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# FIFTH SEMESTER (CBCSS-UG) DEGREE EXAMINATION, NOVEMBER 2024

#### **BCA**

### BCA 5B 07—COMPUTER ORGANISATION AND ARCHITECTURE

(2019 Admission onwards)

Time: Two Hours

Maximum: 60 Marks

#### **Section A - Short Answer Type Questions**

All questions can be answered.

Each correct answer carries a maximum of 2 marks.

(Ceiling 20 Marks).

- 1. What are logic gates?
- 2. What do you mean by combinational circuits?
- 3. Compare synchronous and asynchronous counters.
- 4. What are sequential circuits?
- 5. What are the different types of shift registers?
- 6. What are the various parts of an instruction? Explain with an example.
- 7. Define interrupt.
- 8. What are addressing modes?
- 9. What is meant by locality of reference and how does it help in faster execution of program?
- 10. What are I/O processors?
- 11. What are priority interrupts?
- 12. What are I/0 controllers?

(Ceiling 20 marks)

# **Section B - Paragraph/ Problem Type Questions**

All questions can be answered. Each question carries 5 marks. (Ceiling 30 Marks).

- 13. Describe half adders and full adders with suitable diagrams.
- 14. What are flipflops? Explain SR and JK flipflops.
- 15. Explain the working of four bit serial in parallel out shift registers.

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- 16. How are computer instructions classified? Explain briefly.
- 17. Explain the concepts of general register organization.
- 18. Differentiate between synchronous and asynchronous modes of data transfer.
- 19. Explain how data is transferred with help of DMA.

(Ceiling 30 marks)

# **Section C - Essay Type Questions**

Answer any one of the following questions.

The question carries 10 marks.

- 20. What are counters? Describe the working of a four bit binary ripple counter.
- 21. Explain the basic organization of a micro programmed control unit and the generation of control signals using micro program.

 $(1 \times 10 = 10 \text{ marks})$