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BCA-106

B.C.A. (First Year) EXAMINATION, 2018

Paper-VI

(Computer Organization)

Time allowed : Three Hours

Maximum Marks : 100

Part A (खण्ड 'अ') [Marks : 20]

Answer all questions (50 words each).

All questions carry equal marks.

सभी प्रश्न अनिवार्य हैं । प्रत्येक प्रश्न का उत्तर 50 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

Part B (खण्ड 'ब') [Marks : 50]

*Answer five questions (250 words each),
selecting **one** question from each Unit.*

All questions carry equal marks.

प्रत्येक इकाई से एक प्रश्न चुनते हुए कुल पाँच प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

Part C (खण्ड 'स') [Marks : 30]

Answer any two questions (300 words each).

All questions carry equal marks.

कोई दो प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

P.T.O.

Part A

1. Answer the following questions :
 - (i) Where registers reside in memory ?
 - (ii) What are integrated circuits ?
 - (iii) What is ALU ? Give names of its components.
 - (iv) Name the basic building blocks of computer system.
 - (v) Why memory buffer registers are required ?
 - (vi) Name all addressing techniques.
 - (vii) What is RAM ? Define the types of RAM.
 - (viii) Why cache memory is required ?
 - (ix) What are microprocessors ?
 - (x) How data and address buses work ?

Part B

Unit I

2. Explain registers, capacitors and inductors in detail.
3. Give explanation of the following semiconductor devices :
 - (a) Diodes
 - (b) Transistors (BJT and FET)

Unit II

4. Explain the following :
 - (a) Branch instruction
 - (b) Skip instruction
 - (c) Jump instruction
 - (d) Shift instruction
5. What is instruction word ? Explain instruction execution cycle in detail.

Unit III

6. What is addressing ? Explain any *four* addressing techniques with example.
7. Give details of indexed, general purpose and special purpose registers.

Unit IV

8. What is virtual memory ? Explain.
9. Why cache memory is required ? Explain all levels of cache.

Unit V

10. What is system bus ? Describe all bus formats in detail.
11. Elaborate microcontrollers. What are microprocessors ? Explain.

Part C

12. What are integrated circuits ? Explain the following circuits :

(a) SSI

(b) MSI

(c) LSI

(d) VLSI

13. Which component of computer system converts the human readable language to machine language ? Also explain the complete process of instruction execution.

14. Explain overflow, carry, shift, memory buffer register, accumulator and stack pointer registers in detail.

15. What is ROM ? Name all the types of ROM with proper explanations.

16. Explain auxiliary devices and printers.