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B.Sc. DEGREE EXAMINATION NOVEMBER 2016.

First Semester

COMPUTER SCIENCE (OPTIONAL)

Paper 1.1 – INTRODUCTION TO COMPUTER SCIENCE

(New Syllabus)

e : Three hours

Maximum : 80 marks

Answer any **FIVE** full questions.

Each carries **16** marks.

(a) Define computer. Explain its characteristics.

(b) Explain types of computer with suitable examples. (8 + 8 = 16)

(a) Discuss briefly the processor and main memory architecture with diagram.

(b) Distinguish RAM and ROM.

(c) What do you mean by CU? (10 + 4 + 2 = 16)

(a) Carry out the following conversions :

(i) $(2 + 4)_{10} = ?_2$

(ii) $(2.25)_{10} = ?_2$

(iii) $(ABC)_{16} = ?_2$

(iv) $(123)_8 = ?_{10}$

(b) What is computer code? Explain any four computer codes. (8 + 8 = 16)

4. (a) What do you mean by Logic gates? Explain its types with truth table.

(b) Construct a logic circuit for the following expression $(x + y + z) \cdot (x + \overline{y}) \cdot (\overline{x} + \overline{y})$. (10 + 6 = 16)

5. (a) What do you mean by system software? Explain functions and types of operating system.

(b) Explain the types of computer programming languages with its merits & demerits. (8 + 8 = 16)

6. (a) Define switching technique. Explain different switching techniques.

(b) Explain the types of network topologies with neat diagram. (8 + 8 = 16)

7. (a) What do you mean by internet & intranet? What are the various applications of internet?

(b) Briefly explain the following :

(i) e-mail

(ii) Telnet

(iii) Website (8 + 8 = 16)

8. Write a short note on any **FOUR** of the following : (4 × 4 = 16)

(a) Printers

(b) Algorithm & flowchart

(c) Law of Boolean Algebra (De Morgan's law)

(d) Input devices

(e) Switching Techniques

(f) Cloud computing