

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-1

M. C. M. (Semester - I) Examination - 2009

‘C’ PROGRAMMING

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.
- (2) Solve *any* 5 out of the remaining questions.
- (3) Figures to the right indicate full marks.

Q.1) (A) Trace output and justify the answer : **[12]**

- (a) `#define PRINT(int) printf("int = %d\n", int)`
`Void main()`
`{`
`int x = 3;`
`PRINT(x);`
`}`
- (b) `Void main()`
`{`
`char str[] = "Welcome to C language";`
`printf("%s\n %s\n %s", str, str+6, str+9);`
`}`
- (c) `Void main()`
`{`
`int a, b, c;`
`a = b = c = 0;`
`c = ++a || ++b && ++c;`
`printf("a = %d b = %d c = %d", a, b, c);`
`}`

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1

P.T.O.

(B) Explain the following : (Any Two) [08]

(a) Data Types in C

(b) Storage Classes

(c) Operators in C

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

```
1
1 3
1 3 5
1 3 5 7
1 3 5 7 9
```

Q.3) Accept 10 numbers in an integer array and sort the array in ascending order. [10]

Q.4) Accept two 4×4 matrices and print subtraction of these 2 matrices. [10]

Q.5) Write a function that accepts a number and returns count of digits in it. [10]

e.g. if no. is 2513, count = 4

Q.6) Accept 75 Account Records in an Array of Structures with fields (Account No., Name, Balance). Print customers with balance above Rs. 10,000. [10]

Q.7) Accept 2 filenames on command line and copy contents of first file into second. [10]

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-101

M. C. M. (Semester - I) Examination - 2009

‘C’ PROGRAMMING

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.
 - (2) Solve **any 5** from the remaining.
 - (3) Figures to the right indicate full marks.
-
-

Q.1) (A) Trace output and justify answer :

[12]

(a) main()

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

(b) main()

```
{ char str[ ] = "exam";
  int i;
  for (i = 0; str[i], i++)
    printf("%c %c %c", str[i], * (str +i), i[str]);
}
```

(c) main()

```
{ int a = 15, b = 30;
  printf("ans = %d", a > b ? a * a : b * b);
}
```

- (B) Explain the following : **[08]**
- (a) Any two Input Output Functions for Files
 - (b) Storage Classes in C Language
- Q.2)** Write C program to accept a string and reverse each word in the string.
e.g. “if exams not there”, output is - fi smaxe ton ereht. **[10]**
- Q.3)** Write a C program to find sum of digits using recursive function. **[10]**
- Q.4)** Write a C program to append contents of one file to another file.
File names should be accepted from the user. **[10]**
- Q.5)** Write a C program to read a character array and count number of vowels in it, using pointer to array. **[10]**
- Q.6)** Write a C program to read four × four matrix and display rowwise sum of the matrix. **[10]**
- Q.7)** 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} **[10]**
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-102

M. C. M. (Semester - I) Examination - 2009

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) Define Computer. State its characteristics and explain various types of computers in detail. **[10]**

Q.2) (A) Solve : **[08]**

- (a) $(280)_{10} = (?)_2$
- (b) $(11101011)_2 = (?)_{10}$
- (c) $(FAB)_{16} = (?)_{10}$
- (d) $(555)_{10} = (?)_8$

(B) Explain Primary Storage in detail. **[07]**

Q.3) (A) What is Client Server Network ? Explain it with advantages and disadvantages. **[08]**

(B) Define Operating System. Write features of any 2 Operating Systems. **[07]**

Q.4) (A) Discuss Cache Memory and Virtual Memory in brief. **[08]**

(B) Explain ASCII in detail. **[07]**

- Q.5)** (A) Explain any two Input Devices. [08]
(B) Distinguish between Compiler, Interpreter and Assembler. [07]
- Q.6)** (A) Discuss Generations of Computers in brief. [08]
(B) Explain Multi Programming in detail with the help of neat diagram. [07]
- Q.7)** (A) Define Communication Media. Explain various types of Communication Media used. [08]
(B) Differentiate between LAN, MAN and WAN. [07]
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-103

M. C. M. (Semester - I) Examination - 2009

SOFTWARE ENGINEERING AND BUSINESS PROCESS

(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, 3, 4, 5.*

Q.1) Newstar Hotels provides AC and Non-AC rooms for customers. Customer can book rooms in advance either thru e-mail or telephone. When customer arrives he has to make check-in entry in guest register and pay advance at counter. Customer can avail various services such as laundry, car, telephone, internet from respective departments. He can use restaurant for food. The bill is prepared by respective departments for services availed by customer. Such bills are submitted to counter for including in final bill. The final bill is prepared when customer does check-out. The bill can be paid either by cash or credit card. The printed bill is given to customer.

(a) Draw 1st Level DFD. **[10]**

(b) Design normalized file layout for storing customer information, booking information and service bills. **[10]**

(c) Draw layout of Final Bill. **[05]**

Q.2) Draw use case diagram for borrowing and returning book from college library by staff and student. **[10]**

Q.3) For various appointments on various councils and committee, university conducts election. The voters are categorized as Graduate Voters, Teachers, PG Teachers, Principals, HODs and Management Representatives. A person can be voter in one or more category. The voter can vote at one of the 52 voting centers in 4 districts under jurisdiction of university. A valid voter can file nomination as candidate for one or more council or committee. Various documents along with photograph is to submitted while submitting candidature.

Draw E-R Diagram.

[10]

Q.4) RTO has framed following rules for issuing license and batch to Auto Rickshaw Drivers. The person should be minimum 8th std. pass. The person should be of age above 20 years and should possess valid LMV driving license. The person should be resident of the city for more than 10 years otherwise he has to get recommendation from local municipal council member (Nagarsevak). The person should have passed written and driving test conducted by RTO.

Draw Decision Table.

[10]

Q.5) Explain User Interface Design Methods and Principles.

