

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[3977]-101

M. C. M. (Semester - I) Examination - 2011

‘C’ PROGRAMMING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) (A) Trace output and justify answer. Assume suitable header files are included :

[12]

(a) main()

```
{
    int x, y, z,
    x = y = z = 1;
    clrscr( );
    z = ++ x && ++ y || ++ z;
    printf(“%d %d %d”, x,y,z);
}
```

(b) main()

```
int a = 3, b = 4, c = 2;
printf(“\n”);
a = b > c + 1;
b = a < c;
printf(“%d %d %d”, a,b,c);
```

(c) main()

```
{ int x;
for(x = 0; x <=5; x++)
{ switch(x)
{
    case 2 : printf("A");
             continue;
    case 3 : break;
    case 4 :
    case 5 : printf("BB");
             break;
    default : printf("C");
}
}
}
```

(d) main()

```
{ int r, *p, N[] = {1, 3, 2, 8, 3, 7, 4, 6, 5};
  p = N;
  for(r = 7; r > = 2; r -= 2)
  printf("%d", p[r]);
}
```

(B) Explain the following : [08]

(a) String functions

(b) Pointers

Q.2) Write a function which accepts 10 integers and returns highest number. [10]

Q.3) Write a function which accepts a string and converts alternate characters in upper case and lower case. [10]

Q.4) Write a program to accept two 3×3 matrices and print addition of them. [10]

Q.5) Accept information of 50 items in an array of structure with fields itemno, name and stock. Print name of the items having stock > 1000 . [10]

Q.6) Write a program to copy contents of "aaa.txt" to "xyz.txt". [10]

Q.7) Print the following pattern : [10]

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

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-102

M. C. M. (Semester - I) Examination - 2011

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** (A) Define Computer with block diagram. Explain characteristics of Computer. [12]
(B) Explain Cache Memory. [08]
- Q.2)** Explain Magnetic Tape in detail. [10]
- Q.3)** Explain Primary Memory with its types. [10]
- Q.4)** Explain Time Sharing with merits and demerits. [10]
- Q.5)** Define Operating System with its functions. [10]
- Q.6)** Explain Communication Media. [10]
- Q.7)** Solve : [10]
- (a) $(185)_{10} = (?)_2$
 - (b) $(BCD)_{16} = (?)_{10}$
 - (c) $(110111010)_2 = (?)_{10}$
 - (d) $(101)_{10} = (?)_8$
 - (e) $(200)_{10} = (?)_{16}$

[3977]-102/1

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-103

M. C. M. (Semester - I) Examination - 2011

SOFTWARE ENGINEERING AND BUSINESS PROCESS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Question Nos. 1 and 6 are compulsory.*

(2) *Solve any three from Q. Nos. 2, 3, 4 and 5.*

Q.1) FUN Travels are authorized booking agent of Railways and Airways. The procedure to fill forms is to submit form and money in the office. Many a time the customer gives reservation details on the telephone. The manager assigns a boy to deliver tickets and accept money from the customer. The money and the form is delivered to the manager.

- (a) Draw 1st level DFD. [10]
- (b) Draw databases of the Travel Agency. [05]
- (c) Draw Ticket and Customer Form. [10]

Q.2) Design a Home Page for On-line Shopping System. [10]

Q.3) Describe Spiral Model. [10]

Q.4) Explain various phases of SDLC. [10]

Q.5) Give minimum four report layouts of Fixed Deposit System. [10]

Q.6) Write short notes : (Any Three)

[15]

- (a) Structured English
 - (b) Case Tool
 - (c) Sequence Diagram
 - (d) RAD
 - (e) Fact Finding Tools
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-104

M. C. M. (Semester - I) Examination - 2011

**PRINCIPLES AND PRACTICES OF MANAGEMENT
AND ORGANISATIONAL BEHAVIOUR**

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1) (A)** What is Organisation ? Define Principle of Organisation and classify the different Organisation Structure. **[15]**
- (B)** “Leaders contribute significantly on the success of an Orgnisation”. Comment with reference to the qualities of Leader and the Theories of Leadership. **[10]**
- Q.2)** Define Organisational Behaviour along with its significance in IT Industry. **[15]**
- Q.3)** “Effective Decisions is a prerequisite for future success.” Comment. What are the factors responsible for Decision-making ? Explain various types of Decisions. **[15]**
- Q.4)** Why the Theory of Modern Management is valid in recent times ? Also explain its features. **[15]**
- Q.5)** Define Group Dynamics ? How Effective Teams play vital role in Organisational Effectiveness. **[15]**

Q.6) Short notes : (Any Three)

[15]

- (a) Types of Managerial Decisions
 - (b) Managerial Skills
 - (c) Levels of Management
 - (d) McGregor's X and Y Theory
 - (e) Line and Staff Organisation
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-105

M. C. M. (Semester - I) Examination - 2011

WEB PROGRAMMING AND E-COMMERCE

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 7 is compulsory.*
- (2) Attempt **any five** from the remaining.*
- (3) Write your assumptions.*
- (4) Draw neat diagrams wherever necessary.*

-
-
- Q.1)** What is E-commerce ? What are various E-commerce Models ? Also explain E-commerce Framework. **[10]**
- Q.2)** What are various Electronic Payment Systems ? Explain Credit Card Payment System in detail. **[10]**
- Q.3)** What is Cryptography ? What are two different types of Encryptions ? Explain with proper diagrams. **[10]**
- Q.4)** Why there is need of On-line Marketing ? What are the various ways of On-line Marketing ? **[10]**
- Q.5)** Why there is need of Website for any Business Organisation ? Explain steps involved in Website Development. **[10]**
- Q.6)** What is Internet Protocol Suite ? Explain various Protocols available in each Layer. **[10]**

Q.7) Write short notes : (Any Four)

[20]

- (a) Firewalls
 - (b) Electronic Data Interchange (EDI)
 - (c) Deep Linking
 - (d) Software Agents
 - (e) Various Threats to Network Security
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[3977]-11

M. C. M. (Semester - I) Examination - 2011

‘C’ PROGRAMMING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Solve any five out of the remaining.*

Q.1) (A) What will be the Output ? Jusify your answer. Assume, appropriate header files are included :

[12]

(a) `main()`

```
{  
    int a[5] = {2, 3};  
    clrscr();  
    printf("\n %d %d %d", a[2], a[3], a[4]);  
}
```

(b) `main()`

```
{  
    int x = 2;  
    if(x == 2 && x != 0)  
        printf("hi");  
    else  
        printf("bye");  
}
```

```

(c) main()
{
    int i = 8, j = 9;
    int k = i&&j;
    printf("%d", k);
    if(l && k)
        printf("hi");
    else
        printf("bye");
}

```

```

(d) main()
{
    int m;
    clrscr( );
    for(m = 0; m<=10; m + = 2)
    {
        switch(m)
        {
            case 2 : printf("C"); continue;
            case 3 : break;
            case 4 :
            default : printf("D");
            case 5 :
            }
        }
    }
}

```

(B) Explain the following :

[08]

(a) Various Loop Constructs

(b) Concept of Arrays and Pointers

- Q.2)** Write a recursive function which accepts a number and returns factorial of that number. (e.g. if no. is 5, then 120 should be the answer) **[10]**
- Q.3)** Write a function which will accept an integer array and a number and will return count of number of occurrences of that no. in the array :
Prototype of the function is - int getcount(int[], int). **[10]**
- Q.4)** Accept information about cricket players as teamno, playerno, playername, no_of_runs, no_of_wickets with proper data types for 50 players. Print name of the person with highest no_of_runs and name of the person with highest no_of_wickets. **[10]**
- Q.5)** Accept name of the file from command line and print no. of characters present in the file. **[10]**
- Q.6)** Accept 24 float values in an array. Sort array in descending order. **[10]**
- Q.7)** Print the following pattern using loops : **[10]**

A
A B
A B C
A B C D

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-12

M. C. M. (Semester - I) Examination - 2011

DATABASE MANAGEMENT SYSTEM

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) (A) Normalise the following case upto 3NF : **[12]**

Daulatnagar Electric Company is a distributor of electricity in a small town having about 10,000 consumers. The consumers are divided into three categories i.e. Agriculture, Commercial, Domestic for whom different rates per unit are chargeable according to a slab-wise table. There is also minimum charge for each category. The billing is made according to reading which was reported by meter readers working with the company. The bills are paid by the consumers at a central collection center of the company.

