

VCD- 29/11/22 -FYIT- OS-SEMI-75Mks-21/2 Hrs.

- N. B.: (1) All questions are compulsory.
(2) Numbers to the right indicate marks.
(3) Draw neat labeled diagrams wherever necessary.

1. Attempt any three of the following:

15 M

- What is an operating system? What are different services provided by O.S.?
- Discuss different types of operating system.
- Explain layered architecture of operating system.
- What are different types of scheduler in O.S.?
- Explain different states of process with proper diagram.
- What is thread? Explain kernel level thread.

2. Attempt any three of the following:

15 M

- Write a note on memory abstraction.
- Explain the concept of virtual memory.
- Explain FIFO and LRU page replacement algorithm with proper example.
- Consider a scheduler SJF. Process P1, P2, P3 arrives at 0 (arrival time for all three processes is 0). Burst time for process P1 is 5, for P2 2 and for P3 it is 3. Find turnaround time, waiting time and average turnaround time.
- Explain different file operation with example.
- List any five types of file attributes.

3. Attempt any three of the following:

15 M

- Explain different interrupt handlers.
- Explain RAID with its different runlevel.
- Explain the concept of power management in O.S.
- What are conditions for deadlock prevention?
- Write a short note on DMA.
- For process queue 90, 170, 30, 118, 10, ~~10~~, 58, 62. Apply FCFS and SCAN disk scheduling algorithm. Consider head position at 55.

4. Attempt any three of the following:

15 M

- Give the difference between cloud computing and virtualization.
- Explain Type 1 & Type 2 hypervisors.
- Write a note on multiprocessing.
- What are distributed services?
- Write a note on directory hierarchy.
- Explain switch multicomputer.

5. Attempt *any three* of the following:

15 M

- a. Discuss history of unix and linux.
- b. Write a note on interfaces of linux.
- c. Write a note on process in linux.
- d. Write a note on memory management in linux.
- e. Discuss Android operating system.
- f. Explain linux file system.