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P. G. D. C. M. (Semester - I) Examination - 2010

**ELEMENTS OF INFORMATION TECHNOLOGY
AND OFFICE AUTOMATION**

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Solve **any four** questions from the remaining.*
- (3) *Figures to the right indicate full marks.*

Q.1) Solve the following :

(a) $(11011001)_2 = (?)_{16} = (?)_8$

$(736)_{10} = (?)_{16} = (?)_8$ **[04]**

(b) Explain generations of Computer. **[04]**

(c) Write characteristics of Computer. **[06]**

Q.2) (A) Explain Working of Magnetic Tape. **[07]**

(B) Explain difference between Application Software and System Software. **[07]**

Q.3) (A) Explain facilities available in MS-Excel. **[07]**

(B) Explain use of MS-Outlook in Business Environment. **[07]**

Q.4) (A) What are different types of Printers ? **[07]**

(B) Discuss AND, OR, NOT logical gates with the help of suitable diagram. **[07]**

Q.5) (A) Explain functions of Operating System. [07]

(B) Explain Batch Processing and Online Processing. [07]

Q.6) Write short notes : (Any Two) [14]

(a) Compiler and Interpreter

(b) Virus

(c) Special Purpose Input Devices

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P. G. D. C. M. (Semester - I) Examination - 2010

PROGRAMMING USING VISUAL BASIC

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

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

(Any Five)

[20]

(a) Dim i

i = -2.3

Print CBool(Abs(i))

(b) Const PI As Single = 3.14

Print PI + 3

Print PI

(c) Dim dt1, dt2

dt1 = #12/31/2008#

dt2 = DateAdd("m", 1, dt1)

Print dt1

Print DateDiff("d", dt1, dt2)

(d) For ch = 65 To 73 Step 2

Print Chr(ch)

Next ch

(e) Dim a As Integer

a = 16

Print Hex(a)

Print Oct(a)

(f) Print Left(StrConv("posT gradUate", vbProperCase), 6)

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

- (a) MaxLength property of Text Box
- (b) Value property of Option Button
- (c) Path property of Dir List Box
- (d) ListCount property of List Box
- (e) List property of Combo Box
- (f) Wordwrap of Label

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

- (a) Explain Control Array with suitable example.
- (b) Menu Editor in VB
- (c) Input Box and Message Box
- (d) String functions (any 5)
- (e) Microsoft Windows Common Controls 6.0

Q.4) Write sectional codes for the following : (Any Four) [20]

- (a) Write a code to accept 10 numbers from user and store them in an integer array and find 2nd largest no. from it.
- (b) Take a Command Button captioned as Order, a List Box which will display Restaurant Menus. Display selected items in Message Box when Order Button is clicked.
- (c) Take a Text Box, Command Button, and three Option Buttons to select a course from MCM / DCM / PGDCA. Display selected course in the Text Box when Command Button is clicked.
- (d) Take a Text Box, Command Button and four Check Boxes having caption as (Bold, Italics, Strike, Underline). Display text of Text Box in selected format when Command Button is clicked.
- (e) Take Text Box to accept a number. Print factorial of the given number when the button is pressed.

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P. G. D. C. M. (Semester - I) Examination - 2010

INTRODUCTION TO C++ AND C++ LANGUAGE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question Nos. 1 and 7 are compulsory.

*(2) Write **any four** from Q. Nos. 2 to 6.*

Q.1) Consider the following programs and explain what will be the output : [15]

```
(a) class Item{
    int itemId;
    public;
    void print(int);
};
void Item::print(int id){
    itemId = id;
    cout<<itemId;
}
void main(){
    Item itm;
    int id;
    cin>>id;
    itm.itemId = id;
    cout<<itm.itemId;
    itm.print(id);
```

- (b)

```
void main(){
char name[5];
name[0] = 'N';
name[1] = 'I';
name[2] = 'T';
name[3] = '\0';
name[4] = 'I';
name[5] = 'N';
puts(name);
}
```
- (c)

```
void main(){
int numb = 23;
int val1, val2;
val1 = numb<<3;
val2 = val1>>4;
printf(“%d%d”, val1, val2);
}
```
- (d)

```
void main(){
for(int i = 0, i<=5; i++)
{
for(int j = i; j < = 5; j++);
cout<<j<<endl;
}
}
```

```
(e) int i = 11;
    void main( ){
    int i = 25;
    cout<<"i"<<i<<endl;
    i = 55;
    cout<<"i"<<:i;
    }
```

