

**(PGDIT01)**

**Total No. of Questions : 10]**

**[Total No. of Pages : 02**

**P.G. DIPLOMA DEGREE EXAMINATION, MAY - 2018**

**INFORMATION TECHNOLOGY**

**Basics of IT**

**Time : 3 Hours**

**Maximum Marks : 70**

---

**Answer any FIVE questions**  
**All questions carry equal marks**

- Q1)** Explain about five representative business models of the digital age and three types of business pressures.
- Q2)** Explain about evaluation of information systems with examples.
- Q3)** What is CPU? Write about different components of CPU.
- Q4)** Discuss about different secondary storage devices and their working principle.
- Q5)** Explain about different programming languages and their features.
- Q6)** Describe the major types of application software and differentiate system software and application software.
- Q7)** Discuss traditional data file organization and its problems.

**Q8)** Describe the component of a telecommunications system and major types of network services.

**Q9)** Define the term intranet and discuss how intranets are used by businesses.

**Q10)** Discuss various ways to connect internet and also describe various services of internet.



**(PGDIT02)**

**Total No. of Questions : 10]**

**[Total No. of Pages : 02**

**P.G. DIPLOMA DEGREE EXAMINATION, MAY - 2018**

**INFORMATION TECHNOLOGY**

**Data Structure with C**

**Time : 3 Hours**

**Maximum Marks : 70**

---

**Answer any FIVE questions**  
**All questions carry equal marks**

- Q1)** Discuss about classification of data structures in detail.
- Q2)** Describe the characteristics of algorithm and also write about linear search algorithm.
- Q3)** Explain about fixed length storage and variable length storage of strings with suitable example.
- Q4)** How to represents records in computer memory? Illustrate with suitable example.
- Q5)** What is circular linked list? Discuss various operation on circular lined lists.
- Q6)** Write a pseudo-code for PUSH and POP operations of stack and also explain various applications of stack.
- Q7)** Briefly explain about AVL trees, B+ -trees and red-back trees.

**Q8)** What is binary search tree? Explain about searching and insertion operation in binary search trees.

**Q9)** Sort the following numbers using

a) Selection sort.

b) Shell sort :

42, 29, 74, 11, 65, 58

**Q10)** What is hashing? Explain various Hash collision resolution techniques with examples.



**(PGDIT03)**

**Total No. of Questions : 10]**

**[Total No. of Pages : 02**

**P.G. DIPLOMA DEGREE EXAMINATION, MAY - 2018**

**INFORMATION TECHNOLOGY**

**DBMS (Data Base Management System)**

**Time : 3 Hours**

**Maximum Marks : 70**

---

**Answer any FIVE questions**  
**All questions carry equal marks**

- Q1)** Discuss components of information system and also different types of information system.
- Q2)** Explain about indexed sequential and direct access file organization with neat sketch.
- Q3)** Write about pointer types and location methods with suitable example.
- Q4)** Explain about network and relational data models with proper example.
- Q5)** State and explain about different normal forms with appropriate examples.
- Q6)** Write about various symbols used database action diagrams.
- Q7)** What is information management system (IMS)? Write about IMS database description.

**Q8)** Explain about data manipulation language of IDMS.

**Q9)** Discuss about relational algebra operations and relational calculus commands.

**Q10)** Explain about concurrency control mechanism in detail.



**(PGDIT04)**

**Total No. of Questions : 10]**

**[Total No. of Pages : 02**

**P.G. DIPLOMA DEGREE EXAMINATION, MAY - 2018**

**INFORMATION TECHNOLOGY**

**Computer Networks**

**Time : 3 Hours**

**Maximum Marks : 70**

---

**Answer any FIVE questions**  
**All questions carry equal marks**

- Q1)** What is the difference between guided and unguided transmission media? Write briefly about twisted pair.
- Q2)** What is OSI model? Draw Diagram and Explain Physical, Data link and Network layer with its functions.
- Q3)** Explain about features of LAN, MAN, WAN, Internet.
- Q4)** Explain CRC technique with example.
- Q5)** Explain different types of Switching methods with examples.
- Q6)** What is routing? How flooding can be used for routing? Give example.
- Q7)** Explain the one bit sliding window protocol and go back n protocol. Write down the drawback of both the protocols.

**Q8)** Explain how congestion control is achieved in TCP?

**Q9)** Draw IP headed and explain each field of the header.

**Q10)** Explain message authentication operation using RSA algorithm.





(PGDIT05)

Total No. of Questions : 10]

[Total No. of Pages : 1

**P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2018**

**INFORMATION TECHNOLOGY**

**Computer Organization**

**Time : 3 Hours**

**Maximum Marks : 70**

---

*Answer any Five questions*

*All questions carry equal marks.*

- Q1)* Discuss evaluation of digital computers.
- Q2)* Explain the components of expanded structure of IAS computer.
- Q3)* Explain about the Evolution of the Intel x86 Architecture.
- Q4)* What is PCI? Explain about PCI configuration.
- Q5)* What is magnetic disk? Write about disk layout and disk data layout methods.
- Q6)* Discuss about different RAID levels and compare them.
- Q7)* Explain about characteristics of two's complement representation and arithmetic.
- Q8)* Discuss about floating point division and multiplication with suitable example.
- Q9)* Design a hardwired control unit for CPU. Why hardwired CU are suitable for RISC.
- Q10)* Write about instruction pipeline with timing diagram.



(PGDIT06)

Total No. of Questions : 10]

[Total No. of Pages : 1

P.G. DIPLOMA DEGREE EXAMINATION, MAY – 2018

INFORMATION TECHNOLOGY

Operating Systems

Time : 3 Hours

Maximum Marks : 70

---

Answer any Five questions

All questions carry equal marks.

- Q1)** Explain the various types of computer systems.
- Q2)** a) What is thread? Describe different thread models.  
b) Explain the process creation and termination process on process.
- Q3)** What is scheduling? Discuss about different scheduling algorithms.
- Q4)** Discuss the critical section problem. State the basic requirements of critical section problem solution.
- Q5)** Give a detailed description about deadlocks and its characterization?
- Q6)** What is meant by RAID levels? Which level is used for what purpose?
- Q7)** Explain the basic concepts of segmentation.
- Q8)** Consider the following page reference string : 2, 3, 4, 2, 1, 5, 6, 4, 1, 2, 3, 7, 6, 3, 2, 1  
Calculate the number of page faults would occur for the following page replacement algorithm with frame size of 4 and 5.
- Q9)** Explain in detail about various ways of free space management.
- Q10)** Explain about various security issues in operating systems.