(B) Explain the following terms with proper examples : **[08]**

- (a) Weak Entity
- (b) Entity Type
- (c) Entity Set
- (d) Multivalued Attribute

Q.2) Explain Architecture of DBMS. **[10]**

Q.3) Explain Lock-based Protocol. **[10]**

Q.4) Explain difference between NDM and HDM with proper examples. [10]

Q.5) What is the concept of Transaction ? Explain ACID Property in detail. [10]

Q.6) Explain the following Relational Algebra Instructions : [10]

- (a) Union
- (b) Intersection
- (c) Set Difference
- (d) Cartesian Product
- (e) Natural Join

Q.7) Write short notes : (Any Two) [10]

- (a) Data Warehouse
 - (b) Log-based Recovery
 - (c) Functions of DBA
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-13

M. C. M. (Semester - I) Examination - 2011

SOFTWARE ENGINEERING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions

- (1) *Question Nos. 1 and 6 are compulsory.*
(2) *Solve **any three** from Q. Nos. 2, 3, 4 and 5.*
-
-

Q.1) In a Medical Store stock is checked and a list of medicines to be purchased is prepared at the end of the day. Next day a purchase order is prepared from the list and given to distributor. The distributor supplies medicines along with the invoice. The received medicines are checked by the owner and damaged / expired medicines are returned back to the distributor along with the debit note. After 15 days the payment is made thru cheque by the owner considering the invoice and debit note.

- (a) Draw 1st Level DFD. **[10]**
(b) Design Normalized File Layout for storing Purchase Order, Delivery and Returned Medicines. **[10]**
(c) Draw layout of Debit Note. **[05]**

Q.2) In a library material like books, journals, magazines and CDs are stored. This material is of various subjects of various courses run by the institute. Within the subject there are various topics for which these materials can be used. One material can be used for many subjects and for many courses. The members like students, teaching staff, non-teaching staff and visitors can get issued these materials on their names and they return these books after 7 days. If the book is not returned on time, a fine is charged to the member.

Draw E-R Diagram. **[10]**

[3977]-13

1

P.T.O.

Q.3) Draw sequence diagram for withdrawing money for ATM Machine in Bank. **[10]**

Q.4) Draw decision table for paying bonus / ex-gratia to employee. **[10]**

- If employee has worked for more than 180 days, then only he is eligible for bonus or ex-gratia.
- The bonus is paid to employee who has salary less than 6500.
- The bonus is paid to permanent employees only.
- If the employee has salary greater than 6500 then ex-gratia amount of 20% is paid.
- A tax of 2% is deducted from Bonus/Ex-gratia.

Q.5) Explain various phases in SDLC. **[10]**

Q.6) Write short notes : (**Any Three**) **[5x3=15]**

- (a) Technical Feasibility
- (b) Class Diagram
- (c) Case Tool
- (d) Normalization
- (e) Report Design

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-14

M. C. M. (Semester - I) Examination - 2011
MANAGEMENT INFORMATION SYSTEM (MIS)
(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** Write short notes : **(Any Four)** **[20]**
- (a) Law of Requisite Variety
 - (b) Types of Memories
 - (c) Decision Table/Tree
 - (d) Number System
 - (e) Expert System
 - (f) GDSS
- Q.2)** MIS supports a Manager in his functional responsibilities. Explain. **[10]**
- Q.3)** Explain 'Herbert Siamon' Principle of Decision-making. **[10]**
- Q.4)** Explain classification of the Information. **[10]**
- Q.5)** Explain block diagram of Computers with example. **[10]**
- Q.6)** Write a detailed note on 3 Input and 3 Output Devices with suitable examples. **[10]**
- Q.7)** (A) Compare Administrative and Classical Decision-making Models. **[05]**
- (B) Compare Floppy Disk and Hard Disk **[05]**
-

[3977]-14/1

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3977]-15

M. C. M. (Semester - I) Examination - 2011

BUSINESS COMMUNICATION

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question Nos. 1 and 8 are compulsory and carry 15 marks each.

(2) Solve any four from Q.Nos. 2 to 7 each of 10 marks.

Q.1) Define Business Communication. Explain four principles of Effective Communication. **[15]**

Q.2) What are the essential features of Effective Business Presentation ? Explain various Modes of Presentation. **[10]**

Q.3) What are the advantages and limitations of Written Communication ? **[10]**

Q.4) What is the difference between Listening and Hearing ? Give examples. **[10]**

Q.5) “Actions speak louder than words.” Explain with the help of Theory of Body Language. **[10]**

Q.6) As a General Secretary Mr. G. R. Malay wants to conduct a meeting for holding Annual Social Gathering. Prepare Agenda for the Meeting. **[10]**

Q.7) Explain value of time in Business Management. **[10]**

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

[15]

- (a) Negotiation Skills
 - (b) Notes Taking Habit
 - (c) Video Conferencing
 - (d) Technical Interview
 - (e) Speaking Skills
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[3977]-201

M. C. M. (Semester - II) Examination - 2011

DATA STRUCTURES AND ALGORITHMS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *All questions are compulsory.*
- (2) *State your assumptions clearly, if any.*
- (3) *Write appropriate structure definitions wherever necessary.*

Q.1) (A) Evaluate the following postfix form : [08]

ABC + * CBA - + *

where A = 1, B = 2, C = 3.

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

OR

(A) Evaluate the following prefix form : [08]

- / * A + BCDG

where A = 2, B = 1, C = 3, D = 3, G = 1.

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

(B) Write an ANSI 'C' Code for a void for deleting a Node from a Circular Queue of characters when this Circular Queue is implemented as a linked list. [07]

Q.2) (A) Consider a message : [06]

Structure

Draw Huffman Tree for the message. What kind of Tree is Huffman Tree ?

- (B) Write ANSI 'C' Codes for **any three** of the following : [09]
- (a) To count number of nodes of a given tree.
 - (b) To display data stored in different modes of Binary Search Tree in Ascending Order.
 - (c) For Right Rotation of Binary Search Tree.
 - (d) Searching an element from Integer Array using Binary Search. Assume array is stored in Ascending Order.

Q.3) Answer **any three** of the following : [15]

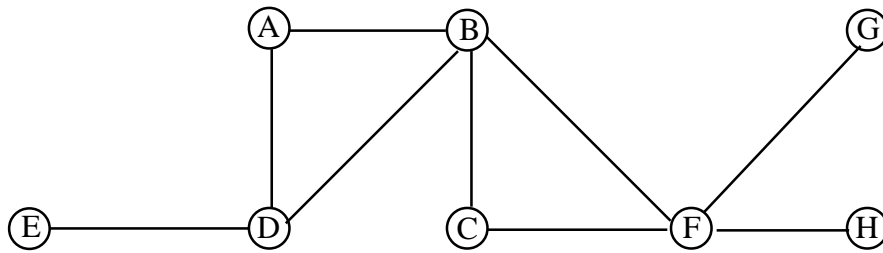
- (a) Write ANSI 'C' function to Add node in Single Linked List of integers.
- (b) Write ANSI 'C' for printing data stored in a Linear Doubly Linked List of integers in Reverse Order.
- (c) Write function for finding sum of data stored in a Linear Linked List of integers.
- (d) Write ANSI 'C' to count non-leaf nodes of Binary Search Tree.

Q.4) Solve **any three** of the following : [15]

- (a) Consider declaration :
`int arr[20][30].`
Compute row major and column major address of an element `arr[6][11]`, when base address of array is 100 and each element occupies 4 bytes in memory.
- (b) Construct AVL Tree with the following PASCAL, FORTRAN, C, COBOL, BASIC, PROLOG.
- (c) Sort the following sequence of numbers using Heap Sort Method. Show all the steps in sorting.
25, 27, 48, 37, 12, 92, 84, 33
- (d) Define the following terms :
 - (i) Tree
 - (ii) Complexity of Algorithm
 - (iii) Stack
 - (iv) Deque

Q.5) Answer using the following graph :

[10]



- (a) Generate output of the Breadth First Search (BFS) algorithm for the above graph, when starting vertex is A. Adjacent Vertices be picked up in Alphabetical Order.
- (b) Generate output of the Depth First Search (DFS) algorithm for the above graph, when starting vertex is A. Adjacent Vertices should be picked up in Alphabetical Order.
- (c) Its Adjacency Matrix.
- (d) Its Adjacency List Representation.

