



QP CODE: 25019397

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B.Sc DEGREE (CBCS)) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Fourth Semester

B.Sc Electronics and Computer Maintenance Model III

Core Course - EM4CRT04 - FUNDAMENTALS OF COMPUTERS

2017 Admission Onwards 98C34828

Time: 3 Hours Max. Marks: 80

Part A

Answer any **ten** questions.

Each question carries **2** marks.

- 1. What is the function of an ALU?
- 2. Write the steps for performing an arithmetic or logic operation.
- 3. Explain how branching is attained during instruction execution.
- 4. Draw the single bus structure, to show the arrangement of I/O devices to computers.
- 5. Define interrupt and interrupt request line.
- 6. Define the term UART.
- 7. What is the purpose of air filter in HDD?
- 8. What is the principle behind the working of an actuator?
- 9. Define RLL encoding methods.
- 10. Define low level formatting.
- 11. Define cache line.
- 12. What is the difference between EPROM and EEPROM?

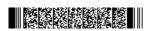
 $(10 \times 2 = 20)$

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. With a neat block diagram, describe the functions of the five units of a digital computer.



Page 1/2 Turn Over



- 14. Explain the single bus organization of the datapath inside a processor with a diagram.
- 15. Explain the output data transfer on asynchronous bus with help of timing diagram.
- 16. List the functions of I/O interfaces.
- 17. What are the advantages of magneto resistive heads?
- 18. What are the peculiarities of tracks of hard disk?
- 19. Write a short note on IDE interface.
- 20. Explain the internal organization of memory chips.
- 21. Give a short description on DIMM.

 $(6 \times 5 = 30)$

Part C

Answer any two questions.

Each question carries 15 marks.

- 22. List the actions needed to execute the instruction ADD (R1),R2.Write the sequence of control steps to perform the actions for the single bus structure. Explain the steps.
- 23. Explain different methods of which processor handles multiple devices.
- 24. Explain how data is written on a HDD and also explain the reading of data from HDD.
- 25. Illustrate the block diagram of synchronous DRAM and explain each block.

 $(2 \times 15 = 30)$

