Scheme - I

Sample Question Paper

Program Name : **Diploma in Engineeering Group**

Program Code : **CO / CM / CW / IF**

Semester : **Fifth**

Course Title : **Operating System**

22516

Marks : **70** **Time: 3 Hrs.**

Instructions:

(1) All questions are compulsory.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data if necessary.

(5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following. **10 Marks**

a) Differentiate between Batch Operating System and Time shared Operating System. (any two points)

b) State any four services of Operating System.

c) Define : Process , Program

d) State two features of preemptive scheduling.

e) Defione following terms

i) Page fault

ii) Segmentation

f) Write syntax of ps command and explain its use with the help of suitable example.

g) List any four file attributes.

Q.2) Attempt any THREE of the following. **12 Marks**

a) Explain dual modes of operations of an Operating system.

b) Describe essential activities done by an Operating System for protection and sharing.

c) State what is interprocess communication and explain its advantages..

d) Discribe different scheduling criteria.

Q.3) Attempt any THREE of the following. **12 Marks**

a) Define PCB. List information contained in PCB and explain any two .

b) Define deadlock and state the necessary conditions for deadlock..

c) Explain following terms with respect to Memory management :

I. Compaction

II. Swapping.

d) Enlist different file allocation methods and explain any two.

Q.4) Attempt any THREE of the following. **12 Marks**

a) Compare between Windows and LINUX Operating System.(any four points)

b) Write any four system calls related to device management.

c) Compare between short term and long term scheduler.(any four points)

d) Compare FCFS and SJF Scheduling algorithm with any four points.

e) Describe contiguous memory allocation done by Operating System with he help of suitable example.

Q.5) Attempt any TWO of the following. 12 Marks

a) Write two uses of following Operating System tools :

i. Performance Monitor

ii. Task scheduler

iii. User Management

b) Write the output of the following commands.

a. Kill 9042018

b. Ps 07121975

c. Sleep 05

c) Given a page reference reference string(arrival) with four page frames, calculate the page faults with FIFO and LRU page replacement algorithms respectively :
12, 3, 4, 5, 1, 2, 5, 1, 2, 3, 4, 5, 1,6,7,8,7,8,9,7,8,9,5,4,4,5,4,2.

Q.6) Attempt any TWO of the following. 12 Marks

a) Solve given problem by Using FCFS to calculate average waiting time and turnaround time.

Process	Arrival time	Burst time
P1	0	7
P2	1	4
P3	2	9
P4	3	6
P5	4	8

b) Compare between bitmap and linked list free space management techniques.(any six points)

c) Construct and explain directory structure of a file system in terms of single level, two level and tree structure.

Scheme - I

Sample Test Paper - I

Program Name : **Diploma in Engineeering Group**
Program Code : **CO / CM / CW / IF**
Semester : **Fifth**
Course Title : **Operating System**

22516

Marks : **20** **Time: 1 Hour**

Instructions:
(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.

Q1. Attempt Any FOUR **08 Marks**

a) Differentiate between multiprogramming and multiprocessing. (Any 2 Points)

b) Draw Layered structure of operating system.

c) List any four types of OS.

d) State any two activities performed by file management component of an Operating Systems

e) List any four operating system services.

f) Draw process state trainsition diagram .

Q2. Attempt any THREE **12 Marks**

a) Explain real time system. List its any four application.

b) What is the purpose of the system calls? State any two calls with its functions.

c) Describe process control block with the help of suitable diagram.

d) Differentiate between Long term scheduler and Short term scheduler w.r.t. following points:

i) Selection of job

ii) Frequency of execution

iii) Speed

iv) Accessing which part of system

Scheme - I

Sample Test Paper - II

Program Name : **Diploma in Engineeering Group**
Program Code : **CO / CM / CW / IF**
Semester : **Fifth**
Course Title : **Operating System**

22516

Marks : **20** **Time: 1 Hour**

Instructions:
(1) All questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data if necessary.
(5) Preferably, write the answers in sequential order.

Q1. Attempt Any FOUR **08 Marks**

a) Describe CPU burst cycle and I/O burst cycle.

b) What is deadlock? Give characteristics of deadlock.

c) Describe Multilevel queue scheduling with labelled diagram.

d) Define the term swapping.

e) Explain different process scheduling criteria.

f) List the directory structures.

Q2. Attempt any THREE **12 Marks**

a) With suitable example describe how to use bit map method for free space management.

b) State the syntax and use of following process related commands :
i. bg
ii kill

c) Describe working of contiguous file allocation method.

d) Calculate average waiting time with Round Robin for following processes in memory.(Time Slice = 4ms)

Process	Burst time
P1	3
P2	5
P3	7
P4	4