K16U 0698

IV Semester B.Sc. Degree (CBCSS – 2014 Admn.-Regular) Examination, May 2016 GENERAL COURSE IN COMPUTER SCIENCE 4A14 CSC : Operating System

Time: 3 Hours

Max. Marks : 40

SECTION - A

1. One word answer.

 $(8 \times 0.5 = 4)$

- a) Two or more programs in memory at the same time, sharing the processor is referred to as _____
- b) A program in execution is referred to as _
- c) The number of processes completed per time unit is called _
- d) ______ scheduler controls the degree of multiprogramming.
- e) A system is in ______ state if it can allocate resources to each process and avoid deadlock.
- f) The address generated by the CPU is called _____
- g) The time taken to move the disk arm to the desired cylinder is called ______
- h) _____ is a memory management scheme that allows the physical address space of a process to be noncontiguous.

SECTION - B

Write short notes on any seven of the following questions.

(7×2 = 14)

- 2. What is an Operating System?
 - 3. What are time-sharing systems ?

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- 4. List any two activities of operating system in connection with memory management.
- 5. What is a dispatcher?
- 6. What is a resource allocation graph?
 - 7. Write notes on segmentation.
 - 8. What is Belady's anomaly?
- 9. What is thrashing?
- 10. Write notes on scheduler.
- 11. Define deadlock.

SECTION - C

Answer any four of the following questions.

- 12. What are the necessary conditions for deadlock?
- 13. Write notes on paging.
- 14. Write notes on PCB.
 - 15. Explain fragmentation.
 - 16. Write notes on TLB.
 - 17. Explain optimal page replacement algorithm with example.

V

18. Explain multiprocessor systems.

SECTION - D

Write an essay on any two of the following questions.

19. Explain any three CPU scheduling algorithms with examples.

- 20. Discuss any four disk scheduling algorithms.
- 21. Explain deadlock avoidance algorithms.

 $(2 \times 5 = 10)$

 $(4 \times 3 = 12)$