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-202

M. C. M. (Semester - II) Examination - 2011

DATABASE MANAGEMENT SYSTEM

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

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

Q.1) (A) Normalise following case upto 3NF : **[12]**

A publishing house receives number of articles from authors, reporters and subscribers. All the incoming articles are registered and stored according to the topic of literature. Only for approved articles acknowledgment is sent. Accepted scripts are edited by respective editors and then it is released for publishing. No. of such articles are always waiting in queue. All manuscripts either published or rejected are preserved for a period of three months after which they are scrapped.

(B) Write in brief about Codd's any Eight Rules. **[08]**

Q.2) Explain Three Tier Architecture of DBMS; its advantages and disadvantages. **[10]**

Q.3) Explain Concept of Generalization and Aggregation with proper example with reference to E-R model. **[10]**

Q.4) Explain Time Stamp Based Ordering Protocol with proper example. **[10]**

Q.5) Explain any five operations in Relational Algebra. Write suitable example of each. **[10]**

Q.6) Explain Concept of Checkpoint. State when and how it occurs. [10]

Q.7) Write short notes : (**Any Two**) [10]

- (a) ACID Property of Transaction
 - (b) Distributed Database
 - (c) Data Mining
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-203

M. C. M. (Semester - II) Examination - 2011

ORACLE

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. Nos. 1 and 7 are compulsory.*
 - (2) *Solve **any four** from the remaining.*
-
-

Q.1) University wants to develop a System for Maintaining Paper-setter's Data and their Paper-setting Attendance Record. Consider the following tables :

(1) Paper_setter_master (paper_setter_id, name, course, experience, college)

(2) Paper_setting_attendance (SRNO, paper_setter_id, paper_setting_lastdt, setting_start_dt, setting_end_dt, subject, duration, subject_pattern_year)

(a) Create above tables with suitable constraints and add two records in each. **[10]**

(b) Solve **any five** SQL Queries for the following : **[10]**

(1) Display paper-setter details, those who did not attend a single meeting.

(2) Display paper-setter's details, those who are setting papers for 'MCM' Course.

(3) Create a view on above tables for paper-setter's having experience more than 10 years.

(4) Generate an automatic value for paper-setter-id.

(5) Display list of paper-setters, who reported for paper- setting after the paper-setting last date, given by University.

(6) Display total number of paper-setters for Oracle subject.

- Q.2)** Write PL/SQL Block to accept paper-setter-id as input and check whether he has set paper before paper-setting last date. **[10]**
- Q.3)** Write a trigger which will be fired whenever insertion or deletion or updation is performed on paper-setter master table. As a result, the 'new_paper_setter_table' should be populated with the record along with the action performed. **[10]**
- Q.4)** Write a package for suitable procedure and function using the above tables. **[10]**
- Q.5)** Write any suitable PL/SQL Block for Exception Handling. **[10]**
- Q.6)** Write a PL/SQL Block to display odd records from paper-setter master table. **[10]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Types of Cursors
 - (b) Any Five Data Types
 - (c) Any Five Group Functions
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-204

M. C. M. (Semester - II) Examination - 2011

BASIC JAVA

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Question Nos. 1 is compulsory.*

(2) *Solve **any four** from the remaining.*

Q.1) Answer the following : [10]

- (a) Differentiate between Abstract Class and Interface.
- (b) List out different Layout Managers.
- (c) Access Specifier in Java
- (d) State true or false with justification :
“Interface can be extended.”
- (e) Differentiate between Throw and Throws Clause.

Q.2) (A) Explain Try, Catch, Finally with examples. [05]

- (B) Define an exception called “No Match Exception” that is thrown when a string is not equal to ‘INDIA’. Write a program that uses this exception. [10]

Q.3) (A) Explain Life Cycle of a Thread. [05]

- (B) Write a program that simulates a traffic signal light with delay between states. [10]

Q.4) (A) Explain Life Cycle of an Applet. [05]

- (B) Write an AWT Program to add three scroll bars indicating red, green and blue colour. The background colour of frame should be changed according to the value selected in scroll bars. [10]

Q.5) (A) Write a program to find out total number of occurrences of particular string in file “Myfile.txt”. Accept string from console. Use Buffered Reader and File Reader Classes. **[10]**

(B) Write any three Input Stream classes and methods available with Input Stream. **[05]**

Q.6) Write short notes : (Any Three) [15]

- (a) Adapter Classes
 - (b) Features of Java
 - (c) Thread Synchronisation
 - (d) Event Delegation Model
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 4

[3977]-205

M. C. M. (Semester - II) Examination - 2011

CORE RUBY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instruction :

Q. Nos. 1 and 7 are compulsory. Solve any four from the rest.

Q.1) Find output of the following : (Any Five)

[15]

- (a) `newarr = [37, 23, 5, 80]`
`puts newarr.sort`
`puts newarr.length`
`puts newarr.first`
`puts newarr.last`
- (b) `x = y = 0`
`1.upto(4) do |x, y|`
`y = x + 1`
`puts y * y`
`end`
- (c) `a = [2, 6, 9, 4, 8, 1]`
`puts a.reject {|x| x%2 !=0}`

- (d) `n = 5`
`n.times do |x|`
`print x`
`if x == 4`
`x -= 1`
`retry`
`end`
`end`
- (e) `x = {"a" => 250, "b" => 150, "c" => 75}`
`x.delete_if {|key, value| value < 150}`
`puts x.inspect`
`a.delete`
`puts x.inspect`
- (f) `x = 1`
`while x < 100`
`puts x`
`x = x * 4`
`end`
- (g) `class WorldGreeter`
`def greet`
`puts "#{greeting} #{who}"`
`end`
`def greeting`
`"Hello"`
`end`

```

def who
  "world"
end

end

class WelcomeGreeter < WorldGreeter
  def greeting
    "Welcome"
  end
end

WelcomeGreeter.new.greet

```

Q.2) Write a program that accepts birthdate of the voter and checks whether the voter is eligible for voting or not. (Note : voting age should be $> = 18$ years) **[10]**

Q.3) Write a program to generate the following output : **[10]**

```

19  17  15  13
    11  9   7
        5   3
            1

```

Q.4) Write a class Student_Scorecard with instance variables (StudentName, CourseName, Marks_Scored)

Write method Score_Diff that calculates maximum score and minimum score and prints difference between the maximum score and minimum score. **[10]**

Q.5) Write a program that reads source file and copies file to the target file by replacing all the spaces with '#'. **[10]**

Q.6) Write a program to store Loan_Accnumber, Name of Loanholder and Loan Balance. (Use Hash Table). Accept instalment amount from the user and accordingly update Loan Balance. **[10]**

Q.7) Write short notes : (Any Three)

[15]

- (a) Inheritance and Method Overriding
 - (b) Arrays
 - (c) Classes and Modules
 - (d) Symbols
 - (e) Ranges
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-206

M. C. M. (Semester - II) Examination - 2011

OBJECT ORIENTED DESIGNING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

- (1) Question No. 1 is compulsory.
- (2) Answer **any five** from the remaining.
- (3) Mention assumptions made for solving case study.

Q.1) (A) Draw use case diagram and class diagram for the following case :

‘Star Group of Hotels wants to have an On-line Booking System. The customer can book conference hall or room by paying the advance amount either by credit/debit card. While booking he/she has to enter the following details :

- If the booking is for conference hall, the customer needs to provide date and time of the event along with approximate number of persons attending the event, snacks details, sound system arrangement required for the conference/event.
- If the booking is for room, the booking should contain number of days the room is needed and from which date. The hotel provides the following room services for additional charges.

- (1) Laundry
- (2) Snacks/Lunch/Dinner
- (3) Phonecall Booking

The bill is calculated accordingly when the customer leaves room.

[15]

(B) Explain Aggregation and Composition with examples.

[05]

[3977]-206

1

P.T.O.

- Q.2)** Explain Four Phases of RUP in detail. [10]
- Q.3)** (A) Draw a sequence diagram for adding a contact in your mobile. [05]
(B) What is Inheritance ? Explain various types of Inheritances. [05]
- Q.4)** Explain with the help of example Grady Booch's Methodology for Object Oriented Design. [10]
- Q.5)** Draw an activity diagram for arranging the Annual Social Gathering for your college. [10]
- Q.6)** Draw a state transition diagram for a Fully Automated Washing Machine. [10]
- Q.7)** Write short notes : (Any Two) [5x2=10]
- (a) CRC
 - (b) Test Cases Guidelines
 - (c) Categories of Patterns
 - (d) Multitiered Architecture
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[3977]-21

M. C. M. (Semester - II) Examination - 2011

DATA STRUCTURES AND ALGORITHMS

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) All questions are compulsory.
- (2) State your assumptions clearly.
- (3) Write appropriate structure definitions wherever necessary.

