P.G.D.C.A. EXAMINATION, 2009

ADVANCED DATABASE MANAGEMENT SYSTEM

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting one question from each unit.*
All questions carry equal marks.

Unit I

1. (a) Explain clearly in what way designing an object oriented database is different from relational database.

   (b) Explain the concept of aggregation with the help of suitable examples.

2. (a) Differentiate between promary, secondary, multi level files with suitable examples.

   (b) Construct an object oriented database scheme definition for the loan management system of a finance company. Loans are given on the purchase of various items with different interest rates. The company keeps track of defaulters and takes appropriate steps against them.

Unit II

3. State bank of India provides online banking to the all customers. Design the distributed architechture for the SBI. Also discus the pros and cons of the system designed by you.

4. Write short notes on:
   (a) Concurrency control techniques
   (b) Serializibility
   (c) Two phase locking
   (d) Recovery techniques.

Unit III

5. (a) Discuss the need of external sorting. Also discuss the algorithm for external sorting.

   (b) Data mining has become the hot topic today. Describe what is data mining. Also explain the methods for data mining.

6. Write short notes on:
   (a) Data warehousing

(b) XML tree data model

(c) DTD schema

(d) Multimedia database

Unit IV

7. (a) Why does the need of encryption still require when a DBMS already supports discretionary and mandatory access control?

(b) Discuss the need of PL/SQL. Describe PL/SQL data types, functions, error handling.

8. (a) Differentiate between triggers and declarative integrity constraints. Discuss the situations when these are suitable.

(b) What is stored procedure and how are they created and executed? How are they different from views?

Unit V

9. (a) Describe the DB2 architecture in detail. Also compare with IMS architecture.

(b) Describe the recovery under IMS architecture.

10. Write short notes on:

(a) DB2 external views

(b) RPG/400 arithmetic functions

(c) RPG/400 data validation

(d) RPG/400 structure operations

P.G.D.C.A. EXAMINATION, 2009
PROGRAMMING WITH 'C' AND VISUAL BASIC

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting one question from each unit.*
All questions carry equal marks.

Unit I

1. (a) What do you mean by 'C' token? Explain with examples for each. 10

   (b) What do you mean by operator? Define the types of operators. Find out the maximum from three numbers using the conditional operators. 10

2. (a) What is the control flow statements? Define the similarities between go to label and switch case? 8

   (b) Explain the components of functions. Define the differences and similarities between return type recursive and non return, non recursive function with examples. 12

Unit II

3. (a) Write a program to find the series of prime number for 1 to N using pointers. 8

   (b) What do you mean by pointer? Define the different representation to use the pointer in our program with suitable syntax and example for each. 12

4. (a) What do you mean by 2D array? Write a program to convert the data of string 2D array in upper case. 10

   (b) Write a user define function to copy the string from one array to another array and also search the length of string. 10

Unit III

5. (a) What are the advantages of structure? Define the function to insert the data in structure using a function. 8

   (b) Write a n algorithm to insert a node in a circular linked list. 12

6. (a) What are the differences and similarities between stack and queue? Write a function to convert infix to prefix. 10

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(b) What do you mean by nested structure? Design a function to delete a node from user specify position. 10

Unit IV

7. (a) What do you mean by IDE in VB? Define the IDE controls in VB with specific properties and methods. 8

(b) What do you mean by event driven programming? Define any five events with suitable example for each. 12

8. (a) Design a user interface to find out the maximum number from three numbers using the nested if else? Define the choose and select with syntax. 12

(b) Write a user define function that can convert the string in the reverse order. Also define the module with a user define data type. 8

Unit V

9. (a) Define the similarities and differences between image control and picture control. Design an event procedure to swap the image between two image boxes on the mouse move event. 10

(b) What do you mean by data control? Define the procedure to perform move next, previous and add a new record in the database. 10

10. (a) Define the similarities and differences between the list control and combo control. Explain the methods for insert, delete and count the data from list control with syntax. 10

(b) What do you mean by file handling? Define the types of file and also define the reading and writin operation from file. 10

P.G.D.C.A. EXAMINATION, 2009
ELECTRONIC DATA PROCESSING

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting one question from each unit.*
All questions carry equal marks.

Unit I

1. What is DBMS? Give characteristics of DBMS. Also explain different database design stages.

2. What do you understand by database model? Explain database system architecture in detail.

Unit II

3. What is ER model? Explain it in detail. Also explain generalization and aggregation using ER diagram.

4. Write short notes on:

   (i) Sequential, random and index sequential file organization.

