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P. G. D. C. M. (Semester - I) Examination - 2009

**ELEMENTS OF INFORMATION TECHNOLOGY
AND OFFICE AUTOMATION,
WINDOWS OPERATING SYSTEM AND MS-OFFICE
(2008 Pattern)**

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Solve **any 4** questions from the remaining.*
- (3) *All questions carry equal marks.*

Q.1) (A) Solve the following : [04]

(a) $(76)_8 + (101)_2 = (?)_{16}$

(b) $(1010110)_2 = (58)_{10} = (?)_8$

(B) Show implementation of the logical operations of AND, OR, NOT. [05]

(C) Explain generations of the Computer. [05]

Q.2) (A) How is Multiprocessing different from Multiprogramming ? [07]

(B) Differentiate between Compiler and Interpreter. [07]

Q.3) (A) Explain any three statistical functions with proper example in MS-Excel. [07]

(B) Discuss advantages and limitations of Sequential, Direct and Indexed Sequential File. [07]

- Q.4)** (A) Write down procedure for setting an E-mail Account in MS-Outlook. [07]
(B) Explain concept of Virtual Memory in Operating System. [07]
- Q.5)** (A) Explain various types of Data Processing. [07]
(B) Explain Mail-merge Facility of MS-Word. [07]
- Q.6)** Write short notes : **(Any Two)** [14]
(a) DVD
(b) Computer Virus
(c) Advantages of Bar Coding
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P. G. D. C. M. (Semester - I) Examination - 2009

PROGRAMMING USING VISUAL BASIC

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) All questions are compulsory.
 - (2) Figures to the right indicate full marks.
-
-

Q.1) Give output of the following section of code and explain :

(Any Five)

[5x4=20]

(a) Dim str as string

```
Text1.Text = "VB is object oriented event driven programming  
language"
```

```
Text1.SetStart = 6
```

```
Text1.SetLength = 16
```

```
Text1.SetText = " "
```

```
Str = Text1.Text
```

```
Print Str
```

(b) Dim i as integer

```
for i = 20 to 10 step -2
```

```
Select Case (i)
```

```
case 15 - 20
```

```
print "*"
```

```
case 10 - 14
```

```
print "#"
```

```
End Select
```

```
Next
```

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P.T.O.

- (c) Dim j
j = 10#
Print TypeName (j)
Print VarType (j)
- (d) Print Now
- (e) Dim d1, d2 As date
d1 = date
d2 = dateadd ("d", 10, d1)
Print datediff ("m", d1, d2)
Print datediff ("d", d1, d2)
- (f) Dim str as string
Print Left(StrConv("Pune University", VbUpperCase), 4)

Q.2) Explain use of the following properties : (Any Five) [5x2=10]

- (a) Max and Value Property of Vertical Scrollbar.
- (b) List and Style Property of Combo Box.
- (c) Caption and Picture Property of Command Button.
- (d) Picture and Visible Property of Picture Box.
- (e) Enabled and Borderstyle of Frame.
- (f) Password Char and Text Property of Text Box.

Q.3) Write short notes : (Any Four) [4x5=20]

- (a) Event Driven Programming Technique.
- (b) Drive List Box, Dir List Box, File List Box
- (c) String Functions (any 5)
- (d) Message Box and Input Box
- (e) Control Array

Q.4) Write sectional code for the following : **(Any Four)** **[4x5=20]**

- (a) Write a function to find factorial of a given number.
- (b) Write a code to accept birth date and display his/her age in years.
- (c) Write a code which will create a menubar having options circle and rectangle and will give area of selected menu option with appropriate input.
- (d) Design a user login form and write code to check user id and password. If user id and password are correct, display message login successful; otherwise login failed.
(user id : PGDCM, Password : Pune).
- (e) Write a code to accept 10 numbers from user and store them in an integer array. Display maximum and minimum numbers from these numbers.

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P. G. D. C. M. (Semester - I) Examination - 2009

INTRODUCTION TO 'C' AND C++ LANGUAGE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.
- (2) Solve **any five** from the remaining.
- (3) State suitable assumptions.

