

(CS-202).

Operating System

Paper ID-A0458

Time Allowed:-3 Hrs.**Max. Marks:-60****Note: Section A is Compulsory. Attempt four questions from section B and two questions from section C****Q1:-****SECTION A**

- Differentiate between short-term scheduler and long term scheduler?
- Explain the term Dual-Mode Operation.
- Differentiate between Local Area Networks and Wide Area Networks.
- Differentiate between Trap and an Interrupt. What is the use of each function?
- Differentiate between Local and Global Page Replacement.
- Differentiate between Deadlock prevention and Deadlock Avoidance.
- Differentiate between Logical and Physical Address Space.
- Why is it difficult to protect a system in which users are allowed to do their own I/O?
- Differentiate between Distributed Operating Systems and Network operating systems.
- Differentiate between Kernel and Shell in context of Unix Operating system.

(2x10=20)**SECTION B**

- Q2:-** Define the concept of Multiprogramming and Time sharing systems. Write at least three advantages of time sharing systems. (5)
- Q3:-** Explain with an example the concept of shared segments in detail. (5)
- Q4:-** A major security problems for operating systems is authentication. Explain? (5)
- Q5:-** What is disk scheduling. Explain the SSTF and C-Scan algorithm of disk scheduling. (5)
- Q6:-** Explain the different components of LINUX system. (5)

Section C

- Q7:-** What is a process. Explain the different states of a process with diagram. Also explain in detail the Contents of PCB of a process. (10)
- Q8:-** What is the need of Page replacement. Consider the following reference string
7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1
Find the number of Page Faults with FIFO, Optimal Page replacement and LRU with three free frames which are empty initially. Which algorithm gives the minimum number of page faults? (10)
- Q9:-** Write a detailed note on the following
- Multiprocessor Systems
 - Distributed Operating Systems.
- (5+5=10)**