   (ii) Different relational algebra operators.

Unit III

5. Explain the following commands with examples:

   (i) Browse

   (ii) Zap

   (iii) Pack

   (iv) Copy to

   (v) Modify

   (vi) Append

   (vii) List

   (viii) Change

   (ix) Go

   (x) Replace

6. (a) Write a program in FoxPro to read a 2D array and find out the maximum value from it.

   (b) Write a program in FoxPro to find out a string is palindrome or not.

Unit IV

7. Explain what is index. Explain indexing phenomena in FOX in detail.

8. (a) Give a note on "managing multiple data file in FoxPro".

   (b) Give short notes on different character functions in FoxPro.

Unit V

9. Explain the following:

   (a) Input-output commands

   (b) Screen editing commands.

10. Write a program to calculate discount for a gift shop, which is based on the purchase amount:

   - If purchase amount is more than Rs. 2000 discount will be 20%.

   - If purchase amount is more than Rs. 1000 but less than Ts. 2000 discount will be 15%.

   - If purchase amount is more than Rs. 500 but less than Rs. 1000 discount will be 10%.

P.G.D.C.A. EXAMINATION, 2009
INTRODUCTION TO IT AND PC
PRODUCTIVITY TOOLS

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting **one** question from each unit.*
__All__ questions carry equal marks.

Unit I

1. (a) Explain computer generation in detail. 11

   (b) Write short notes on:

   (i) Joystick

   (ii) MICR

   (iii) Digital camera. 3+3+3

2. (a) Convert the following:

   (i) $(1101111)_2 = (?)_8$

   (ii) $(140)_{10} = (?)_2$

   (iii) $(AFC)_{16} = (?)_2$

   (iv) $(1427)_8 = (?)_{16}$

   (v) $(101111)_2 = (?)_{16}$ 2x5

   (b) Write short notes on the following:

   (i) Excess-3 code

   (ii) Thermal transfer printer

   (iii) ASCII code

   (iv) K-map. 2.5x4

Unit II

3. (a) What is memory and its types? Explain magnetic disk in detail. 5+5

   (b) Write application areas of computer. 10

4. (a) Write short notes on:

   (i) Cache memory

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     (ii) DVD

     (iii) Hard disk

     (iv) Flash memory.   2.5x4

  (b) Differentiate primary memory and secondary memory.   10

Unit III

5. (a) Differentiate GUI and CUI.   5

    (b) Write short notes on:

       (i)   Recycle bin

       (ii) Task bar

       (iii) Disk defragmentation

       (iv) System tools

       (v) Date and time setting.   5x3=15

6. (a) Write various formatting features of MS-Word.   10

    (b) Write short notes on:

       (i)   Macro

       (ii) Find and replace

       (iii) Hyperlink

       (iv) Track change

       (v) Thesaurus   2x5

Unit IV

7. (a) Write a short note on the cell range.   5

    (b) How is formula used in MS-Excel? Explain with example.   5

    (c) Write a short note on filter option in MS-Excel.   5

    (d) Explain auto fill in MS-Excel.   5

8. (a) Write the differences between workbook and worksheet.   7

    (b) Write various charts and graphs used in MS-Excel with examples. 13

Unit V

9. (a) Explain various views of PowerPoint with example.   15

(b) Write a short note on OLE. 5

10. (a) Write various ways to creating presentaion in PowerPoint. 10

(b) Write short notes on: 10

    (i)   Slide sorter

    (ii)   Action button

    (iii) Rehearsal time

    (iv) Slide transition

P.G.D.C.A. EXAMINATION, 2009
JAVA

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting one question from each unit.*
All questions carry equal marks.

