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P.G.D.C.M. (Semester – I) Examination, 2010
101 : ELEMENTS OF INFORMATION TECHNOLOGY AND OFFICE
AUTOMATION
(Old) (2005 Pattern)

Time : 3 Hours

Total Marks : 80

N.B. : 1) Qn. 1 must be answered.
*2) Attempt **any 5** from **remaining**.*
*3) **Draw** neat diagrams **wherever** necessary.*
*4) State **assumptions** made, if any.*

1. a) Discuss AND, OR, NOT – logical gates with the help of a suitable diagram. **6**
b) Explain binary multiplication and division, giving necessary examples. **6**
c) Discuss laser and dot-matrix printers. **8**
2. Give the types of file organizations and their accessing techniques. **12**
3. Explain MS-OUTLOOK as a personal information manager. **12**
4. Explain CD as a storage medium. **12**
5. Explain the difference between object linking and embedding, with the help of MS Word document. **12**
6. Discuss the SORT feature in MS Excel, with the help of example. **12**
7. Write notes (**any 3**) : **12**
 - Programming languages
 - MICR
 - Device drivers
 - ROM and RAM.



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P.G.D.C.M. (Semester – II) Examination, 2010
201 : WEB TECHNOLOGY
(2005 Pattern) (Old)

Time : 3 Hours

Max. Marks : 80

Instructions : 1) Answer *any four* questions.
2) *All* questions carry *equal* marks.

1. a) Explain Digital certificate. How money is handled on the net ? **10**
b) Discuss the concept of overloading and overriding with example. **10**
2. a) Explain applet life cycle. **10**
b) Discuss features of java script. **10**
3. a) Write java code to reverse string 'university'. (Don't make use of library functions) **10**
b) Explain WWW. What are various models of E-commerce ? **10**
4. a) Explain the concept of Encapsulation and polymorphism with examples. **10**
b) Explain how XML is different than HTML. **10**
5. a) Write java awt code for displaying 'Room Information form' for Hotel Management System. Fields are room-id, room-type, Details, charges. **10**
b) Discuss string buffer class and Abstract classes in brief. **10**



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P.G.D.C.M. (Semester – II) Examination, 2010
202 : SOFTWARE ENGINEERING
(2005 Pattern) (Old)

Time : 3 Hours

Max. Marks : 80

Note : Make your own assumptions, whenever necessary.

1. An engineering Manufacturing Company procures the material from its vendors against the factory requisition. The stores department forwards the requisition to purchase department for the procurement. A copy of purchase order is given to stores for references. Supplier supplies the material against the purchase order. Stores department receives the material and prepares Goods Receipt Note (GRN) based on DC (Delivery Chelan). The GRN is sent to inspection department for quality confirmation. On receipt of Inspection Report from inspection department, storekeeper updates the stock for quantity accepted.
 - a) Context level DFD 5
 - b) ER diagram 5
 - c) Database Design 10
2. Discuss various roles played by System Analyst in the process of system development. 10
3.
 - a) Discuss feasibility study. 5
 - b) What is Data Dictionary ? Why is it important in system analysis and design ? 5
4. Draw the decision tree for the following. 10

A bank offers discount 8% per year for the deposit more than 10000/-, 7% per year for the deposit of amount between 5000 and 10000/-, and 6% for the amount less than 5000. If the customer is senior citizen, 0.5% extra is given on all types of amounts.

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5. Design a Payslip for a company providing various earnings and deductions. **10**

OR

Design an admission form for taking admission for post graduate degree course in a management Institute. **10**

6. Write short notes on (**any four**) : **20**

- i) Prototype model
- ii) Elements of systems
- iii) System testing
- iv) Fact finding technique-Interview
- v) FDD.



