

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/  
COMMERCIAL PRACTICE - NOVEMBER-2021**

**OPERATING SYSTEMS**

[Maximum marks: 75]

(Time: 2.15 Hours)

**PART – A**

Marks

I. Answer any *three* questions in one or two sentences. Each question carries 2 marks

1. List any two system softwares.
2. Define thread.
3. List two types of fragmentation.
4. Define thin client
5. List any two file allocation methods.

(3 x 2 = 6)

**PART – B**

II. Answer any *four* of the following questions. Each question carries 6 marks

1. Compare Compilers and Interpreters.
2. Write short notes on multiprogramming Operating Systems.
3. Describe PCB and its structure.
4. Explain deadlock and explain the necessary conditions for deadlock to occur.
5. Differentiate logical and physical address space.
6. Differentiate first-fit, best-fit and worst-fit allocation strategies.
7. Explain different file operations

(4 x 6 = 24)

**PART – C**

Answer *any of the three units* from the following. Each full question carries 15 marks

**UNIT – I**

III. (a) List and Explain the functions of OS. (8)

(b) Differentiate Windows and Linux Operating systems. (7)

**OR**

IV. (a) Explain Batch Processing and time sharing systems. (8)

(b) Write short note on Loader and its function. (7)

## UNIT-II

V. (a) Explain FCFS and Priority scheduling with examples and corresponding Gantt charts. (8)

(b) Explain Race condition in connection with cooperative processes (7)

OR

VI. (a) Explain deadlock handling techniques (8)

(b) Explain various schedulers with the help of necessary diagrams. (7)

## UNIT-III

VII. (a) Explain FIFO and LRU page replacement algorithms with the following working set and 3 frames. (9)

7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1

(b) Explain different address binding. (6)

OR

VIII. (a) Explain segmentation and its hardware (9)

(b) Explain page faults and how it is handled (6)

## UNIT-IV

IX. (a) Explain different directory structures with diagrams (9)

(b) Explain different types of Hardware Virtualization (6)

OR

X. (a) Explain different file allocation methods with diagrams (9)

(b) Explain short notes on Virtual Box. (6)

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