[10]

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

[5x3=15]

- (a) Data Codification Schemes
- (b) Controlled De-normalization
- (c) RAD
- (d) Types of Systems
- (e) Role of Analyst

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[3677]-104

M. C. M. (Semester - I) Examination - 2009

PRINCIPLES AND PRACTICES OF MANAGEMENT

AND ORGANISATIONAL BEHAVIOUR

(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) Discuss in detail the emerging challenges in OB with reference to globalisation and its impact on People Management. [15]
(B) Explain theory of Modern Management proposed by Fayol. [10]
- Q.2)** What is Organising ? Enumerate various principles of Organisation. [15]
- Q.3)** What is Motivation ? Explain Maslow's Theory of Motivation. [15]
- Q.4)** What are the different Ego States ? How transactional analysis is used to resolve conflict. [15]
- Q.5)** What is the significance of Decision-making in Organisational Effectiveness ? [15]
- Q.6)** Write short notes : **(Any Three)** [15]
- (a) Leadership Styles
 - (b) Team Building
 - (c) Types of Managers
 - (d) OB Models
 - (e) Levels of Management

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-105

M. C. M. (Semester - I) Examination - 2009

WEB PROGRAMMING AND E-COMMERCE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 7 is compulsory.*
- (2) Attempt **any five** from Q. Nos. 1 to 6.*
- (3) Figures to the right indicate full marks.*
- (4) Write your assumptions clearly.*
- (5) Draw neat diagrams wherever required.*

-
-
- Q.1)** What is Internet Protocol Suite ? Explain various Protocols available in each different layer. **[10]**
- Q.2)** What is the difference between Online Marketing and Direct Marketing ? Also explain various Online Marketing Techniques. **[10]**
- Q.3)** What are the basic functionalities required in a good E-commerce Website ? **[10]**
- Q.4)** Explain Software Agents in detail. **[10]**
- Q.5)** Explain various types of Firewalls. Also explain their advantages and disadvantages. **[10]**
- Q.6)** Explain various Online Payment Methods in detail. **[10]**

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

[20]

- (a) E-commerce Models
 - (b) Encryption
 - (c) www
 - (d) Domain Name Registration
 - (e) Internet Service Providers (ISP)
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-2

M. C. M. (Semester - I) Examination - 2009

DATABASE MANAGEMENT SYSTEM

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question No. 1 is compulsory.

(2) Solve *any 5* from the remaining questions.

Q.1) Normalize the following upto 3NF :

[10]

- (1) PO. No.
- (2) PO. Date
- (3) Supplier Quotation No.
- (4) Supplier Quotation Date
- (5) Supplier Name
- (6) Supplier Address
- (7) Item Id
- (8) Item Description
- (9) Item Quantity
- (10) Item Rate
- (11) Amount
- (12) Prepared by
- (13) Approved by
- (14) PO_Delivery Terms
- (15) PO_Octroi

[3677]-2

1

P.T.O.

- Q.2)** What are the major disadvantages of Conventional File Processing System which forces to use DBMS ? [12]
- Q.3)** Explain the following terms in ERD : Derived Attributes, Degree of Relationship, Superkey, Weak Entity, Aggregation. [12]
- Q.4)** Why Integrity Constraints are necessary ? Explain various Integrity Constraints with example. [12]
- Q.5)** Define Transaction. Explain various States of Transaction. [12]
- Q.6)** Explain Shadow Paging as a Recovery Technique. [12]
- Q.7)** Write short notes : (**Any Three**) [4x3=12]
- (a) Any 2 operations in Relational Algebra
 - (b) DBA
 - (c) Triggers
 - (d) Group by (SQL)
 - (e) Data Mining
-

Total No. of Questions : 9]

[Total No. of Printed Pages : 2

[3677]-201

M. C. M. (Semester - II) Examination - 2009

DATA STRUCTURES AND ALGORITHMS

(2008 Pattern)

Time : 3 Hours]

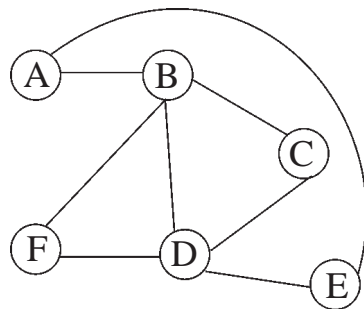
[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 9 are compulsory.
- (2) Answer **any five** questions from the remaining.
- (3) State your assumptions clearly, if any.

-
- Q.1)** (A) Convert the following Infix Expression to Prefix. Show contents of stack at each step in tabular form :
(A – B) \$ (C – D) / E * F * G [08]
- (B) Write a note on Abstract Data Type. [04]
- Q.2)** (A) Consider the following message : DIFFERENCE [05]
- (a) Draw Huffman Tree for symbols of this message.
 - (b) What kind of tree is Huffman Tree ?
- (B) Write a function for Non-recursive Pre-order Traversal of Binary Search Tree. [05]
- Q.3)** Construct an AVL Tree for the following : [10]
- Imam, Jatin, Vinit, Rodrix, Pon, Ramesh, Wimal, Yogesh, Anu, Carox.

- Q.4)** (A) Write a function for sorting 1-D array of integers in ascending order using Bubble Sort. [05]
- (B) Consider the following : [05]
 Float Arr [30] [100] ;
 Compute row major and column major address of member Arr [17] [30], where base address of array is 5,000.
- Q.5)** (A) Write a function to reverse Linear Singally Linked List. [05]
- (B) Write a function to reverse contents of stack using queue, implemented as an array. [05]
- Q.6)** Write functions for Binary Search Tree : [10]
- (a) For Breadth First Traversal
- (b) To compute sum of non-leaf node values
- Q.7)** Write functions for circular singally linked list of integers : [10]
- (a) To delete a node at any position
- (b) To find minimum and maximum value
- Q.8)** (A) Write an Algorithm for quick sort. [05]
- (B) Write a function for MIDSQUARING Hashing Technique. [05]
- Q.9)** Answer using following graph : [08]



- (a) Generate Output of BFS Algorithm.
- (b) Generate Output of DFS Algorithm. Consider starting vertex is at 'A'.
- (c) Write Adjacency Matrix.
- (d) Write Adjacency List.

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-202

M. C. M. (Semester - II) Examination - 2009

DATABASE MANAGEMENT SYSTEM

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

(1) Question No. 1 is compulsory.

*(2) Solve **any 5** from the remaining questions.*

Q.1) (A) Normalize the following upto 3NF : [15]

Application Form No.

Application Date

Application Name

Address

Phone No.

Course Name

Academic Year

Course Fees

Course Duration

Course Co-ordination

Fee Receipt No.

Fee Receipt Date

Fee Amount Paid

Payment Mode (Cash / Cheque / DD)

DD / Cheque No.

Bank Name (for DD / Cheque)

(B) Explain Generalisation and Specialisation. [05]

[3677]-202

1

P.T.O.