Q.2) Write a C program that will accept 10 numbers in array and will print array in ascending order. **[10]**

Q.3) Write a C function that will accept a number from user and print binary equivalent of that number. **[10]**

Q.4) Write a C++ program that will accept number from user and check whether number is prime or not using recursive function. **[10]**

Q.5) Design a class with the following specifications :

(Empid, empsal as private member variables and calculatesal as private member function, empname, empaddress as public member variables and printData as public function.) **[10]**

Q.6) Write a C++ program to store and print 50 student records in the following structure : **[10]**

Student (name, rollno, marks for 3 subjects)

Q.7) Write short notes : **(Any Three)** **[15]**

- (a) Operators used in C++
- (b) Inline and Friend Functions in C++ with example
- (c) Loops in C
- (d) Storage Classes in C
- (e) Manipulators in C++

Total No. of Questions : 5]

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P. G. D. C. M. (Semester - I) Examination - 2010

VISUAL BASIC PROGRAMMING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions :

- (1) All questions are compulsory.
 - (2) All questions carry equal marks.
-
-

Q.1) Trace output and justify : (Any Four)

- (a) Print Asc("Alladin")
- (b) tmp = Mid("Pride & Prejudice 4", 18)
Print Sqr(tmp)
- (c) Dim i&
Print VarType(i)
Print TypeName(i)
- (d) i = #5/20/2007#
Print Day (i)
Print Month (i)
- (e) Print Abs (-545.45)

Q.2) (A) Write any one important method and one important property of the following controls : (Any Four)

- (a) Commdialogbox Control
- (b) Listbox
- (c) Textbox
- (d) Combobox
- (e) Commandbutton

- (B) Accept numbers in an inputbox from user. Add numbers in a ListBox, now display in a messagebox the average of the given list and the square of a selected number from the listbox.
- Q.3)** (A) On a form take a textbox, a label and optionbuttons, accept date and time in the textbox. Now give the following options to user to display in the label the following only weekday, year, hour, minute and second.
- (B) On a form take two textboxes, a label and two option buttons depicting/captioned as Rectangle Area and Square Area.
- Accept number in the textbox, on click of the appropriate option button; display area of rectangle (input required in both textboxes) or area of a square (input required in anyone textbox) in the label.
- Q.4)** Design interface which will have menu options FontEffects, Colour, FontStyle and Help; a textbox.
- (a) On click of the FontEffects menu, change font in the textbox to Underline, Strikethrough and forecolour of textbox.
- (b) On click of the colour menu, change backcolour of the textbox.
- (c) Change font style of the text in the textbox.
- (d) Invoke help for notepad.
- Q.5)** Write short notes : **(Any Four)**
- (a) Dialogboxes - inputbox and msgbox
- (b) Loops in VB
- (c) Control Arrays
- (d) Datatypes and Scope of Variables
- (e) Any 2 Mathematical and 2 Date Functions

Total No. of Questions : 6]

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P. G. D. C. M. (Semester - I) Examination - 2010

DATABASE MANAGEMENT SYSTEM

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

All questions are compulsory.

Q.1) Solve any two : **[15]**

- (a) What are different Normal Forms ? Explain 3NF.
- (b) Explain advantages and disadvantages of DBMS.
- (c) Explain any five Codd's Rules.

Q.2) Write short notes : (Any Three) **[15]**

- (a) Compare HDB, NDB, RDB in DBMS.
- (b) Data Independency
- (c) Users of DBMS
- (d) Define E-R Model.

Q.3) Solve any three : **[15]**

- (a) Explain Control Structures in 'C'.
- (b) Explain strcmp and strcat functions with example.
- (c) Explain Arrays in 'C'.
- (d) Explain Storage Classes in 'C'.

Q.4) Solve any two : **[15]**

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

```
a
b   c
d   e   f
g   h   i   j
```

(b) Write a program which will print first 3 armstrong numbers.

(c) Write a program to print sum of first 100 odd numbers.

