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Roll No.

BCA-I Sem.

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?

19008

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(2)

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.

19008

(3.)

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