T.Y. B.Sc. (Semester – IV) Examination, 2010
PHYSICS (Paper – V)
PH – 345 (B) : Advanced Electronics

Time : 2 Hours

Max. Marks : 40

- N.B.:** 1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Draw neat diagrams wherever necessary.*
4) *Use of log tables and calculator is allowed.*

1. Attempt **all** of the following (**one mark each**) : **10**

- a) What is Synchronous Counter ?
- b) What is the difference between an OR gate and exclusive OR gate ?
- c) What is the supply voltage range over which 74C and 4000B families of CMOS IC's can work ?
- d) A sinusoidal carrier is amplitude modulated to a depth of 20%. If the carrier power is 20 kW, what must be the power contained in one of its side bands ?
- e) Explain the term numerical aperture.
- f) List different types of pulse modulation.
- g) What do you mean by combinational logic ?
- h) State different applications of Karnaugh map.
- i) If the pulse width of monostable multivibrator is 1 sec and capacitance is 10 μ F, what must be the value of resistance ?
- j) List different types of ADC.

2. Attempt **any two** :

- a) Draw the functional block diagram of IC - 555 and explain function of each pin terminals. **5**
- b) Discuss the characteristics of output and speed with reference to TTL and CMOS integrated circuits. **5**
- c) What are indicators ? Why are LED's popularly used as indicators ? **5**

3. Attempt **any two** :

- a) What are fibre losses ? Explain absorption loss. 5
- b) A sinusoidal carrier voltage frequency 10 MHz and amplitude 200V is amplitude modulated by a sinusoidal voltage of frequency 10KHz producing 40% modulation. Calculate frequency and amplitude of upper and lower side bands. 5
- c) With suitable block diagram explain the working of R - 2R D/A converter. Discuss the advantage of it over the weighted register type D/A converter. 5

4. A) Attempt **any one** :

- a) With suitable diagram explain in brief the construction and working of a single optical fiber. 8
- b) i) Draw and explain modulating amplifier circuit. 4
- ii) A 20 MHz sinusoidal carrier wave of amplitude 0.01V is modulated by a 8000 Hz sinusoidal audio signal wave of amplitude 5 mV. Calculate the frequency component of the resultant modulated wave and their amplitude. 4

B) Attempt **any one** :

- a) An astable multivibrator using IC – 555 uses the following component values. 2
 $R_A = 12\text{ k}\Omega$ $R_B = 12\text{ k}\Omega$ $C = 50\text{ nf}$
Calculate the ON time period.
- b) What is optocoupler ? Give its advantages. 2
-



P.G.D.C.M. (Semester – I) Examination, 2010
101 : ELEMENTS OF INFORMATION TECHNOLOGY AND OFFICE
AUTOMATION
Windows Operating Systems and M.S. Office (New)
(2008 Pattern)

Time : 3 Hours

Max. Marks : 70

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

- | | |
|---|-----------|
| 1. a) Solve the following : | 4 |
| i) $(345)_8 = (?)_2 = (?)_{10}$ | |
| ii) $(EBCD)_{16} = (?)_8 \quad (?)_{10}$ | |
| b) Explain in short ASCII, EBCDIC. | 4 |
| c) Explain Boolean algebra rules. | 6 |
| 2. a) Explain the terms batch processing and on line processing. | 7 |
| b) Explain following features of windows
Toolbar, title bar, status bar. | 7 |
| 3. a) Explain functions of operating system. | 7 |
| b) Text editing commands in MS-Word. | 7 |
| 4. a) Explain any 7 functions used in MS-Excel. | 7 |
| b) Explain use of HDD. | 7 |
| 5. a) Explain the use of MS-Outlook in business environment. | 7 |
| b) What is computer ? Explain with block diagram. | 7 |
| 6. Write short notes (any two) : | 14 |
| a) Different types of files | |
| b) Application software and System software | |
| c) Device drivers. | |



P.G.D.C.M. (Semester – I) Examination, 2010
102 : PROGRAMMING USING VISUAL BASIC
(2008 Pattern) (New)

Time : 3 Hours

Max. Marks : 70

1. Give output for following section of code and explain. (**any 5**) : **20**

1) For ch = 10 to 15 step 5
 Print Asc(ch)

Next ch

2) Dim s1 as string * 7
 s1 = "Best of Luck"
 Print Len (Left (s1, 4))

3) Dim a, b, max
 a = 3
 b = 4
 max = IIf(a = b, "Not Equal", "Equal")
 Print max

4) Dim dt
 dt = # 12/31/2008#
 Print DateAdd("d", 1, dt)

5) Dim a as Integer
 a = 14 Mod 2
 print CBool (a)

6) Print Mid (Left (U case ("All the Best"), 9), 5, 5).