Q.1) (A) Convert infix expression into postfix. Show contents of stack at each step in tabular form :

$(A + B) / (C - D)$ [08]

OR

(A) Evaluate the following prefix form :

* - AB + CD

where

A = 5, B = 2, C = 3, D = 2.

Show contents of stack at each step in a tabular form. [08]

(B) Write ANSI 'C' function to sort an array of integers according to ascending order using Bubble Sort. [07]

Q.2) (A) Consider the following message :

“BHARAT”

(a) Draw Huffman Tree for symbols of this message. [04]

(b) What kind of Tree is Huffman Tree ? [02]

- (B) Write ANSI 'C' Code for the following : **(Any Three)** [09]
- (a) For Inorder Traversal of Binary Search Tree.
 - (b) For converting linear queue to circular queue implemented as linked list.
 - (c) For concatenating two single linear linked lists.
 - (d) For Pre-order Traversal of Binary Search Tree.

Q.3) (A) Answer **any two** of the following : [10]

- (a) Write ANSI 'C' function to print Linear Doubly Linked List of integers in reverse order.
- (b) For push operation on a stack, implemented as an Array.
- (c) Write ANSI 'C' function to count total number of nodes in a given Linear Singly Linked List.

(B) Define the following terms : [05]

- (a) Complete Binary Tree
- (b) Height of the Tree

Q.4) Solve **any three** of the following : [15]

(a) Consider the following declaration :

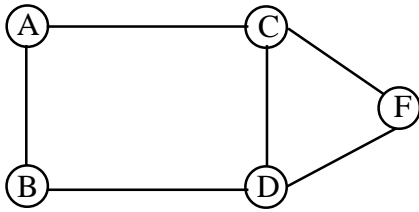
float A[20] [50]

Compute row major and column major address of the number A[14] [30], where base address of the array is 300 and each member occupies four bytes.

- (b) Construct AVL Tree with the following : NITIN, DEEPALI, SUVARNA, SACHIN, MANDAR, RANI, VANDANA.
- (c) Write an algorithm for searching an element from integer array using Binary Search. Assume array is stored in ascending order.
- (d) Define the terms :
 - (i) Stack
 - (ii) Queue

Q.5) Answer using the following graph :

[10]



- (a) Generate output of Breadth First Search (BFS) algorithm when starting vertex is A.

Adjacent Vertex should be picked up in alphabetical order.

- (b) Generate output of Depth First Search (DFS) algorithm when starting vertex is A. Adjacent Vertex should be picked up in alphabetical order.
- (c) Write Adjacency List.
- (d) Write Adjacency Matrix.
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[3977]-22

M. C. M. (Semester - II) Examination - 2011

VISUAL BASIC PROGRAMMING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instruction :

All questions are compulsory.

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

(a) dim chk as integer

```
chk = StrComp ("aB", "a", VbBinaryCompare)
```

```
print chk
```

```
print (cbool (chk))
```

(b) dim X as integer, Y as integer

```
Y = 1
```

```
X = InStr (Y, "Hello World", "e")
```

```
print X
```

(c) dim d as Date, a

```
d = DateSerial (2011, 4, 19)
```

```
print d
```

```
d = DateAdd ("Q", 2, d)
```

```
print d
```

```
a = DatePart ("m", d)
```

```
print a
```

- (d) `print ASC(Chr (65))`
- (e) `dim a() as integer`
`redim a(2)`
`a(1) = 10`
`a(2) = 20`
`redim a(3)`
`a(3) = 30`
`print a(1) + a(2) + a(3)`
- (f) `dim X&`
`X = 1000`
`print TypeName(X)`
`print VarType(X)`
`print Len(X)`

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

[10]

- (a) Wordwrap of Label
- (b) Style of Command Button
- (c) Scrollbars of Textbox
- (d) Borderwidth of shape
- (e) Sorted of ComboBox
- (f) Value of OptionButton
- (g) Visible of Form

Q.3) Design an interface. Consider table for it as Customer_mst with fields as (Cust_id, name, address, mobileno). Write a ADODB Code for add, delete, update and navigation buttons.

[10]

Q.4) Name the following : **[05]**

- (a) Any two built-in Active-X Controls
- (b) Different types of Errors
- (c) Three objects used in ADODB
- (d) Loops in VB
- (e) Datatypes in VB

Q.5) Write short notes : (Any Five) **[25]**

- (a) Mathematical Functions
 - (b) CursorType of RecordSet Object
 - (c) Methods of Common Dialog Box
 - (d) Menus in Visual Basic
 - (e) MessageBox and InputBox
 - (f) Array in Visual Basic
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-23

M. C. M. (Semester - II) Examination - 2011

ORACLE

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

*(2) Solve **any four** from the remaining.*

Q.1) Consider the following table structure and write SQL Statements for the following :

Emp(Empno, ename, sal, join_date, job, deptno).

DEPT (Deptno, Dname, Loc)

- (a) Create above two tables with proper constraints. [06]
- (b) Insert 1 record in the above tables. [02]
- (c) Update salary of Scott to 5000. [02]
- (d) Display name and job of employee who is clerk. [02]
- (e) Display list of employees sorted on name by descending order. [02]
- (f) Display different kinds of jobs available. [02]
- (g) Display all employees whose names start with 'A'. [02]
- (h) Display employees salary whose department location is Chicago. [02]

- Q.2)** Write a PL/SQL Block to take Empno as I/P parameter and display his details. **[10]**
- Q.3)** Write a PL/SQL Block to accept Deptno as I/P and display total sales of that department. **[10]**
- Q.4)** Write a PL/SQL Block to accept Empno from user. If Empno is not found, then insert this Empno in NEW-EMP table with suitable remark. **[10]**
- Q.5)** Write a suitable program for Trigger Handling. **[10]**
- Q.6)** Write a PL/SQL Block to delete alternate records from Emp table. **[10]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Views
 - (b) Joins
 - (c) Grant, Revoke, Commence
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3977]-24

M. C. M. (Semester - II) Examination - 2011

SOFTWARE PROJECT MANAGEMENT AND IT MANAGEMENT

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

(2) Solve **any four** from Q. Nos. 2 to 7.

Q.1) (A) Draw Network Diagram for the following :

Activity	Predecessor	Duration
A	–	3
B	A	6
C	A	3
D	B, C	5
E	B	7
F	D, E	5
G	D	4

(a) Find Critical Path. Why it is important ?

(b) Indicate total slack time of each activity.

[10]

(B) Explain Delphi Technique.

[05]

Q.2) Describe how would you get Software Quality Certification ?

Describe ISO Certification in brief.

[10]

Q.3) What do you mean by Umbrella Activities ?

[10]

Q.4) What is Software Configuration Management ? What are the tools used for Version Control ?

[10]

- Q.5)** What are the types of Risks in IT Industries ? How they are managed in Software Project Management ? **[10]**
- Q.6)** Explain IT Infrastructure Management. **[10]**
- Q.7)** Explain Recruitment Process in IT. **[10]**
- Q.8)** Write short notes : **(Any Three)** **[15]**
- (a) COCOMO
 - (b) V & V
 - (c) Software Acquisition Standards
 - (d) User Acceptance Testing
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-25

M. C. M. (Semester - II) Examination - 2011

BUSINESS APPLICATIONS

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instruction :

*Question No. 1 is compulsory. Attempt **any five** from the remaining. Figures to the right indicate full marks.*

- Q.1)** Explain Process of Customer Enquiry and Preparation of Quotation with the help of data flow diagram, any two report layouts and suitable database design. **[20]**
- Q.2)** Write short notes : **(Any Two)** **[10]**
- (a) Employee Training
 - (b) Balance Sheet
 - (c) ABC Analysis
- Q.3)** Explain concept and calculation logic for PF and Gratuity. **[10]**
- Q.4)** Discuss importance of Purchase Order by drawing suitable Layout. **[10]**
- Q.5)** Write short notes : **(Any Two)** **[10]**
- (a) Employee Appraisal
 - (b) Journals / Day Books
 - (c) Work Order Management
- Q.6)** Explain Process of Computerized Bill of Material in detail. **[10]**

Q.7) A Three Star Hotel proposes to computerise its front office activities, namely Enquiry Management, Booking, Advance Receipt, Waiting List and Check, in. Design Data Entry Screens (any 2) with validation checks for the proposed system. **[10]**

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-301

M. C. M. (Semester - III) Examination - 2011

LINUX PROGRAMMING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions.

