

Number Systems
Model Exam Question paper - 1

11th Standard

Computer Science

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 45

10 x 1 = 10

Part-A

- 1) Data can be classified into forms.
(a) 5 (b) 2 (c) 3 (d) 4
- 2) One byte is equal to number of bits.
(a) 8 (b) 16 (c) 256 (d) 255
- 3) The ASCII value range for the upper case alphabets is
(a) 0 to 48 (b) 97 to 122 (c) 0 to 127 (d) 65 to 90
- 4) The binary value of 23 is
(a) 11011 (b) 10111 (c) 10011 (d) 11101
- 5) The radix of a hexadecimal number is
(a) 2 (b) 8 (c) 16 (d) 10
- 6) The hexadecimal equivalent of the binary sequence 110010011101₂ is
(a) A9D₁₆ (b) C9D₁₆ (c) C8D₁₆ (d) A8D₁₆
- 7) The radix of an octal number is
(a) 2 (b) 8 (c) 4 (d) 16
- 8) What is the octal representation of the decimal number 64₁₀ ?
(a) 90₈ (b) 111₈ (c) 457₈ (d) 100₈
- 9) The range of positive values in a n - bit system is from
(a) 0 to 2ⁿ⁻¹ (b) 0 to 2ⁿ - 1 (c) 0 to 2ⁿ⁻¹ - 1 (d) - 1 to - 2ⁿ⁻¹
- 10) Using 2's complement in 4 bit system the result of -7 +5 is
(a) 0110 (b) 1100 (c) 1110 (d) 0010

Part-B

11 x 2 = 22

- 11) Define memory read and memory write operations.
- 12) When do we use ROM?
- 13) List few commonly used output devices.
- 14) List few commonly used storage devices.
- 15) What are registers?
- 16) Distinguish between text data and graphics data.
- 17) What is BIT?
- 18) Find the decimal equivalent of 10111₂.
- 19) Find the binary equivalent of - 23 in two's complement representation.
- 20) Calculate 10111 + 10110
- 21) Subtract 1000 - 101

Part-C

1 x 3 = 3

- 22) Convert the decimal number into binary number: 1729

Part-D

2 x 5 = 10

- 23) What is sign + magnitude representation? Why this method is not adopted to represent signed integers? What is the most efficient way of representing a signed integer?
- 24) Convert the following decimal numbers to binary using sum of powers of 2 methods
(a) 41₁₀ (b) 77₁₀ (c) 95₁₀