- Q.2)** Explain Codd's Rules. [10]
- Q.3)** Explain MVT. [10]
- Q.4)** Explain Log Based Recovery and also explain Check Point Concept. [10]
- Q.5)** Explain concept of DDBMS with advantages and disadvantages. [10]
- Q.6)** Explain Data Mining. [10]
- Q.7)** Write short notes : (Any Two) [2x5=10]
- (a) Functions of DBA
 - (b) Cartesian Product
 - (c) Integrity Constraints
 - (d) Triggers
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-203

M. C. M. (Semester - II) Examination - 2009

ORACLE

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

- (1) *Question Nos. 1 and 6 are compulsory.*
 - (2) *Solve any 3 from the remaining.*
-
-

Q.1) Consider the following tables to solve queries :

[20]

- (1) Customer(Custno, Name, Address)
- (2) FDMaster(FDNo (Primary Key, Autogenerate), FDamt(>1000), Custno(Foreign Key), Interestrate, Period (required))

Solve the following :

- (a) Create FDMaster table with constraints.
- (b) Insert record in FDMaster.
- (c) Add new column FDOpening Date which should store today's date.
- (d) Display total Fdamt deposited by Mr. Narayan Murthy.
- (e) Display Customers staying in Mumbai.
- (f) Display Customername, Fdno, FDamt, Maturity amount (Use Simple Interest Calculation Method)
- (g) Display all customers who have more than 6 FDs in the bank.
- (h) Display FDNo and Maturity date formatted as 24th February, 2009.

- (i) Display names of customers whose FDamt is same as the average amount of all FDs.
 - (j) Display total FDs and total FDamt in April, 2009.
- Q.2)** Write a function that accepts maturity date and returns total amount of maturity of all FDs on that date. **[10]**
- Q.3)** Write a procedure that accepts Custno and displays all FD details of that customer. **[10]**
- Q.4)** Write a trigger which does not allow access to FDMaster table before and after office hours. **[10]**
- Q.5)** Raise an exception (Not-renewed) if one month has passed after maturity date. **[10]**
- Q.6)** Write short notes : **(Any Four)** **[20]**
- (a) Index
 - (b) View
 - (c) Joins
 - (d) Grant and Revoke
 - (e) Use of Btitle, Ttitle, Compute, Break
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 3

[3677]-204

M. C. M. (Semester - II) Examination - 2009

BASIC JAVA

(2008 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) Explain what will be the output ?

[10]

(a) Public class search

```
{
    Public static void main(String[] args)
    {
        String s = "contentment";
        int m = s.length()/2;
        String p = s.substring(m-1, m+1);
        System.out.print\n(so last Index of (p,m));
    }
}
```

Select all correct options.

(b) Which expression returns size of the array ? Assume array is initialised int[] a;

- (i) a[].length();
- (ii) a.length;
- (iii) a[].size;
- (iv) a.size();
- (v) a.length();

- (c) Which of the following statements can be placed at indicated position ?

Public Class A

```
{ int planets;
  static int suns;
  public void MyMethod()
  { int i;
    //code to insert
  }
}
```

- (i) `i = this.planet;`
- (ii) `i = this.suns;`
- (iii) `this = new A();`
- (iv) `this, suns = planets;`
- (d) Select correct answers :
- (i) All classes must define constructors
- (ii) Constructors can be private
- (iii) Constructors can return value
- (iv) Constructors must initialize all instance variables of class.
- (v) Constructors can access non-static members.
- (e) Which is return type of method `round (float)` from `math` class ?
- (i) float
- (ii) int
- (iii) double
- (iv) Integer
- (v) Float

(B) (i) Write anonymous class to close the window. [05]

(ii) Print following pattern : [05]

```
1   3   5   7   9
1   3   5   7
1   3   5
1   3
1
```

Q.2) Accept a string from command line. Check whether vowel exists in the string or not. If vowel is not present then raise user defined exception 'No vowel in the string'. [10]

Q.3) Write a threaded application to display first 10 terms of Fibbnaci Series of first 50 prime numbers. [10]

Q.4) Accept filename and a string from user. Append given string to the file. Do necessary validations. [10]

Q.5) Write an applet to accept height and width of a rectangle and colour to fill that rectangle. Draw rectangle of given dimation and fill it with specified colour. [10]

Q.6) Write a AWT application which will accept username and password, verify them with predefined values. If values are correct, show welcome message; otherwise show invalid user message after 3 chances. [10]

Q.7) Define 'Vehicle' class with beepHorn() abstract method make and brand as instance variables. Write subclass 'Fourwheeler' with attributes type, fuel capacity and display() method to print all attributes. Create array of 3 vehicles. Invoke display() method for each vehicle. [10]

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

(a) Hash Table

(b) Access Modifiers

(c) Applet Life Cycle

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[3677]-205

M. C. M. (Semester - II) Examination - 2009

CORE RUBY

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

(2) Solve *any four* from Question Nos. 2 to 6.

Q.1) What is the output of the following ? (Any Five)

[15]

- (a) var1 = 'Welcome'
puts var1 + 'Have a "Good" Day'
- (b) var1 = 2
var2 = '5'
puts var1.to_s + var2
puts var1 + var2.to_i
- (c) hash_fruit = { }
hash_fruit ['mango'] = 'orange'
hash_fruit ['banana'] = 'yellow'
hash_fruit ['grapes'] = 'green'
hash_fruit ['apple'] = 'red'
has_fruit.each do |key, value|
puts key + ' ' + value
end

- (d) `def. mtd (arg1 = "Basic Java", arg2 = "DBMS", arg3 = "Oracle")`
`"# {arg1}, # {arg2}, # {arg3}."`
`end`
`put mtd`
`put mtd ("Core Ruby")`
- (e) `do_you_like = proc.newdo\good_stuff\`
`puts 'I *really* like' + good_stuff + '!'`
`end`
`do_you_like.call 'Chocolate'`
`do_you_like.call 'Ruby'`
- (f) `fruits = ['apple', 'bad apple', 'cherry', 'durian']`
`fruits.each_even do |fruit|`
`puts 'Yum ! I just love' + fruit + 'pies, don\'t you ?`
`end`

- Q.2)** Write a Ruby Program that will declare an array of six elements. Accept the numbers from user and store it in array. Interchange the values stored in two consecutive locations in array and print the array. For example, if the array is 10, 15, 18, 11, 17, 21 output will be :
15, 10, 11, 18, 21 17. **[10]**
- Q.3)** Write a file program that reads the data from two files, concatenate the data and store it in third file. **[10]**
- Q.4)** Write a Class Account which has instance variables AC No, Name, Balance and Method Update Balance(). It accepts the amount and transaction details (Deposit/Withdrawal) from user and accordingly updates balance by calling the Update Balance() Method. **[10]**
- Q.5)** Write a Ruby Program that accepts a number from user and checks the entered number is perfect number or not. **[10]**

Q.6) Write a Ruby Program which reads the text file character by character, converts it into uppercase and copies it to another file. **[10]**

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

- (a) Exception Handling
 - (b) Ruby Modules
 - (c) Unit Testing
 - (d) Duck Typing
 - (e) Symbols
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-206

M. C. M. (Semester - II) Examination - 2009

OBJECT ORIENTED DESIGNING

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

- (1) *Question No. 1 is compulsory.*
- (2) *Answer **any** 5 from the remaining.*
- (3) *Mention assumptions made for solving case study.*

