

Total No. of Questions : 4]

SEAT No. :

PC404

[6359]-524

[Total No. of Pages :2

S.E. (Artificial Intelligence and Data Science) (Insem)

OPERATING SYSTEMS

(2019 Pattern) (Semester- III) (217521)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

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

- Q1)** a) Discuss in detail time sharing operating system. [6]
- b) Explain the different issues in operating system design. [5]
- c) Give the different types of operating system in short. [4]

OR

- Q2)** a) List and explain the different services of operating system. [6]
- b) Explain the system calls. [5]
- c) Give four basic shell commands and explain them. [4]

- Q3)** a) Explain the concept of Inter Process Communication. [5]

P.T.O.

- b) Consider following set of process with their CPU Burst time. Draw Gantt chart FCFS. Calculate average waiting time and average turnaround time. [6]

Process	Arrival time	Burst time
P ₁	0	4
P ₂	1	3
P ₃	2	1
P ₄	3	2
P ₅	4	5

- c) Differentiate between Process and Threads [4]

OR

- Q4)** a) Discuss the FCFS process scheduling algorithms [5]
b) Draw and Explain process state transition diagram [6]
c) Define Threads? Explain Threads Life Cycle. [4]

