[4086] – 301

P.G.D.C.A. (Semester – III) Examination, 2011
301: SOFTWARE ENGINEERING & BUSINESS PROCESS
(2008 Pattern) (New)

Time : 3 Hours Max. Marks : 70

***Note** : Make your own assumptions, **whenever** necessary.*

Solve **any 5** questions. **(14×5=70)**

1. For Library Management system for draw
   a) ER diagram
   b) Database Design
2. Discuss System Development life cycle in detail.
3. Explain fact finding techniques in detail.
4. Draw the decision table and decision tree for the student marks.

   New college of engineering felicitates the fourth year students in annual social gathering for their various achievements as follows.

   If the student is a best artist he will get an award of 500/- if the student is best sportsman he will get an award of 750/- if the student is best scholar he will get an award of 1000/-. If the student is best outgoing student he will get an award of 2000/- A best outgoing student is one who has received at least two of the above awards.
5. Design context level diagram for purchase order processing system and design the format of purchase order and report for pending purchase orders.
6. Write short notes on (**any two**) :
   i) Waterfall model
   ii) Software Testing
   iii) Input design.

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[4086] – 302

P.G.D.C.A. (Semester – III) Examination, 2011
302 : ORACLE
(2008 Pattern) (New)

Time : 3 Hours Max. Marks : 70

Instructions *:1)* ***Q. 1*** *and* ***Q. 5*** *are* ***compulsory****.*
2) Solve ***any two*** *questions from the remaining.*
3) Figures to the ***right*** *indicate* ***full*** *marks.*

1. Consider following table structure to write SQL queries. **20**

Emp table

empno number (3), ename varchar2(30), sal number(4), comm number(3), job varchar2(10), deptno number(2), joindate date, address varchar2(30), mgr number (3)

Dept table

deptno number (2), dname varchar2(30), location varchar2(30)

a) Display managers staying in Pune city.
b) List employee name and his manager name.
c) Display all employees joined the organization in the month of March.
d) Display name of the department having highest no. of employee.
e) Display managers having salary more than 5000.
f) Display department wise sorted employee list.
g) List employees working in SALES department.
h) Display name of the person getting highest salary.
i) Display name of the employees not getting commission.
j) Show employee name, salary, department name and job for department no 10.

2. a) Write PL/SQL block which will accept a number and print table of that number. **10**

   b) Explain use of alter statement. **10**

3. a) Explain a stored procedure which will accept empno as parameter and will return his salary. **10**

   b) Write a user defined function which will accept deptno and will return no. of employees in that department. **10**

4. a) Explain with suitable example exception handling. **10**

   b) Explain how sub queries are used with examples. **10**

5. Write short notes (**any two**) : **10**

   a) Select statement

   b) Data types

   c) Aggregate functions

   d) Constraints.

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[4086] – 31

P.G.D.C.A. (Semester – III) Examination, 2011
302 : OBJECT ORIENTED PROGRAMMING WITH JAVA (OOPJ)
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

Note : 1) ***Q. 1*** *and* ***Q. 7*** *are* ***compulsory****.*
2) Solve ***any 4*** *from the remaining.*

1. Justify your answer : **6**

a) What will be the output ?

```
public class A {
public static void main (String[]args)
{
int k = 10;
double d = 34.5;
System.out.println("sum = " + (d+k));
}
}
```

b) Which event is generated when the position of a scrollbar is changed ? Select the one correct answer.

