PGDCA01

P.G. DIPLOMA DEGREE EXAMINATION, JUNE/JULY - 2019

COMPUTER APPLICATIONS

Information Technology

Time : 3 Hours   **Maximum Marks : 70**

Answer any Five questions
All questions carry equal marks

Q1) a)   Discuss business pressures and responses in today's information age.

   b)   Name and describe the components of an information system.

Q2) Discuss about IT support at different organizational levels.

Q3) Explain about memory hierarchy in detail.

Q4) Write about various output devices with neat sketches.

Q5) What are the features of different programming languages? Explain.

Q6) What is an operating system? Discuss evaluation of operating system.

Q7) Discuss about different logical data models with their features.

Q8) Explain about different network processing strategies.

Q9) What is an internet? Describe the services provided by the internet.

Q10) Write short notes on :
   a)   e-mail.
   b)   World wide web.
   c)   Extranets.

PGDCA02

P.G. DIPLOMA DEGREE EXAMINATION,
JUNE/JULY - 2019
COMPUTER APPLICATIONS
Programming with C++

Time : 3 Hours   **Maximum Marks : 70**

<u>Answer any Five questions</u>
<u>All questions carry equal marks</u>

Q1) What is basic structure of C++ program? Write about different types of operators are supported by C++.

Q2) How to declare and use of looping structures in C++? Explain with proper example.

Q3) Write a C++ program to implement sum of diagonal elements of square matrix (using two dimensional array).

Q4) Discuss different ways to passing parameters in C++.

Q5) What is string? How to declare string in C++? Write C++ program to find the reverse of the given string.

Q6) What is constructor? Discuss different types of constructors with help of proper syntax.

Q7) Explain about multiple, hierarchical and multi-level inheritance with suitable example.

Q8) Explain how to access the private and protected class member's in C++? Give an example.

Q9) Discuss about various container classes with suitable example.

Q10) What is polymorphism? Explain different types of polymorphisms supported by C++.

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PGDCA03

P.G. DIPLOMA DEGREE EXAMINATION,
JUNE/JULY - 2019
COMPUTER APPLICATIONS
Computer Organization

Time : 3 Hours   Maximum Marks : 70

Answer any Five questions
All questions carry equal marks

Q1) What is the structure of IAS computer and also give expanded structure of IAS computer?

Q2) Describe the evaluation of intel x86 architecture and embedded systems.

Q3) Explain about PCI bus structure and PCI commands and data transfer.

Q4) What is an Interrupt? Write about the flowchart of Interrupt cycle.

Q5) Explain how are data read from and written onto a magnetic disk? What are the advantages of using a glass substrate for a magnetic disk?

Q6) Discuss about different RAID levels and give their characteristics.

Q7) a) What is a fixed point representation? Explain how to detect overflow in fixed point representation.

   b) How do we represent the signed integers? Explain with examples.

Q8) Explain the multiplication and division of two floating point numbers by using flowchart.

Q9) Design a hardwired control unit for CPU. Why hardwired CPU are suitable for RISC?

Q10) Explain about various states in instruction cycle with neat diagram.

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PGDCA04

P.G. DIPLOMA DEGREE EXAMINATION, JUNE/JULY - 2019

COMPUTER APPLICATIONS

Data Structures

Time : 3 Hours   **Maximum Marks : 70**

<u>Answer any Five questions</u>
<u>All questions carry equal marks</u>

Q1) Explain about different types of linear and non-linear data structures in brief.

Q2) a) What is sparse matrix? Give the representation of sparse matrix in computer memory.
       b) Write an algorithm to perform binary search.

Q3) Explain about pattern matching algorithm with   example.

Q4) What is record? How to represents records in computer memory? Illustrate with suitable example.

Q5) What is recursion? How the stack is useful for implementation of recursion? Give appropriate example.

Q6) What is double linked list? Describe the subroutine to perform insert and delete operations on double linked list.

Q7) Explain about tree traversing techniques with suitable example.

Q8) What is AVL tree? Describe insert and delete operations on AVL trees with example.

Q9) Sort the following elements by insertion sort and   mention its pseudo code.
       43, 37, 72, 15, 64, 57.

Q10) What is Hashing? Explain in detail about hash techniques.

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PGDCA05

P.G. DIPLOMA DEGREE EXAMINATION,
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COMPUTER APPLICATIONS
Operating Systems

Time : 3 Hours   **Maximum Marks : 70**

Answer any Five questions
All questions carry equal marks

Q1) Discuss the various services provided by the operating system.

Q2) Given the following :

Process	ArrivalTime (ms)	Burst Time (MS)
P1	0	10
P2	1	4
P3	2	5

Find the average waiting time and the turn-around time for the FCFS, SJF and Round Robin (Time quantum 5 mille seconds) scheduling algorithms.

Q3) Explain implementation of Producer's/ Consumers problem using monitor.

Q4) Write about the classic problems of process synchronization.

Q5) Explain about single absolute and relocatable and multiple partitions in memory management.

Q6) Discuss about demand paging concept in detail.

Q7) Describe file system architecture and various functions of file systems.

Q8) Explain in detail about various levels of RAID.

Q9) Write about kernel I/O subsystem in detail.

Q10) What is meant by threat? Discuss different categories of threats.

