

Total No. of Questions : 4]

SEAT No. :

P8578

[Total No. of Pages : 2

Oct-22 /TE/Insem-558

T.E. (Information Technology)

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) *Assume suitable data if necessary.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*

- Q1)** a) Explain the role operating system as resource manager. [5]
- b) Give the significance of following shell commands with example: is, uniq, tail, touch grep. [5]
- c) Describe the differences between a monolithic kernel and a microkernel. [5]

OR

- Q2)** a) What is an operating system? List and explain services provided by the operating system. [5]
- b) Write a shell script to check if the given string is palindrome or not. [5]
- c) Explain about the concept of virtual machines and its advantages. [5]
- Q3)** a) Consider the Set of Processes with Arrival Time, Burst Time & Priority [8]

Process	Arrival Time	Burst Time
P1	7	5
P2	3	4
P3	10	3
P4	0	8
P5	12	6

P.T.O.

Find Average Turnaround Time & Average Waiting Time for SJF (Preemptive) & Round Robin (Time Quantum=2) scheduling algorithms with the help of Gantt chart

- b) With the help of neat, explain in detail process state transition diagram with two suspend states. [7]

OR

- Q4)** a) Discuss with the help of neat diagram different thread models. [5]
b) List and explain the CPU scheduling criteria. [5]
c) Explain with the help of neat diagram the process of context switching, also explain how program counter plays its role in context switching. [5]