K20U 0868

Reg. No. : .....

Name : .....

IV Semester B.Sc. Degree (CBCSS-Reg./Supple./Improv.) Examination, April 2020

(2014 Admission Onwards)

GENERAL COURSE IN COMPUTER SCIENCE

4A14CSC : Operating System

Time : 3 Hours Max. Marks : 40

SECTION – A

1. **One word** answer : **(8×0.5=4)**
   a) A software generated interrupt is called _____
   b) A programme in execution is called a _____
   c) _____ is the only large storage area that the processor can access directly.
   d) Collection of all processes in the system are put into _____ queue.
   e) The _____ scheduler controls the degree of multiprogramming.
   f) A process is _____ if it cannot affect or be affected by the other processes executing in the system.
   g) The _____ is the module that gives control of the CPU to the process selected by the short-term scheduler.
   h) What is the unfavourable situation of FCFS scheduling called ?

SECTION – B

Write short notes on **any seven** of the following questions : **(7×2=14)**

2. What is the solution for starvation ?
3. Define throughput.
4. A batch system executes _____, whereas a time-shared system has user programs or _____.
5. Explain Resource Allocation Graph.

P.T.O.

6. State the principle of mutual exclusion.
7. What is the basic idea behind deadlock prevention ?
8. Differentiate CPU bound and IO bound Process.
9. How does swapping affect the degree of multiprogramming ?
10. What is booting ?
11. What is UI in an Operating System ?

SECTION – C

Answer **any four** of the following questions : **(4×3=12)**

12. Differentiate logical address space vs physical address space.
13. Elucidate the significance of swapping.
14. Briefly explain SJF scheduling.
15. Distinguish between waiting time and response time.
16. Which are the necessary conditions for a deadlock ?
17. Explain Operating System's responsibility in File Management mechanism.

SECTION – D

Answer **any two** of the following questions : **(2×5=10)**

18. Write an essay on SCAN scheduling with requests on cylinders 98, 183, 37, 122, 14, 124, 65 and 67. (Assuming that the disk arm is moving toward 0 and that the initial head position is 53).
19. Compare and differentiate demand paging and segmentation.
20. With the help of a diagram explain process states.
21. Evaluate various CPU scheduling Algorithms in your own words.