(1) *Q. Nos. 1 and 7 are compulsory.*

(2) *Solve **any three** from the remaining.*

Q.1) (A) Write PHP Script which accepts student fees details and stores it in a table FEESPAID of COLLEGE Database. Use proper structure for table. **[10]**

(B) What are Virtual Hosts in Apache ? Write settings for defining VirtualHosts in httpd.conf. **[10]**

Q.2) Explain databackup, restore and disaster recovery in Linux with suitable commands. **[10]**

Q.3) Write MySQL Commands for : **[10]**

(a) Create table FEESPAID with proper constraints.

(b) List all those students who have not paid full fees from STUDENT and FEESPAID Tables.

(c) Display all tables from COLLEGE Database.

(d) Take backup of STUDENT Table.

(e) Create user CLERK and assign all rights to him to access COLLEGE Database.

Q.4) Explain the following Linux Commands with examples : **[2x5=10]**

- (a) find
- (b) grep
- (c) chmod
- (d) mount
- (e) tar

Q.5) Explain use of GET, POST, SESSION and COOKIES variables with examples. **[10]**

Q.6) Explain the following MySQL Commands : **[10]**

- (a) myisamchk
- (b) mysqladmin
- (c) mysqlimport
- (d) mysqlshow

Q.7) Write short notes : **(Any Four)** **[4x5=20]**

- (a) Server Side Includes Inapache
- (b) Include and Require in PHP
- (c) Constructors in PHP
- (d) Htaccess in Apache
- (e) Array in PHP

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-302

M. C. M. (Semester - III) Examination - 2011

BUSINESS APPLICATION

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) Explain Process of Employee Recruitment with the help of data flow diagram, any two Report Layouts and suitable File (database) Design. **[20]**

Q.2) Write short notes : **(Any Two)** **[10]**

- (a) Sales Budgeting
- (b) General Ledger
- (c) ABC Analysis

Q.3) Explain Concept and Calculation Logic for Voluntary Deductions. (Any Three) **[10]**

Q.4) Discuss importance of Trail Balance by drawing suitable layout. **[10]**

Q.5) Write short notes : **(Any Two)** **[10]**

- (a) Bin Card
- (b) BOM (Bill of Material)
- (c) Leave Accounting

Q.6) Explain Process of Computerised Financial Ratios in detail. **[10]**

Q.7) Design suitable report layout (any 3) for a Medical Shop Inventory System. **[10]**

[3977]-302/1

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-303

M. C. M. (Semester - III) Examination - 2011

ADVANCED JAVA

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

(1) Question No. 1 is compulsory.

*(2) Attempt **any four** from the remaining.*

Q.1) Solve the following : [10]

- (a) Write all the possible ways to create Sockets in JAVA.
- (b) Narrate Http Response Handling in Servlets.
- (c) Explain Marshalling and Unmarshalling.
- (d) Why do we create Remote Interface in RMI.
- (e) List Methods of ResultSetMetaData Class.

Q.2) Write JAVA Network Programs to implement Multithreaded Chat Application. [15]

Q.3) Write Servlet Code to accept information of pass out students for Registration in 'Alumni Meet 2010'. [15]

Q.4) Write JDBC Code to display total no. of records in student table. Display all attributes of the same table. [15]

Q.5) Write HTML page to accept employee information (name, address, department, designation). Create Bear for Information. Write JSP Page to display information in tabular format. [15]

Q.6) Write short notes : (Any Three)

[15]

- (a) JSTL
 - (b) RMI Architecture
 - (c) EJB
 - (d) JDBC Drivers
-

Total No. of Questions : 1]

[Total No. of Printed Pages : 2

[3977]-304

M. C. M. (Semester - III) Examination - 2011

ADVANCED RUBY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Q.1) (A) Solve any five : [5x6=30]

- (a) What are Plugins ? Explain with examples.
- (b) Explain Widgets CheckButton and label with examples.
- (c) Explain Logger Class with all constants.
- (d) What is the difference between Session and Cookie ?
- (e) Explain MVC Architecture in Rails.
- (f) What is Restful Architecture in Rails ? Explain with example.
- (g) Explain different types of Relationships in Rails.

(B) Solve any five : [5x8=40]

- (a) Write migration for creating table "Account" in database having account_no, name, balance, created_at, updated_at columns.
- (b) Write authentication method in ATM Model which will accept ATM Card Number and Pin No. as parameters. If ATM Card with provided Pin No. is present in Database, then return ATM object; otherwise return nil.
- (c) Write a Ruby Script to generate a List of Items. When a button is clicked, the caption/text of the button is changed to item selected in the list.
- (d) Write a Server Socket Application that accepts a string from client and returns number of capital letters in the string using Ruby Socket API. Also write Client Socket Application.

- (e) Write a SOAP Server which defines a method that accepts a number from client and returns whether that number is 3 digit or not. Write SOAP Client Application also.
 - (f) Using MySql Connection Object, write a Ruby Script to display all records in student table (rollno, name).
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3977]-305

M. C. M. (Semester - III) Examination - 2011

VB.NET

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

- (1) Question Nos. 1 and 8 are compulsory.
- (2) Solve **any four** from the remaining.
- (3) Figures to the right indicate full marks.

-
-
- Q.1)** What is ADO.NET ? What are its features ? Explain ADO.NET Architecture in detail. [15]
- Q.2)** What is Constructor ? What are its uses ? Explain all types of Constructors in detail by giving suitable examples. [10]
- Q.3)** Explain the terms Events and Delegates. Explain Delegates in detail using suitable example. [10]
- Q.4)** “.NET as a better programming platform” - Comment. [10]
- Q.5)** Design a form and write code to display list of items from item table (Item No. [PK], Item Name, Unit of Measure, Rate) in a combo box. On selection of an item, price of item is displayed on label. Accept quantity to be ordered from user in a text box. Display cost of order and add a record in a order table (order No. [PK], Order Date, Item No, Qty. Purchased, Amount) [10]
- Q.6)** Create a Class Student :
- Data Members - StudentID, Name, Qualification, Percentage.
- Methods - GetData() : Will read information from user and write it in a text file.
- ShowData() : Will display information on screen.
- Write a console-based application. Make use of File Stream Classes for file operations. [10]

Q.7) Write a program which uses a function to calculate factorial of a given number and handle any unexpected input by throwing appropriate exceptions. **[10]**

Q.8) Write short notes : **(Any Three)** **[15]**

- (a) Abstract Classes Vs. Interfaces
 - (b) Masked Text Box and Error Provider Control
 - (c) List View and Tree View Control
 - (d) Access Modifiers
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-306

M. C. M. (Semester - III) Examination - 2011

SOFTWARE PROJECT MANAGEMENT

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

- (1) *Question No. 1 is compulsory.*
- (2) *Attempt **any five** from the remaining.*
- (3) *Neat diagrams carry marks.*
- (4) *Q. No. 1 carries **20** mark. Remaining questions carry **10 marks** each.*

-
-
- Q.1)** (A) Explain in detail CCOMO MODEL with its advantages. **[10]**
(B) What is Software Quality Control and Software Quality Assurance ? Explain in detail SQA. **[10]**
- Q.2)** Describe in brief Software Risks and how to manage them. **[10]**
- Q.3)** What is Software Testing ? Explain its different techniques. **[10]**
- Q.4)** Explain various practices and controls necessary in HR Management. **[10]**
- Q.5)** Explain in detail Software Configuration Management. **[10]**
- Q.6)** Explain in detail various steps, methods and documentation process of User Acceptance Testing. **[10]**

Q.7) Write short notes : (Any Two)

[10]

- (a) Risk Management
 - (b) Grant Chart
 - (c) Function Point Analysis
 - (d) Test Plan
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[3977]-31

M. C. M. (Semester - III) Examination - 2011

BASIC JAVA

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question Nos. 1 and 7 are compulsory.*
 - (2) *Solve **any three** from the remaining.*
 - (3) *Figures to the right indicate full marks.*
-
-

Q.1) What will be the output ?

