

M.Sc. (I.T.) SEMESTER – II Examination April-2015

Paper No.: 5

Paper Code: 2937

Paper Name: Operating System

Total Marks: 70

- Q.1 (A) Explain Process, Process State and PCB in detail. 7
(B) Explain Multitasking, Multiprogramming, Multiuser Operating System in detail. 7

OR

- Q.1 (A) What is Operating System? Explain its Functions and Objective. 7
(B) Explain Serial, Batch, Real Time and Distributed Operating System in detail. 7

- Q.2 (A) Find out Waiting Time, Avg. Waiting Time and Turn Around Time using FCFS and RR. 7

Process	CPU Burst Time	Arrival Time
P1	10	22
P2	12	24
P3	5	4
P4	6	5
P5	7	0
P6	5	2

- (B) Write down short note on Memory. 7

OR

- Q.2 (A) Find out Waiting Time, Avg. Waiting Time and Turn Around Time using SJF and Priority Scheduling. 7

Process	CPU Burst Time	Arrival Time	Priority
P1	6	4	2
P2	3	1	3
P3	5	0	1
P4	5	8	3
P5	4	10	2

Note: Don't consider priority in SJF Scheduling.

- (B) Write down short note on Virtual Machine. 7

- Q.3 (A) Find out Seek Time using FCFS, SSTF, C-Scan and C-look Disk Scheduling for the following. 7

25, 62, 26, 5, 85, 120, 125, 110, 59, 103, 52, 65

Currently Head position at 31 and Cylinder Range starting From 0 to 150.

- (B) What is Dead lock? Explain Dead lock Prevention. 7

OR

- Q.3 (A) The Memory is assumed to be of three frames and reference string is as follows. 7

5, 1, 0, 8, 3, 4, 1, 5, 8, 1, 6, 8, 0, 8, 2, 0, 5, 1, 0, 2, 8, 4, 1

How many page faults will occur if we use FIFO, LRU and OPR Algorithm?

- (B) Explain Dead lock Avoidance and Detection. 7

- Q.4 (A) Explain File System and File Operation in detail. 7

- (B) Write down short note on Demand Paging. 7

OR

- Q.4 (A) Write down short note on Disk Scheduling. 7
(B) Explain Non-Contiguous Memory Allocation. 7

- Q.5 (A) Explain Control Statement in Shell Programming with Example. 7
(B) Explain Interface and Interrupt Handler. 7

OR

- Q.5 (A) Explain Various Loop in Shell Programming with Example. 7
(B) Explain Device Driver and System Call. 7