1) KeyEvent
2) MouseEvent
3) ItemEvent
4) ActionEvent
5) AdjustmentEvent.

c) Which methods are declared in String class ?

i) equals()
ii) equalsIgnoreCase()
iii) wait()
iv) notify()

2. Create an abstract class Shape with draw() as abstract method and print() as instance method. Write Square class as subclass of Shape with side as instance variable and getarea() method. Create 2 objects of Square class. **16**

3. Create an awt program "Login application" which will accept user name and password from user. If both are correct the say welcome otherwise allow to re enter both values again. **16**

4. Write a threaded application which will change the caption of button after every second. **16**

5. Write an application which will accept a number from command line. If the given number is odd number then throw "OddNumber" user defined exception. **16**

6. Write an application which will accept a file name using command line. Then show no of words, and no of lines of that file. Handle exceptions. **16**

7. Write short notes (**any 2**) : **10**

   a) Applet Life cycle

   b) Wrapper classes

   c) Vector

   d) Overloading and overriding.

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[4086] – 32

P.G.D.C.A. (Semester – III) Examination, 2011
303 : UNIX
(2005 Patern) (Old)

Time : 3 Hours Max. Marks : 80

Instructions : *1) Section **I** and **II** is **compulsory**.*
*2) **All** the questions are **compulsory**.*
*3) Figures to **right** indicate **full** marks.*

SECTION – I

1. Solve **any five** : **10**

a) Display all the lines from the file EMP having word "Thomas".

b) To identify the current working directory.

c) To transfer the contents from one file to another.

d) To join two files.

e) To list all files that contain five characters in their file name, whose first three characters are uni.

f) To count the total number of users.

2. Write short notes on : **20**

a) Wildcards

b) UNIX architecture

c) Unix file system

d) File permissions

P.T.O.

3. Explain following commands **(any five)** : **10**

   a) cat

   b) tell

   c) cp& mv

   d) chown

   e) chmod

   f) ls

SECTION – II

1. Write a shell script which accepts two file names from keyboard and compare the contents of two files and print the number of lines from both files. **10**

2. Write a short note on arrays in awk. **5**

3. Write AWK script which will replace all vowels by # in the given text file. **5**

4. Write a shell script to accept a string from the terminal and echo suitable message if it doesn't have at least 10 characters. **8**

5. Write a shell script that will accept a year from the keyboard and determine whether the year is a leap year or not. **6**

6. Write a shell script to print the table of 2, 3 and 4. **6**

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[4086] – 101

Post Graduate Diploma in Computer Application (P.G.D.C.A.) (Semester – I) Examination, 2011
101 : FUNDAMENTALS OF INFORMATION TECHNOLOGY
(2008 Pattern)

Time : 3 Hours Max. Marks : 70

Instructions : *1) Question Nos.* ***1*** *and* ***7*** *are* ***compulsory****.*
2) Solve ***any three*** *questions from Q. No.* ***2*** *to Q. No.* ***6****.*
3) Figures to the ***right*** *indicate* ***full*** *marks.*

1. A) Define computer. Explain Block diagram of computer with function of each block. **10**

B) Solve the following : **10**

i) $(123)_{10} = (?)_8$ ii) $(10101)_{10} = (?)_2$

iii) $(ACD)_{16} = (?)_{10}$ iv) $(321)_8 = (?)_2$

2. Explain any two output devices in detail. **10**

3. Define operating system. Differentiate between Unix and MS-Windows. **10**

4. Explain any four layers of OSI in detail. **10**

5. Discuss any two file accessing techniques. **10**

6. Discuss advantages and disadvantages of different network topologies. **10**

7. Write notes on (**any four**) : **20**

i) Logic gates

ii) Types of computer language

iii) EBCDIC

iv) Round Robin

v) Addressing techniques

vi) Virus and vaccines.

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[4086] – 102

P.G.D.C.A. (Semester – I) Examination, 2011
102 : 'C' PROGRAMMING
(2008 Pattern)

Time : 3 Hours Max. Marks : 70

***Instruction**: Assume appropriate header files are **included**.*

1. A) What will be the output ? Explain **(any 3)**. **12**

a) void main ( )

{

int a = 5, b = 15, r, s;

r = a < 8;

s = (a<10) && (b = = 12);

printf ("r = % d, s = % d", r, s);

b) void main ( )

{

int x = y = 3, z = 25;

x = y << 2;

y = z >> 3;

printf ("x = %d y = % d z = %d\n", x, y, z);

}

c) void main ( )

{

int a = 15, b = 30;

printf ("ans = % d", a > b ? a∗a : b∗b);

}

P.T.O.

d) void main ( )

```
{
    int i = 10;
    i = !i > 14;
    printf ("i = %d", i);
}
```

B) Write short note on **any 2** : **8**

a) Scope of a variable.

b) Loop control structures in C.

c) Arrays in C.