Q.5) Write a recursive function to convert decimal number to its binary equivalent. **[10]**

Q.6) Write a program which will accept 10 numbers in an array and then replace array elements with its square. **[10]**

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

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P. G. D. C. M. (Semester - II) Examination - 2010

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

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 7 is compulsory.*
- (2) *Solve **any five** from Q. Nos. 1 to 6.*
- (3) *Write your assumptions if any.*

-
-
- Q.1)** What is E-commerce ? Explain how it works ? **[10]**
- Q.2)** Write a Java Code for displaying Student Admission Form. (Assume suitable fields) **[10]**
- Q.3)** What is Scripting Language ? Explain various features of Java Script. **[10]**
- Q.4)** What is HTML ? Explain various uses of HTML. **[10]**
- Q.5)** Explain Concept of Inheritance with example. **[10]**
- Q.6)** Define a Class Rectangle with Length and Breadth Attributes in Java. Write a Method to Calculate area of Rectangle. **[10]**
- Q.7)** Write short notes : **(Any Four)** **[20]**
- (a) Digital Certificate
 - (b) Polymorphism
 - (c) Applet Life Cycle
 - (d) Abstract Class
 - (e) XML

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Total No. of Questions : 4]

[Total No. of Printed Pages : 2

[3889]-202

P. G. D. C. M. (Semester - II) Examination - 2010

SOFTWARE ENGINEERING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Q.1) A manufacturing company, having a strength of 450 employees, proposes to computerize pay-roll system for giving monthly salary :

HR Department sends employee details such as promotions, appointments, resignation etc. to Pay Section. Accounts Department sends earning and recovery details. Time-office sends attendance, overtime and leave details of employees to Pay Section.

Salary is calculated and pay slips are given on 5th of every month.

- | | |
|------------------------------|-------------|
| (a) Draw First Level DFD | [08] |
| (b) Draw ERD | [06] |
| (c) Design Normalized Tables | [08] |
| (d) Report Layouts (Any Two) | [08] |

Q.2) Design a data entry screen for capturing details of a deposit holder.

A Co-operative Bank accepts deposits from public for a period of 1, 2 and 3 years at the interest rate of 8%, 8.5% and 9% respectively. 0.5% additional interest rate is given to senior citizens. Minimum deposit should be Rs. 5,000 and maximum 15,000. **[10]**

Q.3) Draw Decision Tree : **[10]**

Eligibility Criteria for University Examination for Post Graduate Course is :

- (1) Maharashtra domicile student should acquire minimum 45% marks in basic graduation.
- (2) Non-Maharashtra domicile student should acquire minimum 55% marks in basic graduation.
- (3) Concession of 5% considered, if student has represented university at national level in any sports event.

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

- (a) Feasibility Study
 - (b) Input Design
 - (c) Elements / Characteristics of System
 - (d) Spiral Model
 - (e) Testing
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[3889]-203

P. G. D. C. M. (Semester - II) Examination - 2010

DATABASE MANAGEMENT SYSTEM WITH ORACLE

(New 2008 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]

Employee (empno, ename, brith_dt, gender, project_no, design_no)

Project (project_no, project_title, duration, project_start_dt)

Designation (desig_no, desig_name, qualification)

- (1) Create employee table with proper constraints.
- (2) Display project leaders name along with his project title.
- (3) Display total number of employees working on each project.
- (4) Display details of all male employees working as 'DEVELOPER.'
- (5) Display list of employees born in the month of 'January'.
- (6) Display details of projects with Visual Basic Platform.
- (7) Display details of projects started in the current month.
- (8) Display ages of all employees.
- (9) Display details of employees in descending order of their salary.
- (10) Add 'Address' column to the employee table.
- (11) Modify salary of all TEST ENGINEERS by Rs. 1,500.

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1

P.T.O.

Q.2) Normalize the following upto 3NF : **[10]**

Invoice No.
Invoice Date
Customer No.
Customer Name
Customer Address
Invoice Amount
Product No.
Product_name
UOM
Quantity
Rate
Amount
Transport Charges
VAT
Service Tax
Octroi

Q.3) Define DBMS. Explain advantages of DBMS. **[12]**

OR

Q.3) Explain E.F. Codd's Rule. **[12]**

Q.4) Write a PL/SQL program to print accepted string in reverse order. **[08]**

OR

Q.4) Write a PL/SQL program to print prime numbers between 1 to 100. **[08]**

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

[20]

- (a) Parametric Cursor
 - (b) Referential Integrity Constraint
 - (c) Notations of ER Model
 - (d) Set Operators
 - (e) Group Functions
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

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P. G. D. C. M. (Semester - II) Examination - 2010

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

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions :

(1) Question Nos. 1 and 8 are compulsory.