2. Explain the following properties (**any five**) : **10**

- a) Style property of List Box
- b) Border Style property of Frame
- c) Value property of Check Box

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- d) Max and Min property of Scrollbar
- e) Window State property of Form
- f) Drive property of drive List Box.

3. Write short notes (any **four**) :

20

- a) Data types in VB.
- b) Event driven programming
- c) Explain scope of the variables
- d) Explain If and If statement
- e) Microsoft-common dialog box 6.0.

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 count of
 - a) odd
 - b) even
- b) Write a sectional code to print first 20 prime numbers when a button is pressed.
- c) Take 2 Text Box and 4 Command Button with captions as UpperCase, LowerCase, Bold, Italic. Accept Text in First Text Box, on Click of Command Button, display the converted text in Second Text Box.
- d) Take 2 List Box and a Command Button. Write a code to transfer all selected items from List Box 1 to List Box 2 when Command Button is clicked.
- e) Take 1 textbox and 4 buttons on form. Accept number using input box. Display whether the number is
 - a) + ve or – ve
 - b) Divisible by 5
 - c) Product of its digits.



P.G.D.C.M. (Semester – I) Examination, 2010
103 : INTRODUCTION TO ‘C’ AND ‘C++’ LANGUAGE
(2008 Pattern) (New)

Time : 3 Hours

Max. Marks : 70

- Instructions:** 1) Question No. 1 and question No. 5 are **compulsory**.
2) Solve **any two** from Q.No. 2 to Q. No. 4.
3) Figures to the **right** indicate **full** marks.
4) **Use comments if necessary**.

1. Write the output of following programs. Give explanation.

10

A) void main()

```
{  
    int a = 16, b ;  
    b = ++a – 5;  
    a = b++ + 3;  
    printf (“ %d %d ” , a, b) ;  
}
```

B) void main()

```
{ int a = 16 ;  
    int b ;  
    b = a << 2 >> 2;  
    printf (“ %d %d ”, a, b);  
}
```

2. A) Write a program to find average of even numbers and sum of odd numbers from an integer array using ‘C’ language.

20

B) Write short notes :

- i) static members in ‘C++’
- ii) friend function in ‘C++’.



3. A) State the difference between : 20
- i) while loop and do while loop
 - ii) if and switch.
- B) What are different types of inheritance in C++ ? Explain with suitable example.
4. A) Write a program to accept a multiword string and display first character of each word. (e.g. string → Pune University Pune O/P → PUP) – use ‘C’ language. 20
- B) Write note on :
- i) Manipulators in C++
 - ii) Constructors and destructors in ‘C++’.
5. Explain with suitable example. 20
- A) String functions in ‘C’
 - B) Storage classes in ‘C’
 - C) Principles of oops
 - D) Copy constructor in C++.



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P.G.D.C.M. (Semester – I) Examination, 2010
102 : VISUAL BASIC PROGRAMMING (Old)
(2005 Pattern)

Time : 3 Hours

Max. Marks : 80

Instruction : All questions are compulsory.

1. Give output for following section of code and explain (**any 5**) : **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 = "A"

y = "Z"

Print If (y < x, x, y)

C) Dim mystr

mystr = String (5, Right("childhood", 4))

Print mystr

D) Print now

E) Print int (89.8)

Print fix (89.8)

Print round (– 89.8)

F) i = Date Serial (2009, 5, 11)

print i

Print Date Add ("m", 4, i)

print Date Diff ("YYYY", i, #12/12/2013 #)

P.T.O.