Q.1) What will be output of the following ? Give explanation : [10]

(a) void main()

```
{
    char S[ ] = "PUNE UNIVERSITY";
    char *P;
    P = & S[10] - 5;
    while(*P)
        printf("%C",*P++);
}
```

(b) main()

```
{
    int num = 1024, pos = 3, bit;
    bit = (num << 2) &1;
    bit = bit >> pos;
    printf("%d", bit);
}
```

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P.T.O.

```
(c) main()
{
    int a, b, c;
    a = b = c = -1;
    c = ++a || ++b && ++c;
    printf("%d %d %d", a, b, c);
}
```

```
(d) main()
{
    int x=1;
    switch(x)
    {
        case 2 : printf("one");
        default : printf("two");
        case 1 : printf("three");
    }
}
```

Q.2) (A) Write a program using 'C' to find out the sum of odd numbers and sum of even numbers in an array of 10 integers. Accept numbers from user. **[06]**

(B) Explain what is manipulator and scope resolution operator in C++. **[06]**

Q.3) Write a program using 'C' to accept two numbers and display prime factors of the larger number entered. **[12]**

- Q.4)** Explain with suitable example : **[12]**
- (a) Parameterized Constructor in 'C⁺⁺,
 - (b) Storage Classes in 'C'
- Q.5)** Write a program using 'C' to accept string and display length of string. Also check whether a string is palindrome or not. **[12]**
- Q.6)** (A) Explain different types of Inheritance used in C⁺⁺. **[06]**
- (B) Static Data Members in C⁺⁺. **[06]**
- Q.7)** (A) Write a program using C to accept a number and print its factorial value. **[06]**
- (B) Write a note on friend function in C⁺⁺. **[06]**
- Q.8)** Write a program to accept a number and print whether it is prime or not. **[12]**
-

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P. G. D. C. M. (Semester - I) Examination - 2009

VISUAL BASIC PROGRAMMING

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

All questions are compulsory.

Q.1) Give output for following section of code and explain : (Any Five) [20]

- (a) `Dim st As string, j As Integer`
`st = "VBSmart"`
`For i = 1 To Len(st)`
`j = Asc(Mid(mystr, i, 1))`
`j = j + 1`
`print Chr(j)`
`Next`
- (b) `x = 5`
`y = 10`
`Print If (y < x, x, y)`
- (c) `Dim mystr`
`mystr = String(5, Right("childhood", 4))`
`Print mystr`
- (d) `Print now`
- (e) `Print Asc(Chr(65))`
- (f) Note : Format for date in mm/dd/yyyy"
`I = #08/12/2002#`
`Print DateAdd("m", 4, I)`
`Print DateDiff("YYYY", I, #12/12/2003#)`

Q.2) Explain the properties for the following controls : (Any Five) [10]

- Scrollbars of Textbox
- Sorted of Combobox
- Style of Command Button
- Border Width of Shape
- Largechange of Scrollbar
- Value of Option Button

Q.3) Design interface and write a code : (Any Three) [30]

- (a) Accept a string from user. Print the reverse of it. (Do not use readymade function)
- (b) After every minute the color of the form gets changed automatically.
- (c) To accept the username and a password. If both the entries are right, splash the message that you are right person else give error message. Give the three chances to user to enter user and password.
- (d) To add some text in a listbox and transfer these data from one listbox to other after clicking transfer button.

Q.4) Write short notes : (Any Four) [20]

- (a) Data Type Conversion Functions
- (b) Control Array
- (c) Controls in Microsoft Common Control 6.0
- (d) Various Loops Structure in Visual Basic
- (e) Message Box and Input Box

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - II) Examination - 2009

**WEB TECHNOLOGY
INCLUDING E-COMMERCE, HTML AND BASIC JAVA**

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

Answer any four questions.

Q.1) (A) Explain Inheritance with example. [10]

(B) Explain www and Web Publishing. [10]

Q.2) (A) Write Java Program to print the following output : [10]

```
5      4      3      2      1
      5      4      3      2
          5      4      3
              5      4
                  5
```

(B) Discuss various advantages of XML. [10]

Q.3) (A) Discuss Applet Life Cycle. [10]

(B) Discuss various methods of String Buffer Class. [10]

Q.4) (A) Explain constructors and abstract classes in Java. [10]

(B) Write Java Code to accept a number from user and find whether it is prime number or not. Display result. [10]

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P.T.O.

Q.5) (A) What is html ? Explain the following html tags : [10]

(a) <a>

(b)

(B) Explain various types of E-commerce. [10]

Total No. of Questions : 5+2]

[Total No. of Printed Pages : 2

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P. G. D. C. M. (Semester - II) Examination - 2009

SOFTWARE ENGINEERING

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Solve *any 3* questions from section I. All questions from section II are compulsory.
- (2) Draw neat diagrams wherever necessary.