2. Solve **any five** : **50**

a) Write a C program to accept a string and reverse each word in the string.
eg. "if exams were not", output is - "fi smaxe erew ton".

b) Write a recursive function to find the product of digits in a given number.

c) Write a C program to append contents of one file to another file. File names should be accepted from the user.

d) Write a C program to accept data about restaurant dishes and display dish details with lowest calories. Consider dish structure as - dish {no, name, type, calories}.

e) Accept 10 numbers in an integer array. Display the array in descending order using pointer to array.

f) Write a program to print the following pattern.

19 17 15 13

11 9 7

5 3

1

[4086] – 11

P.G.D. in Com. Appli. (Semester – I) Examination, 2011
101 : ELEMENTS OF INFORMATION TECHNOLOGY (EIT) (Old)
(2005 Pattern)

Time : 3 Hours Max. Marks : 80

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

1. A) Define Computer. Explain block diagram of computer with function of each block. **10**

   B) Solve the following : **10**

   i) $(456)_{10} = (?)_8$ ii) $(1212)_8 = (?)_{16}$

   iii) $(10110)_2 = (?)_{10}$ iv) $(12123)_{16} = (?)_{10}$.

2. Explain all OSI layers in detail. **15**

3. A) What is computer language ? Explain its types. **8**

   B) Discuss advantages of network topologies. **7**

4. A) Explain any two memory devices. **8**

   B) Explain AND, OR, NOT logic gates with truth tables. **7**

5. A) Explain any two input devices. **8**

   B) Write note on File Organization. **7**

6. Write notes on **(any three)** : **15**

   i) FCFS.

   ii) Flow chart.

   iii) ASCII.

   iv) E-mail.

   v) MS- Windows.

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[4086] – 12

P.G. Diploma in Computer Applications (Semester – I) Examination, 2011
102 : PRINCIPLES AND PRACTICES OF MANAGEMENT (PPM)
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

N.B. : *Solve **any five** questions.*

1. Explain the term "Management". Discuss the contributions made by Henry Fayol and F.W. Taylor to the study of Management Science.

2. Explain importance of planning. Explain various steps involved in planning process in an IT industry.

3. Explain role and importance of co-ordination in industrial organisation. State various steps required for achieving effective co-ordination.

4. Describe various forms of organisational structure, with their advantages and limitations. Suggest appropriate organisational structure for large IT Industry.

5. Discuss the nature of problems that arise from centralisation of authority in the performance of managerial function. Suggest suitable solutions to those problems.

6. Write short notes on (**any two**) :

   a) Delegation of Authority

   b) Principles of decision making

   c) MBO

   d) Controlling

   e) Decentralisation.

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[4086] – 201

P.G.D.C.A. (Semester – II) Examination, 2011
201 : VISUAL BASIC
(New) (2008 Pattern)

Time : 3 Hours Max. Marks : 70

***Instruction** :s **All** questions are **compulsory**.*

1. Trace the output for the following section of code with suitable explanation : (**any five**) **20**

   a) dim x
      x = I I F (67 > = 90, "Hello", "World")
      Print x

   b) Print Lcase (left (Right (str Reverse ("PGDCA course"), 6), 5)

   c) dim i As Integer
      i = ϕ
      print cbool (i)

   d) For ch = 65 to 73 step 2
      print chr (ch)
      Next ch

   e) no = fix (– 8.4)
      print no
      print abs (no)

   f) dim a As Integer
      a = 16
      print Hex(a)
      print Oct(a)

   g) dim str as string
      str = "pgdca"
      print format (str, ">")

P.T.O.