-
-
- Q.1)** (A) Draw Usecase Diagram and Class Diagram for a placement agency which extends its services to organisations and individuals. Candidates register their details like personal, academics, skill set and experience. Organisations give their requirements in terms of skill set, qualification, experience etc. The agency maintains a website through which registration can be done. Site also allows to update candidate profiles and organisation requirements. It also gives facility to search job and suitable candidates. **[15]**
- (B) Explain Aggregation and Component Relationship (Composition). **[05]**
- Q.2)** Explain Rational Unified Process in detail. **[10]**
- Q.3)** (A) Explain Class Responsibility Collaborator Approach with example. **[05]**
- (B) Draw Sequence Diagram for sending Email. **[05]**
- Q.4)** Discuss Multilayered Software Design Approach. Explain how various layers are interrelated with respect to their functions. **[10]**
- Q.5)** Draw Activity Diagram for Online Shopping of Products. **[10]**

Q.6) Draw state transition diagram for tea/coffee vending machine where the user selects item (tea/coffee) by pressing the appropriate button. Then user inserts coin according to the price of item. Machine returns the coin if it is not the appropriate one. Machine will dispense the item after detecting cup below the dispenser. If cup is not present after waiting for 30 secs, the request is cancelled and coin is ejected. If sufficient coffee/tea/milk powder or water is not there, the machine will make alarm. **[10]**

Q.7) Write short notes : **(Any Two)** **[5x2=10]**

- (a) Guidelines for Developing Test Plan
 - (b) Pattern
 - (c) Grady Booch Methodology
 - (d) Inheritance
-

Total No. of Questions : 9]

[Total No. of Printed Pages : 2

[3677]-21

M. C. M. (Semester - II) Examination - 2009

DATA STRUCTURES

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Question Nos. 1 and 9 are compulsory.*

(2) *Answer **any** 5 from the remaining.*

Q.1) (A) Convert the following Infix Form to its Postfix Form

$A + (B - C) / D * E$

Show contents of stack at each step.

[08]

(B) Write a short note on Generalized Linked Lists.

[04]

Q.2) (A) (a) Draw 'Huffman Tree' for the symbols of following message :

RAMAYAN

(b) What kind of tree is the 'Huffman Tree' drawn by you ? **[05]**

(B) Write 'C' Code for function 'PUSH' for a stack of characters implemented as a linked list. **[05]**

Q.3) Draw AVL tree for the following : **[10]**

PUNE, MUMBAI, NASHIK, NAGPUR, SATARA, WAI, BHOR, SHIRDI.

Q.4) (A) Write 'C' Code of a function for sorting a 1-D array of N integers in ASCENDING ORDER using Insertion Sort Algorithm. **[05]**

(B) Consider declaration float A[15] [30]. Compute Row Major and Column Major Address of a[12] [6] when base address is 2000. **[05]**

Q.5) (A) Write a function to add a node in a linear queue of characters implemented as a linked list. [05]

(B) Write a function to delete a node from a linear queue of characters implemented as a linked list. [05]

Q.6) (A) Write a function for non-recursive pre order traversal for Binary Search Tree. [05]

(B) Write a function to count number of non-leaf nodes in a Binary Search Tree. [05]

Q.7) Sort the following set of numbers using Heap Sort : [10]
24, 12, 12, 80, 46, 31, 29

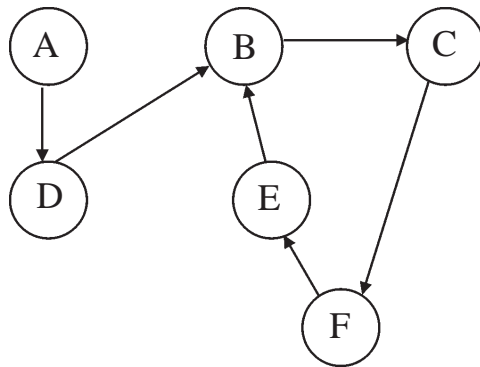
Q.8) Write short notes : (Any Two) [10]

(a) Threaded Binary Tree

(b) Hashing

(c) Abstract Data Type

Q.9) Consider Graph :



(a) Generate BFS. [02]

(b) Generate DFS. [02]

(c) Write Adjacency Matrix and Adjacency List. [02]

(d) Find Indegree and Outdegree of all nodes. [02]

Consider vertex A as starting node.

Total No. of Questions : 7]

[Total No. of Printed Pages : 4

[3677]-22

M. C. M. (Semester - II) Examination - 2009

VISUAL BASIC

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question Nos. 1, 2 and 7 are compulsory.

*(2) Solve **any three** from Q. Nos. 3 to 6.*

Q.1) Give output alongwith explanation : (Any Five)

[5x4=20]

(a) Dim j\$

Print VarType (j)

Print TypeName (j)

Print Len (j)

(b) dim i as integer

dim j as integer

for i = 1 to 5

for j = 1 to 5

print "*"

next

i = i + 4

next

- (c) dim d1, d2 as Date
d1 = Date
mm/dd/yyyy
d2 = #03/01/2009#
Print (“Date Diff”)
Print DateDiff (“m”, d1, d2)
Print DateDiff (“y”, d1, d2)
Print DateDiff (“d”, d1, d2)
- (d) Dim str1 as string
Dim str2 as string
Dim no as Integer
Str1 = “pune university”
Str2 = “mcm examination”
no = StrComp (Str1, Str2, VbBinary Compare)
Print CBool (no)
- (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) + a(0)
- (f) Dim x, y, z, find
x = 3
y = 4
find = IIF (x > = y, “false”, “true”)
Print find

Q.2) Explain following properties of controls : **[5x2=10]**

- (a) Default Property of Command Button
- (b) Wordwrap Property of Label
- (c) Value Property of Option Button
- (d) List Property of Combo Box
- (e) Multiline Property of Text Box

Q.3) Write ADD Code for the following table Account_Mst : **[10]**

Field Name	Type
Account_No	Number
Name	Text
AC_Type	Text
Balance	Currency

Perform operations Add, Update, Delete, View First, Last, Next, Previous Records.

Q.4) Write a Class Account having properties id, name, balance, minbalance. Write a method to Deposit and Withdraw Amount. Provide proper validation wherever required. Write a main program to demonstrate above class. **[10]**

Q.5) Define user defined data type supplier having data members sup_code, sup_name and contact_no. Design interface and write code which will lead supplier information from user and will store it in textfile as record. Provide facility to see First, Next, Previous and Last Record. (Use Random Access - File) **[10]**

Q.6) Create a Text Editor like Wordpad. The form contains a text box and a menubar having File options - New, Open, Save and Close and Edit options - Cut, Copy and Paste.

Write Subroutine to perform functions.