[20]

- (a) `public class A{
 public static void man(String[] args){
 int l = 10, j = 40, k = 30;
 System.out.print\n(1 + j + “=” + i + “+” + j);
 }
}`
- (b) `public class Abc{
 public static void main(String[] args){
 short s = 20; int k = 15;
 s = s + k
 System.out.print\n(“s=” + s);
 }
}`

- (c) Which methods are defined in Object Class ?
- (i) notify()
 - (ii) reverses()
 - (iii) wait()
 - (iv) clone()
 - (v) finalize()
- (d) Which Listeners are used when mouse is used ?
- (i) MouseListener
 - (ii) MouseMotionListener
 - (iii) MouseEventListener
 - (iv) MouseKeyListener

- Q.2)** Write an awt application Order which will accept name and favorite dish from user. In check box show dishes like “pani puri”, “dosa”, “wada”. Then display selected items along with name. **[10]**
- Q.3)** Write an application which will accept a number from user. If number is odd, then throw user defined exception “oddnumber”. **[10]**
- Q.4)** Write a student class with rollno, name, marks, course as instance variables, print() method, overloaded constructors. **[10]**
- Q.5)** Accept a filename from command line and print contents of that file. **[10]**
- Q.6)** Write a threaded application which will print circle with different colors and different sizes. **[10]**

Q.7) Write short notes : (Any Four)

[20]

- (a) Method Overloading and Method Overriding
 - (b) Access Modifiers
 - (c) Interfaces and Abstract Classes
 - (d) Exception Handling
 - (e) Characteristics of Java
 - (f) Hash Table and Vector
 - (g) Packages
-

Total No. of Questions : 10]

[Total No. of Printed Pages : 2

[3977]-32

M. C. M. (Semester - III) Examination - 2011

INTERNET TECHNOLOGY

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Solve *any seven* questions.
- (2) All questions carry equal marks.
- (3) State your assumptions if required.

Q.1) What is E-commerce ? Explain steps to host Website.

Q.2) Explain INPUT HTML TAG with example.

Q.3) Explain important methods and collections of Request and Response Objects of ASP.

Q.4) Why use a XML DTD ? How you can define external DTD for xml Document ? Explain with example.

Q.5) Write code to accept two numbers and print table of numbers between given numbers. (Use JavaScript)

Q.6) Display Clock showing current time in hh:mm:ss format. (Use JavaScript)

Q.7) Write HTML Code to draw the following table :

Sun	Mon	Tue	Wed	Thu
SE	BA	WDD	XML	Pract
C++		VB.Net	EIT	

Q.8) Write code to accept user id and password from the user. Display welcome.asp page for correct login and error message for incorrect login. User data is stored in a table myusers(userid, password). Name of the database is Inventory.mdb.

Q.9) Write ASP Code to find hit count of a page by a client. (Use cookies)

Q.10) Write short notes : **(Any Two)**

- (a) String Functions (VB Script)
 - (b) Frames
 - (c) Style Sheets-Inline, External
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-33

M. C. M. (Semester - III) Examination - 2011

NETWORK TECHNOLOGY

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 7 are compulsory.*
- (2) Attempt **any three** from the remaining.*
- (3) Figures to the right indicate full marks.*
- (4) Write your assumptions.*
- (5) Draw neat diagrams wherever necessary.*

-
-
- Q.1)** (A) Explain steps for Linux Installation in Graphical Mode. **[10]**
(B) Explain steps for Configuring DHCP Server in Windows Server 2003 **[10]**
- Q.2)** Explain steps for implementing Web Services using IIS in Windows Server 2003. **[10]**
- Q.3)** What is Active Directory ? Explain steps to implement Active Directory and Domain Controller in Windows Server 2003. **[10]**
- Q.4)** Explain how we can configure Apache Web Server in Linux. **[10]**
- Q.5)** Explain Network Management and User Management Commands in Linux. **[10]**
- Q.6)** Explain Common Language Runtime and its role in .NET Framework. **[10]**

Q.7) Write short notes : (Any Four)

[20]

- (a) Application Protocols
 - (b) Ethernet
 - (c) Network Topologies
 - (d) VPN
 - (e) Hub, Switch and Router
-

Total No. of Questions : 9]

[Total No. of Printed Pages : 1

[3977]-34

M. C. M. (Semester - III) Examination - 2011

INFORMATION SYSTEM AUDIT

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Q. No. 9 is compulsory.

*(2) Solve **any five** from the remaining each carrying **10** marks.*

-
-
- Q.1)** What is IS Audit ? Explain in brief the need of IS Audit. **[10]**
- Q.2)** What are the IS Auditing Steps ? **[10]**
- Q.3)** What is a Generalised Audit Software Package ? **[10]**
- Q.4)** What do you mean by Computer Crime ? Elaborate different types of Crimes. **[10]**
- Q.5)** Define 'Evidence'. Discuss Evidence-evaluating Process. **[10]**
- Q.6)** How can an interview, questionnaire and control flowchart assist Auditors during the conduct of an Audit ? **[10]**
- Q.7)** Outline major steps in a Risk Management Program. **[10]**
- Q.8)** What is a Generalized Audit Software Package ? **[10]**
- Q.9)** Write short notes : **(Any Two)** **[20]**
- (a) CAATT (Computer Assistance Audit Tool and Techniques)
 - (b) Risk-based Audit
 - (c) Compare Financial Audit versus IS Audit
 - (d) ISACA's Standard

[3977]-34/1

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-35

M. C. M. (Semester - III) Examination - 2011
PRINCIPLES AND PRACTICES OF MANAGEMENT
AND ORGANISATIONAL BEHAVIOUR
(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** (A) Define Decision-making. Explain process and types of Decision-making. [15]
- (B) Explain Maslow's Motivational Theory in detail. [10]
- Q.2)** Define the term Management. Explain different functions of Management. [15]
- Q.3)** What is Organising ? Explain different Organisation Structures and their purposes. [15]
- Q.4)** Define Organisational Behaviour. Explain its need and importance for the Organisation. [15]
- Q.5)** Define Motivation. Explain Theory X, Y and Z. [15]
- Q.6)** What is Organisational Conflict ? Discuss in detail. [15]
- Q.7)** Write short notes : **(Any Three)** [15]
- (a) MBO
 - (b) Team Building
 - (c) Johari Window
 - (d) Transactional Analysis
 - (e) Types of Managers
-

[3977]-35/1

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3977]-401

M. C. M. (Semester - IV) Examination - 2011

MOBILE COMPUTING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

(1) Question No. 1 is compulsory. Attempt *five* from the remaining.

(2) Figures to the right indicate full marks.

Q.1) (A) Define the following terms and write their functions : **(Any Four) [10]**

- (a) HLR
- (b) IMEI
- (c) AUC
- (d) WTP
- (e) TMSI
- (f) Gateway MSC

(B) Explain logical channels in GSM. How GSM Frequency Allocations are done ? **[10]**

Q.2) Explain any four advantages of Indirect TCP. What do you mean by recovery in TCP ? **[10]**

Q.3) What is DHCP ? How does DHCP support Dynamic Address Allocation ? **[10]**

Q.4) Explain challenges of MANET. Define Infrastructure and Infrastructureless Network. **[10]**

Q.5) What are the general problems of Mobile IP regarding security and support of QOS ? Explain. [10]

Q.6) Explain call originating from Mobile Station (MS) to PSTN Network. [10]

Q.7) Explain selective retransmission in TCP with example. [10]

Q.8) Write short notes : (Any Two) [10]

(a) 802.11 MAC

(b) PICONET

(c) NSS

(d) TDMA

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-402

M. C. M. (Semester - IV) Examination - 2011

ASP.NET

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Q. No. 1 is compulsory. Solve **any four** from the remaining.*

(2) *Make your assumptions if required.*

Q.1) Explain ADO.NET Architecture. [10]

OR

Q.1) Explain difference between ASP and ASP.Net. [10]

Q.2) Explain CustomValidator, RegularExpressionValidator and RangeValidator Controls with examples. [15]

Q.3) Explain Client Side State Maintenance Techniques with examples : ViewState, Cookies, QueryString. [15]

Q.4) Explain Methods and Properties of the following Controls : [15]

(a) ADRotator

(b) RadioButtonList

(c) File Upload

Q.5) Explain use of template field in GridView Data Controls. How to use Checkbox in GridView Control ? [15]

Q.6) Design interface and write code for the following : **[15]**

Add a record

Delete selected record

Edit selected record

Display all records in Gridview Control. Select record from grid for editing and deleting a record. Use Connected Architecture.