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PGDCA06

P.G. DIPLOMA DEGREE EXAMINATION,
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COMPUTER APPLICATIONS
Database Management Systems

Time : 3 Hours   **Maximum Marks : 70**

Answer any Five questions
All questions carry equal marks

Q1) What is DBMS? Describe different components of database management systems and give the   advantages of database systems.

Q2) Write about indexed sequential and direct access file organization with neat sketch.

Q3) Explain about different pointer types and location methods with suitable example.

Q4) Describe the hierarchical data model and network data models with proper example.

Q5) Write a procedure to follow for database design.

Q6) What is normalization? Discuss different types of normal forms with appropriate examples.

Q7) Explain various commands used for data manipulation language.

Q8) Write about PC-FOCUS database description with college database.

Q9) Write the database recovery mechanism in detail.

Q10) Discuss various SQL commands with proper syntax.

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PGDCA07

P.G. DIPLOMA DEGREE EXAMINATION, JUNE/JULY - 2019

COMPUTER APPLICATIONS

Accounts & Finance

Time : 3 Hours   **Maximum Marks : 70**

<u>Answer any five questions</u>
<u>All questions carry equal marks</u>

Q1) Explain different concepts and conventions of Accounting?

Q2) What is Double Entry System? Discuss the rules and advantages of this system.

Q3) Enter the following transactions in the related Subsidiary Books.

2013 Sep.	Rs.
1st Purchased goods from Siva	2,000
5th Purchased goods from Prasad	4,500
7th Sold goods to Rahim	9,000
8th Goods returned to Prasad	500
10th Purchased goods from Vinod (Trade Discount 10%)	15,000
14th Sold goods to Pradeep	12,000
16th Goods returned by Pradeep	1,000
18th Goods purchased for cash	6,000
20th Sold goods to Praneeth (Trade discount 5%)	3,000
24th Purchased goods from Vijay	3,700

26th Sold Old Machinery	1,400
27th Bought goods from Venkat (Trade discount 15%)	8,000
29th Returned goods to Vijay	200

Q4) What is Cost Accounting? State Briefly the functions of Cost Accounting?

Q5) On 31st Jan. 2015, the pass book of Karthik showed a debit balance of Rs. 41,000. Prepare a bank reconciliation statement with the following information :

a) Cheques amounting to Rs. 15,600 were drawn on 27th Jan. 2015 out of which cheques for Rs. 11,000 were cashed upto 31st Jan. 2015.

b) A wrong debit of Rs. 800 has been given by the bank in Pass book.

c) A cheque for Rs. 200 was credited in Pass book but was not recorded in Cash book.

d) Cheques amounting to Rs. 21,000 were deposited for collection. But cheques for Rs. 7,400 have been credited in Pass book 5th Feb. 2015.

e) A cheque for Rs. 1,000 returned dishonoured and were debited in Pass book only.

f) Interest & bank charges amounted to Rs. 100 and were not accounted for in Cash book.

g) A cheque of Rs. 500 debited in the Cash book omitted to be banked.

h) A wrong credit has been given by the banker for Rs. 500 in the Pass book.

Q6) Describe the need & determinants of working capital in a business.

Q7) What is finance function? State Scope & Aims of finance function in detail.

Q8) What are liquidity ratios? Discuss their significance.

Q9) What are the advantages & limitations of budgetary control?

Q10) From the following figures of Krishna prepare final accounts for the year 31.3.2012.

Particulars	Rs.
Plant	55,000
Fixtures	1,720
Capital	93,230
Lighting (factory)	392
Sales	1,26,117
Discount	422
Drawings	6,820
Stock	21,725
Insurance	470
Purchases	83,290
Rent & taxes	1,705
Carriage inwards	897
Bills payable	6,412
Commission	260
Factory Fuel & Power	542
Office Salaries	3,745
Travelling Expenses	925

Carriage outwards	380
Manufacturing Exp.	2,940
Cash at bank	2,245
Cash in hand	118
S. Debtors	48,000
S. Creditors	22,880
Wages	9,915
Office expenses	2,778
Return outwards	3,172
Insurance prepaid	100
Return Inwards	7,422

Adjustments :

i)   Depreciation 10% Plant & fixtures.

ii) Provide for March rent unpaid Rs. 150.

iii) Provide for reserve for bad debts 2.5 % on   debtors.

iv) Outstanding wages Rs. 800 & Salaries Rs. 350.

v)   Stock on 31.3.2012 Rs. 16,580.

PGDCA08

P.G. DIPLOMA DEGREE EXAMINATION,
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COMPUTER APPLICATIONS
Computer Graphics

Time : 3 Hours   **Maximum Marks : 70**

Answer any Five questions
All questions carry equal marks

Q1) Draw a line from (20, 10) to (30, 18) using Bresenham's line drawing algorithm.

Q2) Explain about inherent memory devices and storage tube display.

Q3) Explain the following terms with reference to 2-D displays :
a) Viewing transformation.
b) Window and viewport.

Q4) Explain Cohen Sutherland line clipping algorithm with example.

Q5) a) Describe various graphic primitives.
b) What is segment? Write about functions fors egmenting the display file.

Q6) What is geometric modeling? Describe symbols and instances in geometric modeling.

Q7) Explain about polling and event queue in event handling.

Q8) Explain about the following graphical input techniques :
a) Pointing and selection.
b) Inking and painting.

Q9) a) Write about Y – X algorithm with suitable example.
b) Write about scan converting polygons.

Q10) Discuss about raster display devices and frame buffer.