Use common dialog control to open and save files. **[10]**

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

- (a) Data Types in VB
 - (b) Event Driven Programming
 - (c) Active - X Control
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-23

M. C. M. (Semester - II) Examination - 2009

ORACLE

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

(2) *Solve **any 3** from the remaining.*

Q.1) Consider the following Tables :

Acmst (AcNo., Custname, Balance, Status)

Status : A – Active, C – Closed, N – Non-performing Account

Actrn(AcNo, Ac_trn_type [W - Withdraw, D - Deposit], trnDate, trnAmt)

(a) Create above tables with suitable constraints. **[06]**

(b) Solve the following queries : **[2x7=14]**

(i) Display customers, who have not done single transaction.

(ii) Store all customer records having status as 'N' into Cust_NPA table.

(iii) Display unique customer names.

(iv) Display customerwise Total Withdrawal Amount.

(v) Remove all customers having Zero Balance.

(vi) Print customerwise transactions between 1st May, 2009 and 15th May, 2009.

(vii) Display maximum withdrawn amount for today.

[3677]-23

1

P.T.O.

- Q.2)** Write a PL/SQL block to display alternate record from Acmst table. [10]
- Q.3)** Write a trigger, which will monitor every transaction in tran_track table. Consider Actrn table. [10]
- Q.4)** Write a PL/SQL block to accept number and generate a table for the same. [10]
- Q.5)** Write a PL/SQL block to reverse the given string. [10]
- Q.6) Solve : (Any Four) [4x5=20]**
- (a) Index
 - (b) Set Operations in SQL
 - (c) PL/SQL Block
 - (d) Column and Table Level Constraints
 - (e) Any Five Date Functions
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-24

M. C. M. (Semester - II) Examination - 2009

SOFTWARE PROJECT MANAGEMENT AND IT MANAGEMENT

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Q. No. 1 is compulsory.
- (2) Attempt **any 5** from the remaining.
- (3) Q. No. 1 carries **20 marks**. Remaining questions carry **10 marks each**.

Q.1) (A) Draw an activity network for the project given below. Also determine Critical Path :

[10]

Activities	Duration (in weeks)	Precedents
A - Selection of Hardware	6	—
B - Design of Software	4	—
C - Install Hardware	3	—
D - Code and Test Software	4	A
E - File Take On	3	B
F - Write User Manual	10	—
G - User Training	3	E, F
H - Install and Test the System	2	C, D

(B) What is Software Maintenance ? Explain different factors involved in Maintenance.

[10]

- Q.2)** What is Function Point Analysis ? Explain various steps in FPA and its characteristics. [10]
- Q.3)** What is Risk Management ? Explain different stages involved in Risk Management. [10]
- Q.4)** What is SEI-CMM ? Explain levels of CMM in detail. [10]
- Q.5)** Explain COCOMO model in detail. [10]
- Q.6)** Explain in detail Software Configuration Management. [10]
- Q.7)** Write short notes : (**Any Two**) [10]
- (a) Black Box Testing Vs. White Box Testing
 - (b) Team Sizing
 - (c) Formal Technical Review
 - (d) Project Scheduling
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-25

M. C. M. (Semester - II) Examination - 2009

BUSINESS APPLICATIONS

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. No. 1 must be answered. Attempt any 5 questions from the remaining.*
- (2) *Q. No. 1 carries 20 marks. Q. 2 to 7 carry 10 marks each.*
- (3) *Draw neat diagrams, wherever required. Neat diagrams carry marks.*
- (4) *State assumptions clearly.*

Q.1) (A) State use of Material Rejection Analysis. [05]

(B) Describe process of preparing BOM using suitable Computer Database. Give the of normalised files required in the process. [15]

Q.2) Explain process of Supplier's Bill passing. Draw a block diagram to show the process. Also give list of normalised files required. [10]

Q.3) How to process Creditor's Outstanding Report using computer files. [10]

Q.4) Draw a screen layout to process employee's personal details and generate employee master file. State various validations necessary in the process. [10]

Q.5) What is Market Segmentation ? How it affects Product Design and Marketing ? Give example. [10]

Q.6) Explain PPC Cycle with the help of block diagram. **[10]**

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

- (a) WIP
 - (b) Employee Training
 - (c) Expense Analysis
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-3

M. C. M. (Semester - I) Examination - 2009

SOFTWARE ENGINEERING

(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, 5.

Q.1) A bank gives loan to student for higher education. Student has to fill-in loan application form. The course fee structure letter is to be obtained from the college and to be submitted to the bank. Parent income proof either Form 16 or certificate from magistrate is also to be attached. Such application along with all necessary documents is sent to bank's zonal office where after scrutiny the loan is sanctioned. Once the loan is sanctioned the bank handover cheque to student and student has to submit original fee receipt to bank.

(a) Draw 1st Level DFD. [10]

(b) Design normalized file layout for storing student and loan information. [10]

(c) Draw layout of Loan Application Form. [05]

Q.2) College has various streams like Arts, Commerce and Science. For every stream there are degree and diploma courses. The teachers are appointed in various grades to teach to these courses. One teacher may teach more than one subject of degree or diploma in one of more streams. A time-table is prepared for a course. Every course has a HOD and every stream has a Vice-Principal. There is only one Principal who is in-charge of entire college.

Draw E-R Diagram. [10]

[3677]-3

1

P.T.O.

Q.3) Draw use case diagram for maintaining saving account in a bank. [10]

Q.4) Draw decision table for deducting Income Tax : [10]

- If employee is a lady, standard deduction is R. 1,80,000.
- The normal standard deduction is Rs. 1,50,000.
- If the income is between Rs. 1,50,000 to Rs. 3,00,000 then 10% Tax.
- If the income is between Rs. 3,00,000 to Rs. 5,00,000 then 20% Tax.
- If the income is above Rs. 5,00,000 then 30% Tax + 2% Surcharge.
- If the employee is physically handicap or blind, 10% rebate on Tax.
- If the employee is foreigner then straight 30% Tax on all Income.

Q.5) Explain Spiral Model. [10]

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

- (a) Questionnaire
- (b) Sequence Diagram
- (c) Data Dictionary
- (d) Reverse Engineering
- (e) Codeless System

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-301

M. C. M. (Semester - III) Examination - 2009

LINUX PROGRAMMING

(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 to 5.*

-
-
- Q.1)** (A) Write PHP Code which accepts a rollno of student and displays student information from MySQL database COLLEGE and table MCM. If record not found, display suitable message. Assume suitable fields for MCM table. [10]
- (B) Explain Process, Process Domain and Process Management Commands in Linux. [10]
- Q.2)** Write MySQL Commands for the following : (Any Five) [10]
- (a) Create database to store payroll information.
- (b) Create table employee with suitable constraints.
- (c) Take backup of employee table in text file.
- (d) Update joining_date column with current date.
- (e) Create user mca and assign update rights to him for all tables in payroll database.
- (f) List all employees whose salary is less than 10,000.

