractor with circuit diagram.

14. (a) Explain the register reference instructions.

Or

- (b) Explain the Address sequencing in control memory.

15. (a) Describe about program control.

Or

- (b) Describe about addressing modes in detail.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Do the following:
 - (a) What is the Hexa decimal equivalent of decimal 62359?
 - (b) What is the decimal equivalent of octal 325.736?
 - (c) Express decimal 5280 in excess three code.
 - (d) What is the octal equivalent of decimal 324.987?
17. Describe about parity generators and checkers.
18. Give the sum in each of the following:
 - (a) $3_8 + 7_8 = ?$
 - (b) $5_8 + 6_8 = ?$
 - (c) $4_{16} + C_{16} = ?$
 - (d) $8_{16} + F_{16} = ?$
19. Explain about the control memory organization.
20. Explain about the types of pipeline in detail.
