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P50

SEAT No. :

[Total No. of Pages : 2

TE/INSEM/APR-55

T.E. (I.T.) (Semester - II)

314451: SYSTEMS PROGRAMMING

(2015 Pattern)

Time : 1 Hour]

Instructions to the candidates:

- 1) Solve Q.1, or Q.2, Q.3, or Q.4, Q.5 or Q.6.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Assume suitable data, if necessary.

[Max. Marks : 30

Q1) a) Define Language processing. Explain different phases of a language processor. [4]

b) What feature of assembler makes it mandatory to design a two pass assembler? Explain with the help of an example. [6]

OR

Q2) a) Enlist different types of errors that are handled by Pass I and Pass II of Two Pass assembler. [4]

b) Explain with different tables how single pass assembler works for following assembly code. [6]

```
START 200
READ N
L1 MOVER AREG, N
ADD AREG, '#1'
BC GT, L1
STOP
N DS 1
END
```

P.T.O.

Q3) a) Where we need to use STACK in macro processor. List down parameters used in STACK. [4]

b) Prepare object deck for segment STUDENT [6]

STUDENT START 100

ENTRY A

EXTRN SOLN, DELTA

BAER 15,0

USING STUDENT +2,15

SR 4,4

L 4, TWO,

L 5, TWO

ST 5, SAVE

BR 14

DC F '01'

DC A(A+10)

DC 12 C '0'

DC A(DELTA)

TWO

END

OR

Q4) a) Define Nested Macro. Types of nested Macro with example. Explain how MDI, MDLC are used? [7]

b) Write a note on overlays structure of Loaders. [3]

Q5) a) Convert the given regular expression in to DFA.  $(0+1)^* \cdot (0+\epsilon)^*$  [6]

b) What is LEX? Explain LEX specifications. [4]

OR

Q6) a) What do you mean by phase structure of compiler? Draw suitable diagram and explain of phases of compiler. [6]

b) What is Lexeme, Token. Explain how lexeme is generated with the help of input buffering and sentinels. [4]

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