Name of Table : Customer

Name of Server : MyAspDb (SQL Server)

User id is MCM

Password is nopass

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

(a) Web Service

(b) Exception Handling

(c) Complex Data Binding

Total No. of Questions : 3]

[Total No. of Printed Pages : 2

[3977]-403

M. C. M. (Semester - IV) Examination - 2011

INFORMATION SECURITY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instruction :

All questions are compulsory.

Q.1) Case Study : (Solve **any one** case)

[20]

Case A :

Computer Security is a growing concern for many personal computer owners. Cyber Crime has been on a constant rise. Many house computer owners don't realize that they need to pay attention to computer security very closely. This case describes an investigation on both sides of a cyber attack. We measure activities of a computer's inner working while it is under attack. The intent is to reveal indication that an intrusion has occurred by showing events that occur when a personal computer user's password has been hacked, with this gained knowledge, a system can be put in place that can alert user that his/her computer is under an attack.

- (a) Design a System that is easy for any computer user to use.
- (b) Give solutions how to protect your system from network attacks.

Case B :

Security Assessment must not merely result in a single number - a one-dimensional metric cannot possibly capture range of properties or aspects that need to be assessed. This has long been recognized in safety critical system where assessment is multidimensional and captures both process and product elements in a safety case - a reasoned coherent argument that supplies evidence to support system designer claim. Solution is needed to define appropriate argument structures in the case of information security and to create supporting tools to aid construction and maintenance of information security cases.

- (a) Draw your assumption.
- (b) Describe this case with considering the following points :
 - (i) We need better kinds of evidence
 - (ii) More formal techniques
 - (iii) Practically, this will be hard : our ability to reason about security is limited by our ability to reason about the underlying software.

Q.2) Solve the following : (Any Three) [10x3=30]

- (a) What are various ethical issues concerned with the information system professionals ?
- (b) Protecting your data through Bluetooth, what security precautions you are applying ? Explain in detail.
- (c) What are the roles of Incidence Response Team (IRT) in Information Security Mechanism ?
- (d) Discuss SSE-CMM Model in detail.

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

- (a) Security Standards (ISO) 27001 and 27002
 - (b) Intellectual Property Act
 - (c) Cryptography in RSA
 - (d) Technical Attacks
 - (e) Security of VPN
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-404

M. C. M. (Semester - IV) Examination - 2011

CYBER LAW

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Q. Nos. 1 and 6 are compulsory.*

(2) *Solve **any three** from Q. Nos. 2 to 5.*

Q.1) Case Study : (Solve any two cases)

[2x10=20]

- (a) A Company wants to use biometric device for attendance and keeping watch on movement of employees. As a cyber consultant suggest proper biometric device for the purpose along with its merits and demerits.
- (b) The IT Manager of a Company came to know that denial of web service happens in company because of Hacking. How this incident will be responded by him and what incident response team will do in such situation ?
- (c) A company wants to decide roles and access of users for using information from data storages. It is suggested that they should use multilevel security model. Explain how this model will be useful and how it can be implemented ?

Q.2) What is Monitoring System ? Explain Prepayment Method in detail. [10]

Q.3) What is Hacking ? What are different Hacking Techniques ? [10]

Q.4) Compare Multilevel and Multilateral Securities from implementation point of view. [10]

Q.5) Explain how E-commerce Site is protected ? [10]

Q.6) Write short notes : (Any Four)

[5x4=20]

- (a) Digital Signature
 - (b) Organisational Issues
 - (c) Alarms
 - (d) Fault Tolerance
 - (e) Electronic Book-keeping
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3977]-405

M. C. M. (Semester - IV) Examination - 2011

MULTIMEDIA AND WEB DESIGNING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instruction :

Q. No. 1 is compulsory. Attempt any four from Q. 2 to Q. 7.

Q.1) Explain Basic Building Blocks of Multimedia. How will Multimedia be useful for Academic Activities ? **[10]**

OR

Q.1) What is Web Hosting ? Explain various steps to Host Website. **[10]**

OR

Q.1) Explain Application and Session Object of ASP. **[10]**

Q.2) Explain various Operators and Control Structures used in JavaScript with example. **[15]**

Q.3) (A) Write JavaScript to print Calendar for current month. **[15]**

(B) Differentiate Bitmapped Image and Vector Image.

Q.4) (A) Explain Colour Models. **[15]**

(B) Explain 1-bit and 8-bit Images.

Q.5) (A) Explain Error Handling in ASP with example. **[15]**

(B) Explain various methods and collections of Request and Response Object.

Q.6) (A) Explain various Attributes of Table Tag. **[15]**

(B) Explain various Drawbacks of using Frames.

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

(a) Namespace

(b) Data Source Object (DSO)

(c) XSLT

(d) Any Five String Functions of VBScript

(e) Story Boarding

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[3977]-406

M. C. M. (Semester - IV) Examination - 2011

SOFT SKILLS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. No. 1 is compulsory. Out of the remaining attempt any 3.*
- (2) *Figures in the brackets indicate marks to the question.*

-
-
- Q.1)** (A) Explain with the help of a block diagram the Process of Business Communication. [15]
- (B) What is the importance of Feedback in the Process of Communication ? [10]
- Q.2)** What is the importance of Listening and what are the Barriers for Effective Listening ? [15]
- Q.3)** Reports are one of the important tools of Management. What according to you are essential components of a Good Project Report ? [15]
- Q.4)** Write importance of Agenda and Minutes of Safety Committee Meeting in a Chemical Manufacturing Factory. [15]
- Q.5)** What are the important qualities of participants observed by Employer at Group Discussions. [15]
- Q.6)** Write short notes : (**Any Three**) [15]
- (a) Time Management
 - (b) Public Speaking Skills
 - (c) Paralanguage
 - (d) Voice Mail
 - (e) Internet and Intranet

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[3977]-407

M. C. M. (Semester - IV) Examination - 2011

QUALITY CONTROL AND SOFTWARE TESTING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. No. 1 is compulsory.*
- (2) *Solve **any four** from the remaining.*
- (3) *Figures on the right show marks.*

-
-
- Q.1)** (A) What is Test Data ? What are its norms ? **[04]**
(B) Write test cases for the program to multiply Quantity and Rate to get Amount. **[10]**
- Q.2)** Discuss Quality, Productivity and their relation. Explain in detail the Concept of Cost of Quality. **[14]**
- Q.3)** What is Review ? What is its purpose ? Explain different types of Reviews. **[14]**
- Q.4)** Define Risk. How to manage Risk ? Explain Risk-based Testing. **[14]**
- Q.5)** What is a Test Plan ? List down contents of a Test Plan. **[14]**
- Q.6)** Write short notes : **(Any Two)** **[14]**
- (a) Web-site Testing
 - (b) Defect Management
 - (c) Test Automation

[3977]-407/1

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-408

M. C. M. (Semester - IV) Examination - 2011

NETWORK TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question Nos. 1 and 7 are compulsory.*
- (2) *Attempt **any three** from the remaining.*
- (3) *Write your assumptions.*
- (4) *Figures to the right indicate full marks.*
- (5) *Draw neat diagrams whenever necessary.*

-
-
- Q.1) (A)** Explain steps for installation of Windows Server 2003. [10]
- (B)** Explain steps for configuring DHCP Server in Windows Server 2003. [10]
- Q.2)** Explain steps for Linux Installation in Graphical Mode. [10]
- Q.3)** Explain Windows Rights Management Services in detail. [10]
- Q.4)** Explain how we can configure Backup in Windows Server 2003. [10]
- Q.5)** Explain Network Management and File Management Commands in Linux. [10]
- Q.6)** Explain how we can configure X-windows in Linux ? [10]
- Q.7)** Write short notes : **(Any Four)** [20]
- (a) Application Protocols
 - (b) Ethernet
 - (c) Process Management Commands in Linux
 - (d) VPN
 - (e) Hub, Switch and Router
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-41

M. C. M. (Semester - IV) Examination - 2011

LINUX PROGRAMMING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. Nos. 1 and 6 are compulsory.*
- (2) *Solve **any three** from the remaining.*

-
-
- Q.1)** (A) Write a PHP Script which accepts customerid and display his record if he is from city Nashik. Use CRM Database and Customer Table with suitable fields. **[10]**
- (B) Explain MySQL Administrative Commands with example. **[10]**
- Q.2)** Explain the following commands with example : **(Any Five)** **[10]**
- (a) sort
 - (b) init
 - (c) grep
 - (d) find
 - (e) tar
 - (f) renice
- Q.3)** Write MySQL Commands for the following : **(Any Five)** **[10]**
- (a) Create Database CRM.
 - (b) Create Customer Table with proper constraints in a Database CRM.
 - (c) Add Column ClosingBal in Customer Table.
 - (d) Copy Records of Customer Table in text file 'CustRec.txt'.
 - (e) Update ClosingBal with increase of 10% for Customer of City='Pune'.
 - (f) Create User MCM having permission to access CRM Database.