2. Explain the properties for the following controls (**any 5**) :

10

- ◀ Word Wrap of Label
- ◀ Columns of Listbox
- ◀ Font of Command Button
- ◀ Border Width of Shape
- ◀ Smallchange of Scrollbar
- ◀ Value of Check Box

3. Design interface and write a code (**any 3**) :

30

- A) Fill some color names into the first combo box and in other fill the numbers from 10 to 15. On clicking Change button, the forecolor and size of the message gets changed.
- 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.

4. Write Short note (**any 4**) :

20

- A) Mathematical functions
- B) Concept of Array
- C) Common Dialog box
- D) Menus in Visual Basic
- E) Datatypes in Visual Basic



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P.G.D.C.M. (Semester – I) Examination, 2010
103 : DBMS (2005 Pattern) (Old)
Data Base Management System

Time : 3 Hours

Max. Marks : 80

Note. : All questions are compulsory.

1. Solve (**any 2**) : **16**
 - 1) Explain any five Codd's rules.
 - 2) Compare HDB, NDB, RDB in DBMS.
 - 3) Explain different types of attributes.
2. Write short notes (**any two**) : **14**
 - 1) Data Abstraction with example
 - 2) Primary key and Foreign key
 - 3) Symbols used in ER diagram.
3. Solve (**any 3**) : **15**
 - 1) Explain break and continue statement in 'C'.
 - 2) Explain difference between while and do while loop.
 - 3) Explain switch case statement in 'C'.
 - 4) Explain storage classes in 'C'.
4. Solve (**any 2**) : **15**
 - 1) Write a program to print the following pattern.
&
? ?
& & &
? ? ? ?
& & & & &

P.T.O.



- 2) Write a program to print sum of squares of first 10 odd numbers.
 - 3) What is recursion ? Explain with example.
 5. Write a program which will accept 10 numbers from user and sort them in decending orders. **10**
 6. Write a program which will print first 3 prime numbers. **10**
-



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P.G.D.C.M. (Semester – II) Examination, 2010
201 : WEB TECHNOLOGY INCLUDING “E-COMMERCE
HTML AND BASIC JAVA”
(2008 Pattern) (New)

Time : 3 Hours

Max. Marks : 70

Instructions : 1) *Q. 7 is compulsory.*
2) *Solve **any five** question from Q. 1 to Q. 6.*
3) *Write your assumption if **any**.*

1. What are benefits of E-Commerce ? Explain with example. **10**
2. Write Java code to calculate and display net salary of employee. Assume class with suitable attributes. **10**
3. What is Java script ? Explain various features of java script. **10**
4. What is HTML ? Explain basic structure of HTML page with suitable example. **10**
5. Explain Encapsulation and polymorphism in java with suitable example. **10**
6. Design and display patient registration form using applet assume suitable structure. **10**
7. Write short notes on (**any four**) :
 - a) Money Handling on net
 - b) WWW
 - c) Applet life cycle
 - d) XML
 - e) Inheritance in java.



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P.G.D.C.M. (Semester – II) Examination, 2010
202 : SOFTWARE ENGINEERING (2008 Pattern)
(New)

Time : 3 Hours

Max. Marks : 70

1. An engineering Manufacturing Company procures the material from its vendors against the factory requisition. The stores department forwards the requisition to purchase department for the procurement. A copy of purchase order is given to stores for references. Supplier supplies the material against the purchase order. Stores Department receives the material and prepares Goods Receipt Note (GRN) based on DC (Delivery Chelan). The GRN is sent to inspection department for quality confirmation. On receipt of Inspection Report from inspection department, storekeeper updates the stock for quantity accepted.
 - a) Draw Context Level Diagram 5
 - b) Draw ERD 5
 - c) Design normalized tables. 10
2. Design following reports from Payroll System 15
 - 1) Payslip
 - 2) Paysheet
 - 3) Provident Fund statement to be submitted to State Govt.
3. Explain various Fact Finding Methods. 10
4. Draw Decision Tree and Decision table for sending internal marks to University based on the following rules. 10
 - Attendance less than 20% send absent
 - Attendance more than 70% and internal score more than 70% then send 90%

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- Attendance more than 70% and internal score more than 60% then send 70%
- Attendance more than 70% and internal score more than 50% then send 60%
- Attendance less than 70% and internal score more than 70% then send 70%
- Attendance less than 70% and internal score more than 60% then send 60%
- Attendance less than 70% and internal score more than 50% then send 50%
- Attendance more than 70% and fails in internal then send minimum passing marks.

