

Total No. of Questions : 4]

SEAT No. :

PC55

[Total No. of Pages : 2

[6360]-56

T.E. (Information Technology) (Insem)

OPERATING SYSTEMS

(2019 Pattern) (Semester - I) (314442)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Attempt Q1 or Q2, Q3 or Q4.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) What is multiprogramming, multitasking and multiprocessing? Discuss with an example. **[5]**

b) Define operating system. Discuss objectives and functions of operating system. **[5]**

c) Discuss following command with an example - pwd, ps, touch, fork, uniq. **[5]**

OR

Q2) a) Explain serial processing OS and simple batch OS. **[5]**

b) Write a shell script to identify whether the given string is palindrome or not. **[5]**

c) Describe the read and echo commands with various options in BASH scripting. Provide an example of how you can use it. **[5]**

P.T.O.

Q3) a) How does a process move between different states in an operating system. Explain with the help of state transition diagram. [7]

b) Consider a multitasking OS, with four tasks, with the length of the CPU burst time given in milliseconds.

Process	Arrival Time	Burst Time	Priority
1	0	3	4
2	2	6	2
3	4	4	3
4	5	2	6

Draw the Gantt chart. Using SJF (non preemptive) and priority (preemptive). Scheduling algorithms. Find average WT and average TAT also. [8]

OR

Q4) a) Illustrate the difference between process and thread. Explain the typical entries in PCB and thread control block. [7]

b) Explain the various types of processor schedules with the help of process state transitions. [8]