Q.4) Explain various Authentication Methods available with Apache. [10]

Q.5) Explain with example various types of Arrays in PHP. [10]

Q.6) Write short notes : (Any Four) [4x5=20]

- (a) Object Oriented PHP
 - (b) SSI
 - (c) MySQL GUI Tools
 - (d) Session Handling in PHP
 - (e) User Space and Kernel Space
 - (f) Boot Process
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3977]-42

M. C. M. (Semester - IV) Examination - 2011

VB.NET

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Q. Nos. 1 and 8 are compulsory.
- (2) Solve **any four** from Q. Nos. 2 to 6.

-
-
- Q.1)** Explain Asp.net Framework in detail. **[15]**
- Q.2)** Design interface shape with abstract method area() and abstract method perimeter(). Create Class Circle, Rectangle that inherits Shape Interface. State your own assumptions. **[10]**
- Q.3)** Session Management in Asp.net **[10]**
- Q.4)** Write ADO.net Code that will accept empno from user and display all records of employees. **[10]**
- Q.5)** Write snippet of code for insert, update, delete, first, next, 1st, previous ItemTable, ItemName, UOM, Rate. **[10]**
(Server Name : Unipune, User Name = MCM, Password = MCM)
- Q.6)** Explain Ado.net Architecture in Vb.net. **[10]**
- Q.7)** Explain the following controls : **[10]**
- (a) Grid View Control
 - (b) Dropdown List
 - (c) List Box
 - (d) Error Provider

Q.8) Short notes : (Any Three)

[15]

- (a) Asp.net Page Life Cycle
 - (b) Variable Scope in Vb.net
 - (c) Collections in Vb.net
 - (d) Masked Text Box Control
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3977]-43

M. C. M. (Semester - IV) Examination - 2011

ADVANCED JAVA

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
 - (2) *Solve **any four** from the remaining.*
-
-

Q.1) Solve the following : [10]

- (a) What are the Factory Methods ? Write Syntax of all the Factory Methods of InetAddress Class.
- (b) Specify all the ways to make data persistent on the Browser.
- (c) State JSP Directives with Attributes.
- (d) State different ways to handle Http Request in Servlet.
- (e) Enlist types of JDBC Drivers.

Q.2) Write RMJ application to call calculate_tax() method of remote machine. [15]

(Pass annual_income and gender as parameters of method)

Q.3) Write JSP application to open E-mail account on Server. [15]

Q.4) Write Servlet application for Resume Hosting with two buttons - PREVIEW and SUBMIT. If user clicks PREVIEW button, contents should display in proper format.

If user clicks SUBMIT button, data should get entered into database. [15]

Q.5) Write JAVA Network Programs for Chat-application. [15]

Q.6) Write short notes : (Any Three)

[15]

- (a) URL Class
 - (b) RMJ Architecture
 - (c) Error Handling in JSP
 - (d) Java Beans
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[3977]-44

M. C. M. (Semester - IV) Examination - 2011

CYBER LAW

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.*
- (2) Attempt **any four** out of the remaining.*
- (3) Figures to the right indicate full marks.*

-
-
- Q.1)** Define and explain Hacking. What is the Punishment for the Offence of Hacking ? **[10]**
- Q.2)** (A) What is PKI ? How it is helpful in Authentication. **[08]**
(B) What is Multilevel and Multilateral Security ? **[07]**
- Q.3)** (A) How a Digital Signature is produced ? Explain. **[08]**
(B) What are the prerequisites for planning an IRT ? **[07]**
- Q.4)** (A) What are Symmetric and Asymmetric Cryptographies ? **[08]**
(B) What are Physiological Biometric Techniques ? **[07]**
- Q.5)** (A) What are Common Network Attacks and their defences ? **[08]**
(B) What do you mean by Client Concurrency and Server Concurrency ? **[07]**
- Q.6)** Write short notes : **(Any Three)** **[15]**
- (a) Script Kiddies
 - (b) Hash Function
 - (c) Groups and Roles in Access Control
 - (d) Organisational Issues

[3977]-44/1

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[3977]-45

M. C. M. (Semester - IV) Examination - 2011

SOFTWARE QUALITY ASSURANCE

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 6 is compulsory.*
- (2) Solve **any four** from the remaining.*

-
-
- | | |
|--|-------------|
| Q.1) Define Quality. Describe need and importance of Quality. | [15] |
| Q.2) Explain Consumer's View and Producer's View about Quality. | [15] |
| Q.3) Explain various Testing and Defect Tracking Tools. | [15] |
| Q.4) Explain Unit Testing in details. | [15] |
| Q.5) Explain SEI-CMM. Also explain KPA. | [15] |
| Q.6) Write short notes : (Any Two) | [10] |
| (a) Acceptance Testing | |
| (b) Inspection | |
| (c) Management Controls | |
| (d) Service Level Agreement | |
-

[3977]-45/1

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3977]-46

M. C. M. (Semester - IV) Examination - 2011

ADVANCED BUSINESS APPLICATIONS

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question Nos. 1 and 7 are compulsory.*
- (2) *Attempt **any four** from the remaining.*

-
-
- Q.1)** Draw Physical DFD for IPD System and explain process. Also draw any two related reports. **[20]**
- Q.2)** Define Supply Chain Management and explain in detail the parties involved in SCM Process. **[10]**
- Q.3)** Explain factors involved in CRM Process. **[10]**
- Q.4)** What is BULL and BEAR ? What drives BULL and BEAR Stock Market ? **[10]**
- Q.5)** Explain Concept of BPO in detail. **[10]**
- Q.6)** What is Workflow Management ? Explain it with suitable examples. **[10]**
- Q.7)** Short notes : **(Any Two)** **[10]**
- (a) Medical Transcription
 - (b) EDI
 - (c) TQM

Total No. of Questions : 5]

[Total No. of Printed Pages : 1

[3977]-47

M. C. M. (Semester - IV) Examination - 2011

COMPUTER AIDED SYSTEM ENGINEERING TOOLS (CASE TOOLS)

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions.

(1) Question No. 1 is compulsory.

*(2) Attempt **any two** from the remaining.*

(3) Assume required data whenever necessary.

-
-
- Q.1)** (A) Draw a USE CASE and Class diagram by assuming suitable data for any Banking System for a Rural Bank. [20]
(B) Define CASE Tool and advantages of CASE Tool. [10]
- Q.2)** (A) “Automated CASE Tool is the method which has high investment.” Comment. [10]
(B) What is the use of CASE Tool for Re-documentation ? [10]
- Q.3)** (A) What are the disadvantages of CASE Tool ? [10]
(B) What are the types of CASE Tools used in Software Engineering ? [10]
- Q.4)** Write short notes : [20]
(a) Re-use
(b) Reverse Engineering
(c) Use of CASE Tool in Software Quality
(d) Use of CASE in Strategies Planning by Top Management
- Q.5)** (A) “Rational Rose as CASE Tool for Analysis and Design.” Comment. [10]
(B) How CASE Tool improves productivity ? Justify your answer. [10]

[3977]-47/1

Total No. of Questions : 9]

[Total No. of Printed Pages : 1

[3977]-48

M. C. M. (Semester - IV) Examination - 2011

BUSINESS PROCESS OUTSOURCING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Solve *any seven* questions.
 - (2) All questions carry equal marks.
-
-

Q.1) What is BPO ? Explain its significance.

Q.2) What is ITES ? Explain role played by ITES in growth of India.

Q.3) What are the different services provided by BPO ?

Q.4) Training in BPO Industry is one of the key areas of Concentration. Comment.

Q.5) What are the problems faced by Indians while working with BPO Organisations ?

Q.6) What is Non-disclosure and Service Level Agreement in BPO ?

Q.7) Explain Outsourcing. Explain its advantages and disadvantages.

Q.8) Explain difference between Inbound and Outbound Centres.

Q.9) Why is India chosen as the major hub for BPO Sector ? Comment.

[3977]-48/1