(2) Solve any five from Q. Nos. 2 to 7.

Q.1) Explain various uses of HTML and XML. [10]

Q.2) Write a Java program to print the following pattern : [10]

```
A   B   C   D   E
    B   C   D   E
      C   D   E
        D   E
          E
```

Q.3) Discuss Applet Life Cycle with the help of diagram. [10]

Q.4) What are Scripting Languages ? Explain features of Java Script. [10]

Q.5) Write Java Code for displaying 50 terms of Fibonacci Series. [10]

Q.6) Discuss Method Overloading and Method Overriding with example. [10]

Q.7) Explain OOAD Concepts with examples. [10]

Q.8) Write short notes : (Any Four)

[20]

- (a) Wrapper Classes
 - (b) Web Publishing
 - (c) AWT
 - (d) Electronic Payment
 - (e) www
-

Total No. of Questions : 6]

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P. G. D. C. M. (Semester - II) Examination - 2010

SOFTWARE ENGINEERING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

Make your own assumptions, whenever necessary.

Q.1) Fitness Centre is a Health Club offering Health Services such as fully equipped gym, instructions in aerobics, yoga and proper diet. People from various age groups join club. The club provides various programs such as weight loss, weight increase, fitness etc. depending on their needs. Health Club caters to member's needs by keeping in mind their condition of health.

(a) Draw First Level Diagram [10]

(b) Draw ERD [05]

(c) Data Entry Screen for Member Registration [05]

Q.2) Discuss System Development Life Cycle. [10]

Q.3) What are the different skills an analyst should possess ? Explain. [10]

Q.4) Draw decision table for the following :

A bank offers interest of 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) Design the following reports from Payroll System : **[10]**

(a) Payslip

(b) Income Tax Statement to be submitted to State Govt.

Q.6) Write short notes : **(Any Four)** **[20]**

(a) Waterfall Model

(b) Types of Systems

(c) System Maintenance

(d) FDD

(e) Input Design

Total No. of Questions : 7]

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[3889]-23

P. G. D. C. M. (Semester - II) Examination - 2010

ORACLE

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions :

- (1) *Question No. 1 compulsory.*
 - (2) *Answer **any five** from the remaining.*
 - (3) *Give syntax wherever necessary.*
-
-

Q.1) Consider the following tables :

Project (Project_id, Project_desc, Start_dt, End_dt, Platform, Status)

[Note : Status = C or I, C - Complete, I - Incomplete]

Employee (Emp_id, Ename, Salary, Join_dt, Project_id)

- (a) Create above tables with appropriate constraints. **[05]**
- (b) (i) Add an incentive column in the Employee table. **[05]**
(ii) Remove constraint given to the ename column.
- (c) Answer the following queries : **(Any Ten)** **[20]**
 - (i) Display details of employees earning salary more than 4,000 and having character 'T' in their names.
 - (ii) Add an amount of Rs. 1,000 to the salary of all the employees.
 - (iii) Display all the projects of 5 months duration.
 - (iv) Display employees working on Unix Platform.
 - (v) Display details of employees who joined in the month of 'MARCH'.

- (vi) Display employee name and his project details for all incomplete projects.
- (vii) Display total number of employees working on Student Management System.
- (viii) Display total number of employees for each project.
- (ix) Remove records of all complete projects.
- (x) Insert all the projects with complete status in another table (Project History Table).
- (xi) Display today's date in the following format - Today is 18th MAY, 2007 Time : 11-00.

Q.2) Explain Oracle Background Processes. **[10]**

Q.3) What is a Constraint ? Explain Column Level and Table Level Constraints with example. **[10]**

Q.4) Explain SET Operators with example. **[10]**

Q.5) Explain the following functions : **[10]**

- (a) last_day
- (b) nvl
- (c) to_char
- (d) round
- (e) translate

Q.6) Explain Joins in detail with suitable example. **[10]**

Q.7) Explain features of PL/SQL in detail. **[10]**