Q.3) Explain the following Linux Commands with example : **(Any Five) [10]**

- (a) nice
- (b) grep
- (c) sort
- (d) init
- (e) less
- (f) rpm
- (g) cpio

Q.4) Explain configuration required in Apache for running CGI script with example. **[10]**

Q.5) Explain file handling functions in PHP with suitable example. **[10]**

Q.6) Write short notes : **(Any Four) [5x4=20]**

- (a) MIME Types in Apache
- (b) Run Levels in Linux
- (c) Mysqladmin Command
- (d) Basic Authentication in Apache
- (e) Associative Array
- (f) rc.d

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-302

M. C. M. (Semester - III) Examination - 2009

BUSINESS APPLICATION

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Solve **any 5** from the remaining.*

Q.1) Success Placement Agency collects job requirements from various IT Companies. Candidates having graduate and post-graduate degrees register with them for getting job. Placement Agency conducts aptitude test at their site and then sends short-listed candidates for interview in the company as per their suitability. Company makes selection by conducting interviews and sends selected candidates list to the Placement Agency.

Agency collects its charges as 50% of the first salary from placed candidates.

Candidate registration can be continued to 2 years or upto getting a job, whichever occurs first. Then the candidate has to renew registration by paying Rs. 500.

For the above case :

- (a) Draw CLD and 1st level DFD. **[10]**
- (b) Design appropriate file layout. **[10]**

Q.2) What is BOM ? What is its significance in Production Planning ? **[10]**

- Q.3)** Design Data Entry Screen for sales order. Also specify order followup process with the help of reports. [10]
- Q.4)** Explain procedure to prepare Profit and Loss A/c. alongwith its format. [10]
- Q.5)** What is the objective of Inventory Control ? Explain various Selective Control Techniques for Inventory Control. [10]
- Q.6)** What is the process of Employee Appraisal ? Explain few Techniques of Appraisal. [10]
- Q.7)** Write short notes : (**Any Two**) [10]
- (a) Inventory Costing Methods
 - (b) Product Life Cycle
 - (c) Financial Ratios
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-303

M. C. M. (Semester - III) Examination - 2009

ADVANCED JAVA

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
 - (2) *Solve **any 4** out of the remaining.*
-
-

Q.1) Solve the following :

[10]

- (a) Write Life Cycle Methods of Servlet.
- (b) Interfaces used in JDBC
- (c) URL Class
- (d) Write any five JSP Actions.
- (e) Write all possible ways to create ServerSocket.

Q.2) Write program segments : (Any Three)

[15]

- (a) To get row count from a table.
- (b) To declare functions in JSP using JSP expression.
- (c) To register out parameter with data type string.
- (d) To create Datagram Packet to send to specified address and port number.
- (e) To retrieve information from cookies in Servlet.

- Q.3)** Design 3 JSP pages, where first page will have company name and logo, second page will have product details and last page will have terms, conditions and copyright details. Using JSP ACTION display all 3 pages in a single browser. **[15]**
- Q.4)** Write Network Program for creating a Threaded Chat Application. **[15]**
- Q.5)** Design a HTML page to accept patient test details. If H1N1 test is positive, store patient details into the database using servlets. (Assume suitable table name and fields) **[15]**
- Q.6)** Short notes : **(Any Three)** **[15]**
- (a) RMI Architecture
 - (b) MVC Architecture
 - (c) JNDI
 - (d) Error Handling in JSP
-

Total No. of Questions : 3]

[Total No. of Printed Pages : 2

[3677]-304

M. C. M. (Semester - III) Examination - 2009

ADVANCE RUBY

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Q.1) Solve any five questions :

[30]

- (a) What is restful Architecture in Rails ? Explain with example.
- (b) What is Model in Rails ? How to generate a model from command prompt ?
- (c) What are Layouts in Rails ? What is default layout in Rails ?
- (d) Explain any 2 Ruby tk widgets with examples.
- (e) Explain Logger Class with all constants.
- (f) What is the difference between Session and Cookie ?
- (g) Explain MVC Architecture in Rails.

Q.2) Explain output of any three of the following :

[12]

- (a) What will be the html output of index.html.erb ?

```
index, html.erb
```

```
user_ids = [1,2,3,4,5,6]
```

```
<% = render :partial=>"user_id", :collection=>user_ids%>
```

```
_user_id.html.erb
```

```
<h1><%=user_id%></h1>
```

- (b) num =[1,4,8.13,nil,2.8]

```
num.compact
```

```
puts num
```

[3677]-304

1

P.T.O.


```

(c) customer_orders = [100,101,307,809]
    customer_order.map!{|num| num+num}
    puts customer_orders

(d) begin
    num = 10
    num = num/(num-10)
    rescue=>e
        puts "Exception Occurred."
    ensure
        puts "Exception did not occur."
    end

```

Q.3) Write program for any of the following 4 problems : **[28]**

- (a) Write migration for creating table "Users" in database having username, password, created_at, updated_at columns.
- (b) Write authentication method in user model which will accept username and password parameters. If user with provided username and password is present in database, then return user object and if user is not present, then return nil.
- (c) Create a Tk window that has a Label object with text "Hello World". The window also has a Button called "Chang Me". When the button is clicked once, the text of the Label changes to "Goodbye".
- (d) Write Date Time server that displays on the client computer the date and time at the server location, using Ruby socket API.
- (e) Write a server which defines a method that accepts a username from client and responds by sending "hello username" alongwith the current time.

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3677]-305

M. C. M. (Semester - III) Examination - 2009

VB.NET

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Solve **any 5** from Q. Nos. 2 to 8.*
- (3) *Make your own assumptions, if required.*

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

Q.2) Explain ADO.NET Architecture in detail. [12]

Q.3) (A) Explain important methods of File Class.
(B) Write a program which will copy Text File using Stream Reader and Stream Writer Class. [12]

Q.4) Design an interface and write a program which will accept two numbers from two text boxes and display prime numbers between them in a list box. [12]

Q.5) Define a class 'Account'. Include following members :

Data Members :

- (1) Name of Depositor
- (2) Account Number
- (3) Type of Account
- (4) Balance Amount in Account

[3677]-305

1

P.T.O.

Member Functions :

- (1) To assign Initial Values
- (2) To deposit an Amount
- (3) To withdraw an amount after checking balance
- (4) To show balance in account

Also provide proper validations wherever necessary.

