Total No. of Questions : 6]

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TE/Insem./APR-123

T.E. (E & TC)

System Programming and Operating System (SPOS)

(2015 Pattern) (Semester - II)

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

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.***
2) ***Figures to the right indicate full marks.***

Q1) a) Explain the term language processing activity in system programming briefly explain the functions of different types of language processors. **[6]**

b) Explain significance of lexical analysis with one example. **[4]**

OR

Q2) a) Compare the properties of Macro and subroutine with respect to following with reason. **[6]**

i) code space requirement.

ii) execution speed.

iii) criterion for use.

b) Explain advanced macro facilities with one example. **[4]**

Q3) a) Explain briefly phases of compiler. **[6]**

b) Give difference between loader and linker. **[4]**

OR

Q4) a) Explain any four types of loader schemes in brief. **[6]**

b) What is difference between Static linking and Dynamic linking. **[4]**

P.T.O.

Q5) a) List various types of operating system with their basic functions. **[6]**

b) Consider the following processes arrival time and burst time are as shown. Calculate average waiting time and average turnaround time using FCFS scheduling algorithm. **[4]**

Process	Burst time	Arrival time
P1	02	00
P2	02	01
P3	03	05
P4	04	06

OR

Q6) a) Consider the following process where arrival time and burst time are as shown below. Calculate average waiting time and average turnaround time if the processes are scheduled using Round robin scheduling algorithm. Time Quantum = 4 units. **[6]**

Process	Burst time	Arrival time
P1	04	00
P2	05	01
P3	02	02
P4	01	03
P5	06	04
P6	03	06

b) Draw process state transition diagram in OS. **[4]**

EEE