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

   a) Listbox
   b) Command button
   c) Form
   d) Timer
   e) Scrollbar
   f) Label.

3. Write short notes (**any two**) : **10**

   a) Loops in VB
   b) Input and message box
   c) Math functions with example
   d) MENU editor in VB.

4. Solve **any three** from the following : **30**

   a) Write a VB program which call function prime which will check whether given number is prime or not.

   b) Design a form which accept Name and password from user. When the command button "Login" is clicked, display "Welcome Friends" message if user name and password is correct else exit.

   c) Write VB code to accept 12 number from the user and sort it in descending order.

   d) Create a form with one textbox and one timer. After every five seconds the textbox background colour will change to Red/Green/Blue continuously.

   e) Write a menu driven program in VB for
      i) Addition
      ii) Subtraction
      iii) Division Integer
      iv) Division float.

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[4086] – 202

P.G.D.C.A. (Semester – II) Examination, 2011
202 : JAVA
(2008 Pattern) (New)

Time : 3 Hours Max. Marks : 70

Note : *1) Q.* ***1*** *is* ***compulsory****.*
2) Solve ***any 5*** *from the* ***remaining****.*

1. Justify your answer : **6**

   a) Select correct statements.
      i) Constructor can be declared as private
      ii) Constructor can be overridden
      iii) Constructor can be overloaded
      iv) Super keyword is used to call super class constructor.

   b) When thread will die ? (select correct answer) **4**
      a) Execution of run( ) method ends
      b) Sleep ( ) is called
      c) Wait ( ) is called
      d) Execution of thread's constructor ends.

   c) Which methods are declared in object class ? **4**
      i) equals( )
      ii) equalsIgnoreCase( )
      iii) wait( )
      iv) notify( )

2. Create Item class with itemno, name, stock as instance variables issue (amount), receipt (amount) as methods and print( ). Two overloaded constructors. Create 2 objects of this class. **14**

3. Create an awt application which will display a button with "OK" caption. When button is clicked change caption to "KO". Next time if clicked then make it as "OK". **14**

P.T.O.

4. Write a threaded application which will change the caption of button after every one second. **14**

5. Write an application which will accept a number from command line. If the given number is odd number then throw "OddNumber" user defined exception. **14**

6. Write an application which will accept a file name using command line. Then show no. of words, and no. of lines of that file. Handle exceptions. **14**

7. Write short notes (**any 2**) : **14**

   a) Thread life cycle

   b) Wrapper classes

   c) Overloading and overriding

   d) Object oriented concepts.

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[4086] – 21

P.G.D.C.A. (Semester – II) Examination, 2011
201 : 'C' PROGRAMMING
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 80

1. A) Explain the following output (**any 3**) : **12**

a)
```
Void main ( )
{
    int t = 10 ;
    t = ! t > 14
    printf ( "t = %d", t) ;
}
```

b)
```
Void main ( )
{
    int a, b, c ;
    a = b = c = 0 ;
    c = + + a | | + + b & & + + c ;
    printf ("a = %d  b = % d  c = % d", a, b, c) ;
}
```

c)
```
# define SQR (x)  x * x
Void main ( )
{
    int a = 2,  b = 4 ;
    int  m = SQR (a – b) ;
    printf ("m = %d", m) ;
}
```

d)
```
Void main ( )
{
    char s [ ] = "Health is Wealth" ;
    char * p ;
    p = & s [6] – 6 ;
    while (* p)
        printf (" % c", * p + +) ;
}
```

P.T.O.

B) Explain the following (**any 2**) : **8**

1) Any 4 standard library string functions.

2) Storage classes in C.

3) Operators in C.