Write a main program to test the above class. [12]

Q.6) Write Sectional Code to Add, Delete, Modify Records of Customer Table (custno, custname, cust Dt of Birth). (Make your own assumptions). Use disconnected architecture. [12]

Q.7) Explain the following controls : [4x3=12]

- (a) MaskedTextBox
- (b) Combo Box
- (c) Error Provider
- (d) Timer

Q.8) Write short notes : (Any Two) [6x2=12]

- (a) Interface
- (b) Inheritance
- (c) Collections in Vb.net

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-306

M. C. M. (Semester - III) Examination - 2009

SOFTWARE PROJECT MANAGEMENT AND IT MANAGEMENT

(2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Attempt **any 5** from the remaining.*
- (3) *Questions No. 1 carries **20 marks**. Remaining questions carry **10 marks** each.*
- (4) *Neat diagrams carry marks.*
- (5) *State assumptions made, if any.*

-
-
- Q.1)** (A) What is Function Point Analysis ? How it is used to determine Cost of Project ? [10]
- (B) State benefits of Component-based Software Development. [10]
- Q.2)** Explain Project Development Life Cycle with the help of diagram. [10]
- Q.3)** What is Software Quality Control and Software Quality Assurance ? Explain SQA parameters with their definitions. [10]
- Q.4)** (A) Describe concept of User Accepting Testing. [05]
- (B) Describe concept of Software Project Management. [05]
- Q.5)** (A) Compare and contrast Black Box and White Box Testing Methods of Software Testing. [05]
- (B) What is the Concept of Software Configuration Management ? [05]

Q.6) Describe various Software Project Time Estimation Tools, with suitable illustrations. **[10]**

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

- (a) Version Control
 - (b) COCOMO Model
 - (c) Major Task of HRM in an IT Organisation
 - (d) Soft Acquisition Procedure
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[3677]-31

M. C. M. (Semester - III) Examination - 2009

OBJECT ORIENTED CONCEPTS AND BASIC JAVA

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.
- (2) Solve **any five** from the remaining.
- (3) Draw diagram wherever necessary.

Q.1) Which is the output of the following programs ? (Any Four) [20]

(a) Which of the following does not denote a primitive data type ?

- (i) "P"
- (ii) "k"
- (iii) 50.50 F
- (iv) "Pune"
- (v) False

(b) Given are the following declarations :

String S₁ = new string ("Hello");

String S₂ = new string ("There");

String S₃ = new string ();

Which of the following are legal operations ?

- (i) S₃ = S₁ + S₂
- (ii) S₃ = S₁ - S₂
- (iii) S₃ = S₁ & S₂
- (iv) S₃ = S₁ && S₂

[3677]-31

1

P.T.O.

(c) Which of the following is correct event handling method ?

- (i) MousePressed (MouseEvent e) { }
- (ii) MosuePressed (MouseClicked e) { }
- (iii) Function Key (KeyPressed e) { }
- (iv) ComponentAdded (ContainerEvent e) { }

(d) Given the following class definition.

Class DeriveDemo extends Demo

```
{
    int M, N, L;
    Public DeriveDemo (int x, int y)
    {
        M = x ; N = y;
    }
    Public DeriveDemo (int x)
    {
        super(x);
    }
}
```

Which of the following constructor signatures **MUST** exist in the Demo class for the DeriveDemo to compile correctly ?

- (i) Public Demo(int a, int b)
- (ii) Public Demo(int c)
- (iii) Public Demo()

(e) Final Statement is used :

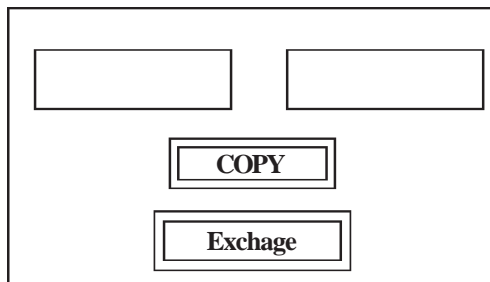
- (i) To avoid overriding
- (ii) To avoid overloading
- (iii) To enhance smooth overriding
- (iv) None of the above

Q.2) Answer the following : **[10]**

- (a) Thread Life Cycle – Specify Methods.
- (b) Exception Handling.

Q.3) Accept string from command line, if the string is in upper case throw an userdefined exception. **[10]**

Q.4) Write a program using applet. Take two textfeeds and two buttons.



Label of first button will be “Copy” and second will be “Exchange”. If user clicks on copy button, text from first textbox should be copied to second and vice-versa. On exchange swapping of two texts should perform. **[10]**

Q.5) Write a Java Application Program to copy contents from one file into another. **[10]**

Q.6) Write a Item class with item_no, item_name, total_quantity, and price. Calculate price for the given total quantity of item. **[10]**

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

- (a) Layout Manager
- (b) Garbage Collection
- (c) Access Specifier

Total No. of Questions : 10]

[Total No. of Printed Pages : 2

[3677]-32

M. C. M. (Semester - III) Examination - 2009

INTERNET TECHNOLOGY

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions.

(1) Solve *any 7 questions.*

(2) *All questions carry equal marks.*

Q.1) What is www ? Write steps to host a website on Net. **[10]**

Q.2) Write Internal Style Sheet for the following : **(Any Five)** **[10]**

(a) Apply red colour as background to the list items.

(b) Apply over line to table heading.

(c) Apply background image to h1.

(d) Remove boldness from bold tag.

(e) Apply doubly type of border to paragraph.

(f) Apply background colour to table row.

Q.3) Design a HTML page to accept name and birth date from user and write VB script program to display his age. **[10]**

Q.4) Accept 10 colors from user using text box. Take a start button. When user will click on start button, change background colour after every 3 seconds. **[10]**

Q.5) Write ASP Code to display report consisting of employee details whose retirement date is due after 6 months from current date. (Assume suitable fields) **[10]**

Q.6) Display Product details in tabular format. User will click on the product for purchasing. When clicked on the product, accept quantity and customer details (Name, Address and Phone Number) and store this information into table. (Use Product and Order Table with suitable fields) [10]

Q.7) Explain use of request and response objects with their methods and properties. [10]

Q.8) Consider the following XML file :

```
<?xml version = "1.0"?>
<book>
  <book>
    <book_no>1</book_no>
    <book_name>Let us C</book_name>
    <book_price>125</book_price>
  </book>
  <book>
    <book_no>1</book_no>
    <book_name>Let us C++</book_name>
    <book_price>150</book_price>
  </book>
</books>
```

Write a code to display above information in tabular format using XML DSO. [10]

Q.9) What is Image Map ? Compare client side image map with server side image map. [10]

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

- (a) Form and its elements
- (b) Links
- (c) Logical Text Formatting Tags
- (d) SOAP

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-33

M. C. M. (Semester - III) Examination - 2009

NETWORK TECHNOLOGY

(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) Draw neat diagram wherever necessary.