5. Write short notes on (**Any three**)

15

- a) Data Dictionary
 - b) Feasibility Study
 - c) Software Testing
 - d) Water Fall Model.
-



P.G.D.C.M. (Semester – II) Examination, 2010
203 : DATA BASE MANAGEMENT SYSTEM AND ORACLE
(2008 Pattern) (New)

Time : 3 Hours

Max. Marks : 70

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

1. Consider the following tables to solve the following queries (**any 10**) : **20**

EMP (eno, ename, dob, gender, sal, deptno, designo, city, date-of-join)

Dept (deptno, dept-name, loc)

Designation (designo, desig-name, qualification)

- a) Add a new record to EMP table.
- b) Add “contact-no” column in the EMP table.
- c) Delete the records of all employees who are working in either deptno 30 or 40.
- d) Display Designation wise total number of employees.
- e) Display list of employees whose name begins with ‘H’ and are having salary greater than 3000.
- f) Display list of employees whose qualification is “B COM”.
- g) Raise the salary of all the employees of deptno 1 by 5000.
- h) Display the age of all employees.
- i) Display the list of employees who works in “HR” dept.
- j) Display the list of employees who joined the company in the year 2009.
- k) Display employee names in descending order.

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2. Normalize the following upto 3 NF : 10

Train No.	Boarding at
Ticket No.	Reservation upto
Train Name	Sr. No.
Journey Date	Passenger Name
Class	Sex
No. of Seats	Age
Station from	Total Amount
Station to	

3. What is DBMS ? Explain DBMS architecture in detail. 12

OR

3. Explain all Codd's rule.

4. Write a PL/SQL program to print factorial of an accepted number. 8

OR

4. Write a PL/SQL program to print sum of digits of an accepted number.

5. Write short notes on the following (**any 4**) : 20

- a) Explicit and Implicit cursor
- b) Data types in oracle
- c) Date functions
- d) Joins in SQL
- e) ER Model.



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P.G.D.C.M. (Semester – II) Examination, 2010
203 : ORACLE
(2005 Pattern) (Old)

Time: 3 Hours

Max. Marks: 70

- Instructions :** 1) *All questions are compulsory.*
2) *Write your assumptions clearly.*
3) *Figure to **right** indicates full marks.*
4) *For solving queries, use exact column names.*

1. Consider the following table to solve the following queries (**any 10**)

Emp (eno, ename, dob, gender, sal, deptno, designo, city, date_of _join)

Dept (deptno, dept_name, loc)

Designation (designo, desig_name, qualification)

20

- Create EMP table with proper constraints.
- Display list of all employees who lives in either Pune or Mumbai.
- Display total number of male employees.
- Display list of employees whose name begins with 'H' and ends with 'I'.
- Display list of employees whose designation is 'manager'.
- Display list of employees along with deptname and designation name.
- Display list of employees who born in the month of 'January'.
- Display list of all employees whose salary is greater than 5000 and their working location is 'Pune'.
- Display list of all employees who works in 'Sales' department.
- Display the list of employees who joined the company in the year '2007'.
- Delete the records of employees who are working as 'Clerk'.

2. Define cursor ? Explain different types of Cursor with examples.

10

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3. Write differences between following (**any 4**) : **12**

- a) LTRIM and RTRIM
- b) Drop and Truncate
- c) Ceil and Floor
- d) Primary key and unique key
- e) DDL and DML.

4. Write a PL/SQL program to print total no. of vowels in an accepted string. **8**

OR

Write a PL/SQL program to print reverse of an accepted number.

5. Write short notes on the following (**any 4**) : **20**

- a) Background processes in oracle
 - b) Datatypes in oracle
 - c) SQL string functions
 - d) Joins in SQL
 - e) Set operators in SQL.
-