COURSE CODE :- **CC 4**
COURSE TITLE :- **OPERATING SYSTEM**
CREDIT :- **4**

Marks distribution

Full Marks: 15 (MSE) + 60 (ESE) = 75   Duration: 3 hrs   Pass Marks: 34

This paper consists of 60marksand divided into two groups:

Group-A: Objective questions (Compulsory)   :   1 x 10 = 10
Group-B: descriptive questions (5 out of 8 questions)   :   10 x 5 = 50

Total =   60

The questions must cover the entire syllabus with equal distribution of marks as far as practicable.

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Module 1: Concept of Operating System:- Simple batch systems, multiprogrammed batch systems, time-sharing systems, parallel systems, distributed systems, real-time systems.

Module 2: Computer System structure:- Computer System Operation, I/O structures storage structure, storage hierarchy and hardware protection.

Module 3: Process concept:- process state, process control blocks, process scheduling and schedulers

Module4: Process Synchronization:- Critical section problem,Bakery algorithm, Semaphores(Producer-Consumer problems), Synchronization problems(Reader-Writers problem, Dining philosopher problem,

Module 5: CPU scheduling:- CPU-I/O burst cycle, scheduling criteria, scheduling algorithms (Non pre-emptive-FCFS, SJFS, Pre-emptive-SJFS, and RR).

Module 6:Deadlock:-Intoduction of Deadlock, Deadlock Prevention,Deadlock Avoidance algorithm(Banker's algorithm), Deadlock Detection and Deadlock Recovery.

Module 7: Memory management:- contiguous allocation, Paging, Swapping, Segmentation. Virtual memory- Demand paging, page replacement, page replacement algorithms (FIFO, LRU) Thrashing.

Module 8 Disk structure- Disk scheduling (FCFS, SSTF, SCAN)
          Security- The problem, authentication, and program- threats, encryption.

      Books Recommended:

Operating System: Peter Gelvin
                                 God boleDhamdhare

PRACTICAL: MS.DOS

Basic of DOS commands, Internal Commands, External Commands and Batch Creation

DEPARTMENT OF COMPUTER APPLICATION