

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2023**

OPERATING SYSTEM

[Maximum Marks: 75]

[Time: 3 Hours]

PART-A

I. Answer *all* the following questions in one word or one sentence. Each question carries 'one' mark.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1.	'Operating system is a system software'. State true or false.	M1.01	R
2. is the output of a loader. Fill in the blanks (Program code/Object code/Library/Executable code).	M1.02	U
3.	Mention the solution for starvation in priority process scheduling.	M2.03	R
4.	Write the idea of ' critical section '.	M2.06	U
5.	State the relationship between program and process.	M3.05	U
6.	Memory holds OS and for memory management.	M3.01	R
7.	State true or false: 'A directory is a special file'.	M4.01	U
8.	Write the expansion of FCFS.	M4.05	R
9.	State the way to differentiate subdirectories and files within a directory.	M4.03	U

PART-B

II. Answer any *eight* questions from the following. Each question carries 'three' marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1.	Compare system software and application software.	M1.01	U
2.	List the advantages and disadvantages of timesharing OS.	M1.04	R
3.	Name the components of PCB.	M2.01	R
4.	Mention and explain the conditions for deadlocks.	M2.05	U
5.	Name and define the various address binding methods.	M3.02	R
6.	Explain the internal fragmentation problem.	M3.04	U
7.	Describe the idea of contiguous memory allocation.	M3.03	U
8.	Differentiate base register and limit register.	M3.01	U
9.	Write a short on sequential file access method.	M4.02	U
10.	List the various methods of disk scheduling.	M4.05	R

PART-C

Answer all questions from the following. Each question carries 'seven' marks.

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	List the various functions of operating system. OR	M1.03	R
IV.	Explain in detail the idea of Real Time OS.	M1.04	U
V.	Define process synchronization. List its advantages and disadvantages. OR	M2.06	R
VI.	Out of FCFS, SJF, and RR, name the scheduling that has the least average waiting time. Compare FCFS, SJF, and RR with examples.	M2.03	U
VII.	Draw example Resources Allocation Graphs for deadlock and non-deadlock situations. OR	M2.04	U
VIII.	Explain the various states of process with the help of state diagram.	M2.02	U
IX.	List and explain the dynamic storage allocations with examples. State the condition when all the allocations become same. OR	M3.04	U
X.	With an example, describe the idea of LRU page replacement.	M3.05	U
XI.	Define paging. Write a short note on demand paging. OR	M3.05	U
XII.	Explain the various memory addresses and address spaces in detail.	M3.02	U
XIII.	Compare the various file allocation methods. OR	M4.04	U
XIV.	List the various file attributes and operations.	M4.01	R