SECTION - I

- Q.1)** Explain various phases of SDLC. **[10]**
- Q.2)** Explain different roles played by System Analyst while designing new System. **[10]**
- Q.3)** Explain in short Water Fall Model. **[10]**
- Q.4)** What is Feasibility Study ? How is it carried out ? **[10]**
- Q.5)** Discuss advantages and drawbacks of Interviewing Techniques for fact finding. **[10]**

SECTION - II

- Q.1)** ABCL Company wants to computerize its Payroll System. Employees give their personal details to Personnel Department. Accounts Department sends additional earnings and deductions list. Attendance of the employees is sent by the Time-office. Pay-slip is given to all the employees. Bank Statements are prepared and sent to the banks. Final list of various deductions such as Income Tax, Professional Tax, Provident Fund Deductions etc. are sent to Accounts Department.

Study the above case and solve the following :

[30]

- (a) Draw Context Level DFD
- (b) Draw ERD
- (c) Database Design
- (d) Design of Screens
- (e) Design of Payslip

Q.2) Draw Decision Table for the interest calculation on Fixed Deposit. [10]

If customer deposits $< 10,000$, 4.5% interest is given.

If deposit is $\geq 10,000$ and $< 1,00,000$, 5% interest is given and if it is $\geq 1,00,000$, 6% is applied.

If customer is a senior citizen, then 1% additional interest is offered on every fresh deposit.

If customer is NRI, then 2% additional interest is offered on every fresh deposit.

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

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P. G. D. C. M. (Semester - II) Examination - 2009

DATABASE MANAGEMENT SYSTEM AND ORACLE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *In section I, Q. 1 is compulsory. Answer **any 2** questions from Q. 2 to 4.*
- (2) *In section II, Q. 5 is compulsory. Answer **any 2** questions from Q. 6 to 8.*

SECTION - I

Q.1) What is Normalisation ? [15]

Normalize following data up to 3NF with proper example.

(SalesOrderNo, SalesOrderdate, CustomerNo, CustomerName, CustomerAddress, CustomerPhone, ItemNo, ItemName, Qty, Price, Amount, TotalAmount)

Q.2) Define DBMS. Explain advantages and disadvantages of DBMS. [10]

Q.3) State and explain E.F. Codd's Rules. (Any Ten) [10]

Q.4) Write short notes : (Any Two) [10]

- (a) Cardinality
- (b) Data Types of MS-Access
- (c) Parametric Cursor

SECTION - II

Q.5) (A) Explain Self Join with proper example. **[05]**

(B) Answer the following SQL queries using the following tables :

(Any Ten) **[10]**

Project (ProjectNo, Title, Platform, Duration)

Student(StudentNo, SName, ProjectStart_date,
ProjectCompletion_date, ProjectNo)

Note : Duration is in months.

- (1) Display students working on the Sales Management System.
- (2) Display students who are late in completing the project.
- (3) Display student details having projects with less than 6 months duration.
- (4) Display total no. of students for each project.
- (5) Create student table with appropriate constraints.
- (6) Display students who have started working on their Project in the month of April.
- (7) Add a new column contract_no to the student table.
- (8) Delete record of students who have completed their project.
- (9) Display details of projects where the project platform may be Java or Visual Basic.
- (10) Display students name having R as the 3rd character in their names.
- (11) Insert one record in the project and student table.

Q.6) Explain date functions of Oracle with proper example. **[10]**

Q.7) Explain the following with proper example : **(Any Two)** **[10]**

- (a) Round and Truncate
- (b) User and Uid
- (c) Union and Intersect

Q.8) Explain in brief background processes in Oracle. **[10]**

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - II) Examination - 2009

**WEB TECHNOLOGY
INCLUDING E-COMMERCE, HTML AND BASIC JAVA**

Time : 3 Hours]

[Max. Marks : 80

Instruction :

Solve any four questions.

