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21506

Roll No. _

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21506

B. Tech. II Sem. (Main) / B. Tech. I Sem. (Back) Exam., May - 2019

ESC

2FY3 – 06 / 1FY3 – 06 Programming for Problem Solving

Time: 2 Hours **Maximum Marks: 80**

Instructions to Candidates:

Part – A: *Short answer questions (up to 25 words) 5 × 2 marks = 10 marks. All five questions are compulsory.*

Part – B: *Analytical/Problem solving questions 4 × 10 marks = 40 marks. Candidates have to answer four questions out of six.*

Part – C: *Descriptive/Analytical/Problem Solving questions 2 × 15 marks = 30 marks. Candidates have to answer two questions out of three.*

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL 2. NIL

PART - A

Q.1 What is difference between constant and variable? [2]

Q.2 Convert $(9896)_{10} = (?)_{16}$ [2]

Q.3 Write the notations of flow chart. [2]

Q.4 Perform $(10101)_2 - (01110)_2$ [2]

[2280]

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Q.5 Find the output of following program with valid reason.

```
# include < stdio. h >
Void main ( )
{
Static int var = 5 ;
Print f ("% d", var – –) ;
if (var)
    main ( ) ;
}
```

PART – B

Q.1 *What is Pointer? Explain array of pointers.* [10]

Q.2 *Write a program in 'C' and make a flowchart to find maximum number among 3 numbers.* [10]

Q.3 What are data types in 'C'? Explain with examples. [10]

Q.4 Write r's complement of following numbers, where r is radix (base) of those numbers. [10]

(a) $(10111010)_2$

(b) $(34056)_8$

(c) $(8750)_{10}$

(d) $(7f\ 3B)_{16}$

Q.5 Contrast between Parameter Passing in a function, 'By valve' and 'By Reference'?[10]

Q.6 What do you mean by storage devices? Explain the concepts of high level, Assembly and low level languages. [10]

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PART – C

Q.1 Write a program in 'C' to read contents of a file and display them in upper case. [15]

Q.2 What do you mean by random, direct and sequential access methods? Explain stored program architecture of computers. [15]

Q.3 What is array and it's types? Explain array of structures with the help of suitable program also describe structure within structure with an example. [15]

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