

I SEMESTER EXAMINATION, 2017-18

STD:XI

Sub: Computer-Science I

MARKS:50

DATE:

TIME:3hrs

Q.1 Select the correct alternative and rewrite the following 4 M

A]

- 1 A _____ is used for Input or Output operation.
a) Connector b) Decision c) Loop d) Parallelogram
- 2 The octal equivalent of the binary number $(1010101)_2$ is _____.
a) 5B b)55 c)12F d)125
- 3 An algorithm is the finite set of _____ instructions to accomplish a task written in English language.
a) sequential b) random c) Input d) Output
- 4 2's complement of the binary number $(1100)_2$ is _____.
a)0100 b) 0001 c) 01000 d) 1010

B] Answer any two of the following 6 M

- 1 Write an algorithm to print first 50 even numbers.
- 2 What are the advantages and disadvantages of Algorithm?
- 3 Subtract using binary subtraction $(29)_{10}$ from $(38)_{10}$ by converting into binary

Q.2 Answer any two of the following 6M

A]

- 1 Perform addition (A+B) using binary arithmetic:
a) $(101101)_2 + (100111)_2$ b) $(11001111)_2 + (00110000)_2$
- 2 Explain Branch flow Problem with an example.
- 3 Convert the octal number $(365.24)_8$ to decimal.

B] Answer any one of the following 4M

- 1 What are the advantages and disadvantages of Flowcharts.(Give 3 points each)
- 2 Convert the given decimal number to binary 36.1875.

Q.3 Answer any two of the following 6M

A]

- 1 Draw a flowchart to compute area of a rectangle.
- 2 Convert the following from binary to hexadecimal.
a) $(11010010)_2 = (X)_{16}$ b) $(1010101.101)_2 = (X)_{16}$
- 3 Subtract $(11100)_2 - (00100)_2$ using 1's complement method.

B] Answer any one of the following 4M

- 1 Write an algorithm and draw a flowchart to accept any number and find out whether it is negative or positive if it is negative then make it positive and print it.

- 2 Define the following.
a) Bit b) Nibble c) Byte d) Word

Q.4 **Answer any two of the following** **6M**
A]

- 1 Draw a flowchart to print factors of an inputted number.
- 2 Divide:- $101010 \div 110$
- 3 Multiply:- $(1001)_2 \times (1000)_2$

B] **Answer any one of the following** **4M**

- 1 Write a short note on flowcharts with one example.
- 2 Write an algorithm to find out whether given number is perfect number or not

Q.5 **Answer any two of the following** **10M**

- 1 Write an algorithm and draw a flowchart to check whether the inputted number is palindrome or not.
(e.g.:- 23432 is a palindrome and 234532 is not)
- 2 With a suitable example explain hexadecimal to octal number conversion.
- 3 Write an algorithm and draw a flowchart to find maximum of three inputted numbers.

OR

Q.5 **Answer any two of the following** **10M**

- 1 Explain subtraction using 2's complement method with an example.
- 2 Write an algorithm and draw a flowchart to find out total number of even and odd numbers from n given numbers.
- 3 Explain decimal to binary conversion with one integer part and one fractional number conversion.