

19008

B.C.A. Examination, December-2025

(Under NEP)

COMPUTER ARCHITECTURE

(BCA-1002)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from **all** sections as per instructions..

Section-A**(Very Short Answer Questions)**

Note : Attempt all **five** questions. Each question carries 3 marks. Very short answer is required. $5 \times 3 = 15$

1. Define a digital signal.
2. What is a Half Adder?
3. What is an instruction cycle?
4. What is parallel processing?
5. What is Von Neumann architecture?

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Section-B**(Short Answer Questions)**

Note : Attempt any two questions out of the following three questions. Each question carries 7.5 marks. Short answer is required. $2 \times 7.5 = 15$

6. Explain Boolean laws with an example.
7. Differentiate between synchronous and asynchronous binary counters.
8. Discuss the difference between RISC and CISC architectures.

Section-C**(Detailed Answer Questions)**

Note : Attempt any **three** questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. $3 \times 15 = 45$

9. Explain K-Map simplification methods for SOP and POS forms.
10. Discuss the different types of registers and their applications in computer systems.
11. Describe the various instruction formats and addressing modes.

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12. Explain input-output organization with reference to instruction pipeline and peripheral devices.
13. Discuss the memory hierarchy in detail.