-
-
- Q.1)** (A) What is E-commerce ? Explain various models of E-commerce. [10]
(B) Write a Java Programme to display result of student. [10]
- Q.2)** (A) Discuss Principles of Object Oriented Programming. [10]
(B) What is HTML ? Explain various uses of HTML. [10]
- Q.3)** (A) What is XML ? Explain features of XML. [10]
(B) Describe Interfaces and Abstract Classes in Java. [10]
- Q.4)** (A) Write a Java Programme for displaying factorial of a given number. [10]
(B) Explain Applet Life Cycle. [10]
- Q.5)** Write short notes : **(Any Four)** [20]
- (a) Structure of a Java Programme
 - (b) Web Publishing
 - (c) Digital Certificates
 - (d) Packages
 - (e) Constructors in Java

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - II) Examination - 2009

SOFTWARE ENGINEERING

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Q.1) 'Sharada Automotives' Company wants to computerize their Payroll System. Employees give their personal details to Personnel Department. Accounts Department sends additional earnings and deductions list. Attendance of the employee is sent by the Time-office. Payslip is given to all the employees. Bank Statements are prepared and sent to the banks. Final list of various deductions such as income tax, professional tax, provident fund deductions etc. are sent to Accounts Department.

Draw :

- | | |
|--------------------------------|------|
| (a) Context Level DFD | [05] |
| (b) First Level DFD | [05] |
| (c) ER Diagram | [05] |
| (d) Normalized Database Design | [10] |

Q.2) Design Fixed Deposit Receipt and FD Register Format for a Bank. [20]

Q.3) What is SDLC ? Describe various phases in brief. [10]

Q.4) Draw the decision tree and decision table for the following :

A bank offers discount 8% per year for the deposit more than 10,000, 7% per year for the deposit of amount between 5,000 and 10,000 and 6% for the amount less than 5,000. If the customer is senior citizen, 0.5% extra is given on all types of amounts. [10]

Q.5) Write short notes : (Any Three)

[15]

- (a) Open Vs Closed System
 - (b) Prototyping Model
 - (c) Functional Decomposition Diagram
 - (d) Decision Support System
-

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - II) Examination - 2009

ORACLE

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) All questions are compulsory.*
 - (2) Figures to the right indicate full marks.*
 - (3) Write your assumptions clearly.*
 - (4) For solving queries use exact column names.*
-
-

Q.1) Consider the following table to solve the following queries : (Any Ten) [20]

Emp (eno, ename, dob, gender, sal, deptno, designo, address, city, date_of_join)

Dept (deptno, dept_name, loc)

Designation (designo, design_name, min_qualification)

- (1) Create Emp table with appropriate constraints.
- (2) Add 'email' column to the emp table.
- (3) Display list of all employees who are working in either dept. no. 10 or 20 or 30 or 40.
- (4) Display departmentwise total number of employees.
- (5) Display list of employees whose name begins with 'H' and ends with 'I'.
- (6) Display list of employees whose designation is 'Clerk'.
- (7) Display employee details alongwith their designation name.

- (8) Display list of employees whose salary is less than 5,000 and working location is PUNE.
- (9) Display employee details working in the 'HR' Department.
- (10) Write a query to delete employees whose age is less than 20 years.
- (11) Display employees who joined company in the year 2009.

Q.2) What is a Join ? Explain different types of Joins with examples. [10]

Q.3) Write difference between the following : (Any Four) [12]

- (a) Char and Varchar2
- (b) Ltrim and Rtrim
- (c) Where and Having
- (d) Count and Count(*)
- (e) Ceil and Floor

Q.4) Write a PL/SQL program to print factorial of an accepted number. [08]

OR

Q.4) Write a program to print sum of digits of an accepted number. [08]

Q.5) Write short notes : (Any Four) [20]

- (a) PL/SQL Features
- (b) Sub-queries
- (c) Numeric Functions
- (d) Cursor for Loop
- (e) Type of Constraints

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - I) Examination - 2009

DATABASE MANAGEMENT SYSTEM

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

All questions are compulsory.

Q.1) Solve any two : **[16]**

- (a) Explain DBMS Architecture.
- (b) Explain difference between Hierarchical, Network and Relational Database.
- (c) Explain different types of Anomalies.

Q.2) Write short notes : (Any Two) **[16]**

- (a) Normalisation
- (b) Users of DBMS
- (c) ER Model

Q.3) Solve any two : **[16]**

- (a) Explain Control Structures in 'C'.
- (b) Explain any 2 String Functions with example.
- (c) Explain Storage Classes in 'C'.

Q.4) Solve any two :

[16]

(a) Write a program to print the following pattern :

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

(b) Write a program which will accept 10 numbers from user and sort them in descending order.

(c) Write a program to print first 7 terms of Fibonacci Series.

Q.5) Solve any two :

[16]

(a) Write a recursive function to print sum of digits of a given number.

(b) Write a program to accept a string from user and convert it into uppercase.

(c) Write a program to accept a string from user and print it in reverse order.