Unit I

1. What is object oriented programming? Explain the following terms:

   (a) Data abstraction

   (b) Data encapsulation

   (c) Inheritance.   4x5=20

2. Explain the following terms:

   (a) Is java 100% object oriented language and explain it?   5

   (b) Explain Java portability and Internet applications.   5

   (c) How does Java differ from C and C++ language?   10

Unit II

3. Explain various types of operators in Java with precedence and associativity.   20

4. Write the following programs:

   (a) Calculate matrix multiplication of 3x3 degree matrix.   10

   (b) Print the following series and find out its sum: 10

   1, 4, 9, 16 . . . . . n

Unit III

5. What is inheritance in Java? Explain multiple inheritance in Java with suitable example of program.   20

6. Explain the following statements:

   (a) Why is constructor used in Java?   5

   (b) How is stack class advantageous over simple class architecture?   5

   (c) What is the use of method overriding? Explain it with program.   10

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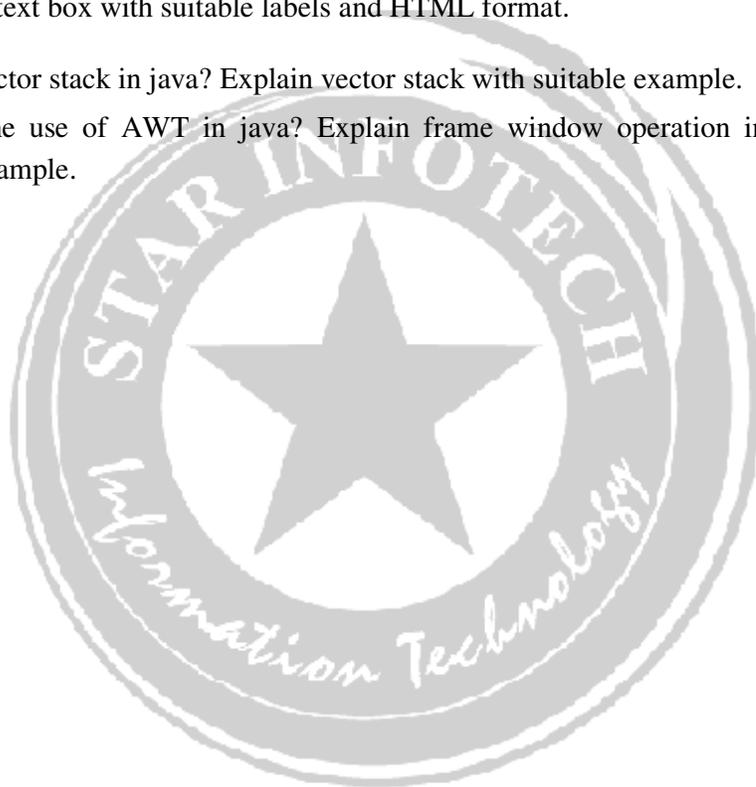
7. What is exception? Describe various types of exception in java. Describe any exception handling program in java.

8. (a) What is thread and how are they handled in Java?   10

     (b) Explain the following terms: 5+5=10

         (i) sleep and start function

         (ii) setPriority to threads.

Unit V

9. What is applet? Write a program to taking two integer value by text box and display result in another text box with suitable labels and HTML format.   20

10. (a) What is vector stack in java? Explain vector stack with suitable example.   10

     (b) What is the use of AWT in java? Explain frame window operation in java with suitable example.   10

P.G.D.C.A. EXAMINATION, 2009
OPERATING SYSTEM

Time allowed: Three Hours

Maximum Marks: 100

*Attempt any **five** questions, selecting **one** question from each unit.*
All questions carry equal marks.

Unit I

1. (a) Define OS as an interface and resource allocator and describe all related functions.

   (b) Write short notes on:

       (a) Multi processing system

       (b) Real-time systems.

2. (a) Define in brief with datagram layers design of UNIX and DOS operating system.

   (b) Explain the role of system calls in operating system. List all the system calls related to process management and file management.

Unit II

3. (a) What is the process and scheduler? Explain the different scheduling criteria.

   (b) Describe process life cycle with process state diagram and PCB.

4. (a) Write short notes on:

       (i) Priority scheduling

       (ii) Multilevel queue scheduling.

   (b) Explain in brief with suitable illustrations:

       (i) Critical section

       (ii) Interprocess communications

       (iii) Semaphores.

Unit III

5. (a) What is deadlock? Which is better deadlock prevention and deadlock removal? Explain.

   (b) Give one algorithm for deadlock detection and removal.

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6. (a) What is memory management? Why is it needed?

   (b) Explain paging and demand paging with proper diagram.

Unit IV

7. (a) Describe DFS and explain naming tranparency related to it.

   (b) Write short notes on:

    (i)   Network OS

    (ii) Distributed OS

    (iii) Remote file access.

8. Explain the methods of using interprocess communication protocols? Describe thrashing.

Unit V

9. Explain all types of files in LINUX and VI editor with proper example.

10. (a) Explain the following commands:

    (i)   ls

    (ii) chmod

    (iii) chgrp

    (iv) bash

    (v) expr

   (b) Write a shell script to print Fibonacci series.