

TED (15) – 4131

(REVISION — 2015)

Reg. No.....

Signature

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

COMPUTER SYSTEM HARDWARE

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Name any two motherboard form factors.
2. List two benefits of Solid State Drives.
3. State the function of NIC.
4. Write the characteristics of Ultrabooks.
5. List the security utilities in mobile devices.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Distinguish between Northbridge and Southbridge.
2. Explain any three varieties of RAM.
3. Describe the components of a hard disk drive.
4. Summarize the different RAID levels.
5. Describe the various PC connectors.
6. Write notes on Touch Screen Technology.
7. Explain PCMCIA expansion bus.

(5×6 = 30)

[P.T.O.]

PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) Explain the basic components of a motherboard. 8
 (b) Write short notes on different types of memory packaging. 7

OR

- IV (a) Explain the different types of expansion slots. 8
 (b) Summarize the functions of BIOS. 7

UNIT — II

- V (a) Explain motherboard power connectors. 8
 (b) Describe SCSI drives. 7

OR

- VI (a) Compare IDE and SATA hard drive interfaces. 8
 (b) Explain removable storage devices. 7

UNIT — III

- VII (a) Write notes on expansion cards. 8
 (b) Explain the basic components of a laser printer. 7

OR

- VIII (a) Explain about multimedia input devices. 8
 (b) Describe the features of audio/video editing workstations. 7

UNIT — IV

- IX (a) Explain briefly on laptop processors and memory. 8
 (b) Outline the features of Tablet PCs. 7

OR

- X (a) Describe the various pointing devices in laptops. 8
 (b) Explain the procedure for disassembling of laptops. 7

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OPERATING SYSTEMS

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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)

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

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
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DATA STRUCTURES

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Write concept of classes in C++.
2. Write the characteristics of Queue data structure.
3. Write short note on doubly linked list.
4. What is a complete binary tree ?
5. Define cycle in a graph.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain De queues with an example.
2. Describe the procedure for insert and delete first element of a linked list.
3. Write the procedure for stack_empty() in linked implementation of stack.
4. Write an algorithm for pre order traverse of a binary tree. Give an example.
5. Explain Threaded binary tree with example.
6. Define Graph. Write a short note on Path of length k in a graph.
7. Write an algorithm for bubble sort on a list of elements.

(5×6 = 30)

PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) Explain about Queue ADT. 10
 (b) Explain priority queues with a diagram. 5

OR

- IV (a) Convert the expression to prefix and postfix form.
 (i) $(A+B)*C/(D-E)$ (ii) $((A-B) + (C*D)/E)/F$ 6
 (b) Write an algorithm for postfix evaluation using stack. 9

UNIT — II

- V (a) Explain the implementation of stack with linked list. 9
 (b) Explain the procedure for deleting a specific element from a doubly linked list. 6

OR

- VI (a) Explain the implementation of Queue with linked list. 9
 (b) Write short note on circular and doubly linked list. 6

UNIT — III

- VII Define binary trees and explain traversal algorithms with example. 15

OR

- VIII (a) Explain inorder traversal using BST with an example. 7
 (b) Explain Expression trees and draw expression tree for
 (i) $A+B*C+D$ (ii) $A*B+C-D$ 8

UNIT — IV

- IX Explain with example graph ADT and traversals. 15

OR

- X (a) Write binary search algorithm. 7
 (b) Write quick sort algorithm. 8

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DATA COMMUNICATION

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define protocol.
2. Define attenuation.
3. State any two applications of twisted pair cable.
4. Define the term flow control.
5. Define cryptography.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain LAN and MAN.
2. Differentiate between analog and digital data transmission.
3. Explain about wireless propagation.
4. Explain AM and FM.
5. Explain frequency division multiplexing.
6. Explain message switching.
7. Describe about digital signature.

(5×6 = 30)

PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) State the advantages and disadvantages of star topology. 5
 (b) Explain transmission impairments. 10

OR

- IV Explain ISO-OSI layered architecture with block diagram. 15

UNIT — II

- V Explain guided transmission media with example and neat diagram. 15

OR

- VI (a) Explain Delta modulation with the help of a figure. 8
 (b) Describe ASK. 7

UNIT — III

- VII (a) Differentiate asynchronous and synchronous transmission. 8
 (b) Explain the basic characteristics of HDLC. 7

OR

- VIII (a) Explain wave length division multiplexing. 8
 (b) Explain half duplex and full duplex transmission. 7

UNIT — IV

- IX (a) Explain packet switching and circuit switching. 9
 (b) Describe substitution ciphers. 6

OR

- X (a) Explain the different types of polling. 10
 (b) Describe line configuration. 5
