

March – April 2022
Post Graduate Diploma in Computer Applications (PGDCA) Examination

I Semester
OPERATING SYSTEM

Time 3 Hours]

[Max. Marks 100

Note : Attempt any two parts of each question. All questions carry equal marks. All parts of a question carry equal marks.

1. (a) What do you mean by Operating System ? Explain user and system views of Operating System.
(b) Write differences between Multiprogramming, Multiuser, Multitasking and Multiprocessing O. S.
(c) What do you mean by Critical Section Problem ? Explain its concept using Semaphore.
2. (a) Explain the concept and working of Banker's Algorithm using an example.
(b) Consider following set of processes that arrives at time zero. The length of CPU burst time is given in milliseconds. Calculate average waiting time and average turnaround time.

Process	Burst Time (ms)
P1	5
P2	24
P3	16
P4	10
P5	3

(c) What do you mean by Real Time O. S. ? Explain various scheduling methods of Real Time O. S.
3. (a) How operating system manages memory of Computer System ? What is the concept of Static and Dynamic Memory Management ?
(b) What is Segmentation ? Also explain advantages of Segmentation.
(c) What do you mean by Disk Scheduling ? Explain various methods of Disk Scheduling.
4. (a) Explain Pipes and Filters in MS-DOS with example.
(b) Explain following commands with example :
DEL, PATH, TYPE, PROMPT, COPY, REN
(c) Explain following commands with example :
CHKDSK, DELTREE, APPEND, ATTRIB, XCOPY
5. (a) Explain the File System and Kernel of Linux O. S.
(b) How process is created in Linux ? Explain process creation with example. Also explain process identifiers.
(c) Explain following command with example :
cat, cmp, find, chmod, who am i