DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2018

OPERATING SYSTEMS

[*Time* : 3 hours

(Maximum marks : 100)

Marks

PART — A

(Maximum marks : 10)

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

1.   What is system software ?

2.   Define process.

3.   What is meant by virtual memory ?

4.   List various file organizations.

5.   Define thin client.   (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1.   Write short note on time sharing systems.

2.   Write the functions of assemblers.

3.   Describe the structure of process control block with diagram.

4.   Define scheduling. Differentiate between pre-emptive and non-pre-emptive scheduling.

5.   Present the concept of demand paging. Write the steps in handling page fault.

6.   Compare fixed partition and variable partition memory allocation.

7.   Mention the features of VMware.

                                                                                  (5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

III (a) Write the features of Linux operating system. 8

(b) Define loader. State the functions of loaders. 7

OR

IV (a) Specify the purpose of real-time systems and mention its types. 9

(b) Write the functions of operating system. 6

UNIT — II

V (a) Describe multilevel queue and multilevel feedback queue scheduling. 8

(b) List and explain critical section problems solutions. 7

OR

VI (a) Define deadlock and mention its causes. 8

(b) Write short note on multithreading and its benefits. 7

UNIT — III

VII (a) Discuss any two page replacement algorithms with example. 8

(b) Explain the concept of thrashing and specify its causes. 7

OR

VIII (a) Explain paging hardware with diagram. 9

(b) Differentiate between physical and logical address space. 6

UNIT — IV

IX (a) Define virtualization and describe different type of hardware virtualization. 8

(b) Summarize various file allocation methods. 7

OR

X (a) Explain file operations. 8

(b) Differentiate between single level and two level directory structures. 7

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