# 2024

## (Session : 2022-25)

*Time : 3 hours*

*Full Marks : 60*

*Candidates are required to give their answers in their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Answer from both the Groups as directed.*

## Group – A

## (Compulsory)

1. Choose the correct answer of the following : 1×10 = 10

(a) To access the services of the operating system, the interface is provided by the :

(i) Library

(ii) System calls

(iii) Assembly instructions

(iv) API



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(b) CPU scheduling is the basis of :

(i) Multiprogramming operating systems

(ii) Larger memory sized systems

(iii) Multiprocessor systems

(iv) None of these

(c) Where is the operating system placed in the memory ?

(i) Either low or high memory

(ii) In the low memory

(iii) In the high memory

(iv) None of these

(d) The FCFS algorithm is particularly troublesome for :

(i) Operating systems

(ii) Multiprocessor systems

(iii) Time sharing systems

(iv) Multiprogramming systems

(e) The main memory accommodates :

(i) CPU

(ii) User processes

(iii) Operating system

(iv) All of these

(f) In real time operating system :

(i) Process scheduling can be done only once

(ii) All processes have the same priority

(iii) Kernel is not required

(iv) A task must be serviced by its deadline period

(g) Network operating system runs on :

(i) Every system in the net work

(ii) Server

(iii) Both (i) and (ii)

(iv) None of these

(h) In UNIX, which system call creates the new process ?

(i) Create (ii) Fork

(iii) New (iv) None of these

(i) The _____ program initializes all aspects of the system, from CPU registers to device controllers and the contents of main memory and then starts the operating system.

(i) Bootstrap (ii) main

(iii) bootloader (iv) ROM

(j) The operating system is responsible for :

(i) Bad-block recovery

(ii) Booting from disk

(iii) Disk initialization

(iv) All of these

2. Explain Process Control Block (PCB). 5

## Group – B

Answer any **three** questions of the following : 15×3 = 45

3. (a) Explain SJF process scheduling.

(b) Explain deadlock prevention method.

4. Explain type of operating system. Mention its advantages.

5. Explain process state with neat diagram.

6. What is Spooling ? How it is differ from Buffering ?

7. Write short notes on the following :

(a) Encryption

(b) Thrashing

(c) Binary semaphore