TED (15/19) – 4134
(Revision – 2015/19)

A24-02644

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL – 2024**

OPERATING SYSTEMS

[Maximum Marks : 100]   [Time : 3 hours]

PART – A
(Maximum Marks : 10)

Marks

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

1.   Mention any two operating systems.

2.   Define a thread.

3.   State race conditions.

4.   Describe the solution of external fragmentation.

5.   List any two file operations.   (5x2=10)

PART – B
(Maximum Marks : 30)

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

1.   Discuss multiprogramming system.

2.   Compare compiler and interpreter.

3.   Illustrate a resource allocation graph.

4.   Explain critical section problem.

5.   Describe the concept of virtual memory.

6.   Differentiate between segmentation and paging.

7.   Discuss the file access methods.

(5x6=30)

PART – C
(Maximum Marks : 60)
(Answer **one full** question from each unit. Each full question carries 15 marks)

UNIT – I

III.   Discuss operating system components.   (15)

OR

IV.   (a) Explain assembler and its functions.   (6)

(b) Describe the following

(i) Multiprocessor systems   (ii) Batch System   (9)

UNIT – II

V.   Demontrate FCFS, SJF, Priority and RR process scheduling algorithms with suitable example. Calculate the average waiting time of each algorithm.   (15)

OR

VI.   (a) Describe Process Control Blocks (PCB).   (6)

(b) Explain deadlock and its causes.   (9)

UNIT –III

VII.   (a) Discuss different address binding schemes.   (6)

(b) Explain first fit, best fit and worst fit allocation strategies.   (9)

OR

VIII.   (a) Explain paging and paging hardware.   (6)

(b) Discuss FIFO, optimal and LRU page replacement algorithms.   (9)

UNIT – IV

IX.   (a) Explain different directory structure.   (6)

(b) Describe different file allocation methods.   (9)

OR

X.   Discuss different types of virtualization.   (15)

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