25019397

QP CODE: 25019397

Reg No : .....

Name : .....

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?

(10×2=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.

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.

(6×5=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.

(2×15=30)