

<b>21506</b>	Roll No. _____	Total No of Pages: <b>3</b>
	<b>21506</b> <b>B. Tech. II Sem. (Main) / B. Tech. I Sem. (Back)</b> <b>Exam., May - 2019</b> <b>ESC</b> <b>2FY3 – 06 / 1FY3 – 06 Programming for Problem Solving</b>	

Time: 2 Hours

Maximum Marks: 80

**Instructions to Candidates:**

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

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

**Part – C:** Descriptive/Analytical/Problem Solving questions  $2 \times 15$  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]

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

[2]

```
# 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)  $(7f3B)_{16}$
- Q.5 Contrast between Parameter Passing in a function, 'By value' 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]

**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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