2. Solve **any 6** : **60**

a) Accept file name on command line. Write a program to print contents of file along with line no.

b) Write a program that accepts a string from user and replaces all upper case characters with same lower case and all lower case characters with the same upper case.

c) Write a program to print following pattern

```
Z
 YZ
 XYZ
 WXYZ
 VWXYZ
```

d) Write a recursive function to print factorial of a given number.

e) Write a program to accept 60 Person Records in an array of structure with fields (first name, last name, city, age). Print the list of senior persons who are living in "Chennai".

f) Accept two 4 × 4 matrics and print subtraction of these 2 matrices.

g) Write a program to count number of digits for accepted number from user.

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[4086] – 22

P.G.D.C.A. (Semester – II) Examination, 2011

203 : DATA BASE MANAGEMENT SYSTEM (DBMS)

(2005 Pattern) (Old)

Time: 3 Hours Max. Marks: 80

***Note** : 1) **All** questions carry **equal** marks.*

*2) Solve **any five** questions.*

1. Explain DBMS architecture with diagram.

2. Explain advantages of normalization.

3. Explain what problems occur in concurrent transactions.

4. Explain E.F. Codd's rules.

5. Explain how integrity constraints are used in SQL commands.

6. Write notes (**any 2**) :

   a) Shadow paging

   b) Security in DBMS

   c) Triggers.

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[4086] – 401

P.G.D.C.A. (Semester – IV) Examination, 2011
401 : DATA STRUCTURES AND ALGORITHMS (2008 Pattern)

Time : 3 Hours Max. Marks : 70

Instructions : *a) Write structure definitions.*
*b) Answer **all** sub questions of a question at **one** place.*

1. A) Convert the following infix form to its postfix form

A * B – C / D + E

Show the contents of both the stacks at each step in a tabular form. **8**

OR

A) Write C implementation for conversion of infix to prefix expression. **8**

B) Evaluate the following prefix form

– + AB – * C + DE where A = 5 B = 2 C = 1 D = 3 E = 4

Show the contents of stack at each step in a tabular form. **7**

OR

B) Write C implementation for evaluation of prefix expression. **7**

2. A) Write a function that returns total count of non leaf nodes in a binary tree. **8**

OR

A) Write a function that creates a copy of a binary tree. **8**

B) Write a function to add an element in a circular queue of characters Implemented as an array. **7**

OR

B) Write functions for in-order and post-order traversal of Binary Search Tree. **7**

P.T.O.

3. A) Compute row major and column major address of the member a [10] [20] of a 2-d array a [20] [30] where base address of the array is 1000 each member occupies 2 bytes of memory. **8**

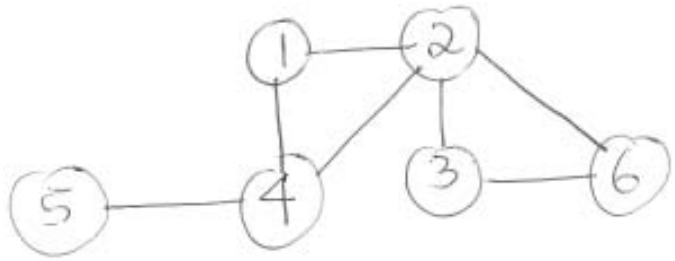
   B) Give the steps for sorting following numbers using Heap sort. **7**

   3 1 2 6 5 4

   OR

   B) Write a function that returns sum of data of all nodes of a doubly linked list. **7**

4. Consider the following graph **15**



   a) Write adjacency matrix

   b) Write adjacency list

   c) Generate the output of Breadth First Search (BFS) when starting vertex is 1

   d) Generate the output of Depth First Search (DFS) when starting vertex is 1

   e) Write indegree of each vertex.

5. Design Huffman's tree for the following message : **10**

   Objectoriented

   What kind of tree is a Huffman's tree.

