Total No. of Questions : 6]

SEAT No. :

P540

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TE/Insem/APR-140
T.E. (Computer Engineering) (Semester - II)
System Programming and Operating System
(2015 Pattern)

Time :1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right indicate full marks.***
3) ***Assume suitable data, if necessary.***

Q1) a) Explain the data structures required for TWO PASS Assembler in detail. **[7]**

b) Explain AIF, AGO and ANOP statements with example. **[3]**

OR

Q2) a) What are the Assembler Directives? Explain the Processing of LTORG, ORIGIN statements in detail. **[5]**

b) Consider following assembly language code show output of pass-1 of two pass assembler. **[5]**

```
            START   100
            READ    N
            MOVER   B,='1'
            MOVEM   B,TERM
AGAIN       MULT    B,TERM
            MOVER   C,TERM
            COMP    C,N
            BC      LE,AGAIN
            MOVEM   B,RESULT
            LTORG
            PRINT   RESULT
            STOP
N           DS      1

RESULT      DS      20
TERM        DS      1
            END
```


P.T.O.

Q3) a) Explain general loader scheme with advantages and disadvantages using suitable diagram? **[6]**

b) What are types of loaders? Discuss four different functions of loaders. **[4]**

OR

Q4) a) What are advanced macro facilities? Explain any one in detail. **[6]**

b) What are subroutine linkages? What are benefits using it? **[4]**

Q5) a) Explain lexical analysis with example. **[5]**

b) What is YACC? Explain Working of YACC with suitable diagram? **[5]**

OR

Q6) a) Consider the input "X=Y+Z*5;" and show the output of each phase of the compiler with suitable diagram? **[6]**

b) Compare compiler and interpreter. **[4]**