

FOURTH SEMESTER UG DEGREE EXAMINATION, APRIL 2023
(Regular/Improvement/Supplementary)

BCA

GBCS4A03T: MICROPROCESSORS ARCHITECTURE AND PROGRAMMING

Time: 2 ½ Hours

Maximum Marks: 80

SECTION A: Answer the following questions. Each carries two marks.

(Ceiling 25 Marks)

1. Define memory mapping.
2. Differentiate between instruction cycle and machine cycle.
3. Define pipelining.
4. What is I/O addressing?
5. What are the different modes of 8255?
6. What is assembly language?
7. What are arithmetic instructions? Give examples.
8. What is accumulator?
9. Differentiate between 8085 and 8086 processors.
10. Explain segment registers of 8086 processor.
11. What do you mean by program control instructions?
12. Explain how the address/data bus of 8085 microprocessor is de-multiplexed?
13. What are call and return instructions?
14. How do you calculate physical address in 8086 processor?
15. Write down the applications of 8254.

SECTION B: Answer the following questions. Each carries five marks.

(Ceiling 35 Marks)

16. Explain the following instructions with suitable example of each.
a) MOV b) CMP c) STA d) ORA e) JMP
17. Describe the status flags of 8086 processor.
18. Explain the use and operations of stack and stack pointer in 8085.
19. What are buses? Why do we need buses in microprocessors? Explain it using the bus organization of 8085 processor.
20. Write an assembly language program to add two 8-bit numbers.
21. Briefly explain interrupts in 8085.
22. What is BIU? Explain its functions.
23. Explain any five pins of 8085 processor.

SECTION C: Answer any two questions. Each carries five marks.

24. Draw and explain timing diagram for the machine cycles of 8085 processor.
25. Explain the internal architecture of 8085 with a neat diagram.
26. Explain shift and rotate instructions with example.
27. Give a detailed account on addressing modes of 8086 processor.

(2 × 10 = 20 Marks)