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[4086] – 402

P.G. Diploma in Computer Application (Semester – IV) Examination, 2011
402 : PRINCIPLES & PRACTICES OF MANAGEMENT & ORGANISATIONAL BEHAVIOUR
(2008 Pattern)

Time : 3 Hours Max. Marks : 70

Instructions : *1) Q.No.**1** is **compulsory**.*
*2) Solve **any three** questions from **remaining** question.*
*3) Figures to **right** indicate **full** marks.*

1. a) Define motivation. Critically examine Herzberg's theory of motivation in detail. **15**

   b) Explain the need and steps in decision making. **10**

2. Define conflict. What are the types of conflict ? Explain different methods of resolving conflicts. **15**

3. What are the functions of management ? Are they relevant to IT industries ? **15**

4. Elaborate in detail the contribution made by Henry Fayol towards management thoughts. **15**

5. Elaborate various styles of leadership with their advantages and disadvantages. **15**

6. Write short notes on (**any two**) :

   a) Control Techniques.

   b) Johari Window.

   c) Team building.

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[4086] – 41

P.G.D.C.A. (Semester – IV) Examination, 2011
401 : SOFTWARE ENGINEERING
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 70

Note : 1) Q. ***1*** *is* ***compulsory****.*
2) Attempt ***any 5*** *from* ***remaining****.*
3) Draw ***neat*** *diagrams wherever* ***necessary****.*
4) Make ***suitable*** *assumptions.*

1. Fitness centre is health club offering health services such as gym, aerobics, yoga and proper diet. People from various age groups join the club. The club provides various programs such as weight loss, weight increase, fitness etc.

   a) Design data entry screen layout for member registration. **5**

   b) Design layout of receipt given to the members for payment of monthly charges. **5**

   c) Design normalized file layouts. **10**

2. RTO collects Road tax for 4 wheelers. Collection is one time. There are 5 categories such as private, public, government, defence and VIP.

   For private owner of 4 – Wheeler, road tax is Rs. 7,000/-. If vehicle is owned by disabled person, it is Rs. 6,000/-.

   For public carrier vehicles for all India permit Rs. 30,000/- and for local permit half of the amount is paid as tax.

   For Govt. and defence Rs 4,000/-

   For VIP's tax is exempted.

   Draw decision tree to describe the above case. **10**

3. Explain Feasibility Study in detail. **10**

P.T.O.

4. "Watch Me" Network provides cable TV channel services. There are approx. 2,000 customers currently on the record of the company. Company charges Rs. 1,000/- as deposit and Rs. 500/- as installation charges to a new customer. Customer has to pay Rs. 150/- as monthly charges. A receipt is given after payment . Reminders are send to all customers who have'nt paid charges for consecutive 3 months. When employees of the company go to customers for monthly charges collection, the customers may tell about complaints. if any.

   Draw context level and first level data flow diagram. **10**

5. Compare Spiral and Proto type models used to design a system. Give examples. **10**

6. Describe the various Fact Finding Techniques. Give suitable examples. **10**

7. Write short notes (**any 2**) : **10**

   a) Open Vs closed systems

   b) Structured English

   c) FDD.

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[4086] – 42

P.G.D.C.A. (Semester – IV) Examination, 2011
402 : BUSINESS APPLICATIONS
(2005 Pattern) (Old)

Time : 3 Hours Max. Marks : 70

***Note** : 1) Question No. **1 compulsory**.*
*2) Solve **any five** from Q. No. **2** to Q. No. **7**.*

1. Write short note (**any four**) : **20**

   a) Double entry book keeping

   b) Bin card

   c) Profit and Loss Account

   d) Delivery challen

   e) Payslip

   f) Goods Receipt Note (GRN).

2. Explain the Material Requirement Planning with example. **10**

3. What is market segmentation ? Discuss the need of sales analysis in marketing. **10**

4. What is ledger ? How it helps in keeping up-to date information ? **10**

5. Explain the purchase routine. **10**

6. Design the screen to enter employees personal and salary and allowances details. **10**

7. What is an inventory control ? How different inventory levels are maintained. **10**
