

Roll No

CS-5002 (CBGS)

B.E. V Semester

Examination, November 2018

Choice Based Grading System (CBGS)

Operating System

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) Attempt each part of the question selected.

iii) All questions carry equal marks.

1. a) Write short notes on following types of operating system
 - i) Batch processing
 - ii) Time sharing
 - iii) Multiprogramming
- b) What do you mean by Buffering and Spooling?
2. a) Explain layered architecture of operating system with example.
- b) What are the various services provided by the operating system?
3. a) Draw the process state transition diagram and explain in detail.
- b) Explain preemptive and non-preemptive scheduling.
4. a) What do you mean by Semaphore? Explain its uses and its implementation.
- b) Explain mutual exclusion.

5. a) What is a File? Write different file attributes and operations?
- b) Considering an ordered disk queue with requests involving tracks 98, 183, 37, 22, 14, 124, 65 and 67. If the read/write head is initially at track 53. What is the total distance that the disk arm moves to satisfy all the pending request for C-SCAN?
6. a) Write a short note on Interrupt and Interrupt Service Routine.
- b) Draw and explain Kernel architecture of Unix OS.
7. a) What is Segmentation? Explain virtual to physical address mapping in a segmented system with the help of a diagram.
- b) What is Virtual memory? Explain the concept of demand paging.
8. a) Write a program to implement Remote Procedure Call (RPC).
- b) What do you mean by the term Concurrent Programming Security and Threat Protection?