Q.1) (A) Explain stepwise installation of Windows 2003 Server. [10]

(B) Explain installing and configuring packages in Linux. [10]

Q.2) What is .NET Framework ? Explain procedure for installing .NET Framework on Windows Client. [10]

Q.3) Explain Active Directory Service. State steps for implementing Active Directory in Windows 2003 Server. [10]

Q.4) Explain Process Management in Linux using suitable commands. [10]

Q.5) What is VPN ? Explain implementation of Windows 2003 VPN. [10]

Q.6) Explain Group Policy and Right Management in Windows 2003. [10]

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

[4x5=20]

- (a) Wireless Network
 - (b) TCP/IP
 - (c) Mail Protocols
 - (d) Modems
 - (e) Star Topology
 - (f) Apache Web Server in Linux
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 1

[3677]-34

M. C. M. (Semester - III) Examination - 2009

INFORMATION SYSTEM AUDIT

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question No. 1 is compulsory.

*(2) Solve **any six** questions from the remaining.*

Q.1) Explain Audit Procedure in detail. Also draw flowchart to elaborate it. [10]

Q.2) What is Evidence ? Explain various Evidence Collection Techniques. [10]

Q.3) Explain various Internal Controls. [10]

Q.4) How Work of Programming Management is Audited ? [10]

Q.5) Explain different Output Controls. [10]

Q.6) What do you meant by Audit Trail ? Why and how it is used ? [10]

Q.7) Which Human Relation Policies are designed by Steering Committee ? [10]

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

(a) System Effectiveness

(b) Controls in Networking

(c) Any one Concurrent Auditing Technique

(d) Computer Crime

[3677]-34/1

Total No. of Questions : 6+6]

[Total No. of Printed Pages : 2

[3677]-35

M. C. M. (Semester - III) Examination - 2009

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

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Both sections are compulsory.*
- (2) Both section carry equal marks.*

SECTION - I

Instructions :

- (1) Question No. 1 is compulsory.*
- (2) Answer **any two** from the remaining.*

Q.1) Management is a distinct process consisting of activities of Planning, Organising, Actuating and Controlling. Explain with suitable examples. **[15]**

Q.2) Write a detailed note on Henry Fayol Contribution to Management. **[10]**

Q.3) Decision-making is a process of selection of one best alternative for doing a work. Answer with reference to steps in Decisions-making. **[10]**

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

- (a) Controlling
- (b) Managerial Skills
- (c) Types of Managers

Q.5) Planning is an Intellectual Process. Explain Planning and various types of Planning. **[10]**

Q.6) Directing is the process of activating various plans and group efforts to the desired direction. [10]

SECTION - II

Instructions :

(1) *Question No. 1 is compulsory.*

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

Q.1) Define the term Organisational Behaviour. Explain with reference to Need / importance / relevance in managing the workforce. [15]

Q.2) What is Motivation ? Explain Theory X, Y, Z. [10]

Q.3) Explain strategies to reduce intra individual, interpersonal and inter group organisational conflict. [10]

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

(a) Ego States

(b) Johari Window

Q.5) Conflict Management Skills are key to organisational success. Discuss. [10]

Q.6) What are the different Leadership Styles ? [10]

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-4

M. C. M. (Semester - I) Examination - 2009

MANAGEMENT INFORMATION SYSTEM

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Notes :

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

Q.1) A Library of Management Institute maintains information about books, journals, newspapers, manazines and CD's. All students of institute are members of library. A member can take maximum 2 books on their library card for a week's time. If book is not returned in time, fine is charged Rs. 5 per day. Member can place a demand for a book if it is not available in library.

You are required to :

- (a) Explain information at different levels in institute. [08]
 - (b) Design any 3 reports. [06]
 - (c) Design any 3 databases. [06]
- Q.2)** Explain need and role of MIS in Organisation. [10]
- Q.3)** Explain different types of Printers. [10]
- Q.4)** Explain and compare MIS and DSS. [10]
- Q.5)** Explain and compare Magnetic Tape and Magnetic Disk. [10]
- Q.6)** Explain OCR and OMR as Input Devices. [10]

[3677]-4

1

P.T.O.

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

[10]

- (a) Memory Unit
 - (b) Expert Systems
 - (c) Plotter
 - (d) Quality of Information
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-401

M. C. M. (Semester - IV) Examination - 2009

LINUX PROGRAMMING

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

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

-
-
- Q.1)** (A) Write PHP Script which accepts student rollno and sends email containing "Happy Birthday" message, if his record is found and has born on this day. Use college database and student table with suitable fields. [10]
- (B) Explain backup and restore in Linux with the help of suitable commands. [10]
- Q.2)** Write MySQL Commands for the following : (Any Five) [10]
- (a) Create database EXAM.
- (b) Create student table with proper constraints in a database EXAM.
- (c) Copy records of student table in text file 'StudRec.txt'.
- (d) List record of student whose name starts with 'S' or 'V'.
- (e) Upload students records from text file 'NewStud.txt'.
- (f) Create user MCM on localhost to access EXAM database.
- Q.3)** What is Cookie ? Explain with example how to handle cookie in PHP ? [10]
- Q.4)** Explain with example how CGI Scripts are executed with Apache ? [10]

Q.5) Explain Boot Process Runlevels and use of rc.d directories in Boot Process. **[10]**

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

- (a) \$_GET, \$_POST and \$_RESPONSE
 - (b) Constructor for PHP Class
 - (c) Mysqladmin and Mysqldump
 - (d) User Space and Kernel Space
 - (e) Arrays in PHP
 - (f) Grep Command with Options
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3677]-402

M. C. M. (Semester - IV) Examination - 2009

VISUAL BASIC.NET

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

(2) Solve **any four** questions from Q. No. 2 to 7.

Q.1) Explain ASP.Net Architecture in detail. [15]

Q.2) Explain Concept of Delegates with an appropriate example. [10]

Q.3) How ASP.Net maintains state of a session ? Explain its uses. [10]

Q.4) Write an interface 'Set' with methods 'Union' and 'Intersection'. Write a class 'Int_Set' which will implement the 'Set' interface, where 'Union' method will give the numbers present in first and second Int_Set (i.e. Union of two integer arrays), and 'Intersection' method will give the numbers present in both Int_Set (i.e. intersection of two integer arrays). Assume suitable attributes in Int_Set class. [10]

Q.5) Define a class BookIssue with attributes BookId, MemberId, IssueDate, ReturnDate. Write a method to accept information. Throw your own defined exception "LateFeeException" if difference between issue date and return date is more than 10 days. Also write a method which will calculate and display late fee, which is Rs. 10 for each delayed day. [10]

Q.6) Create an application using 'TreeView' control to show existing directory structure of C drive. [10]

Q.7) Write a code to perform Add, Edit, Delete, First, Next, Previous and Last Operations on the following table :

Server Name : RBI

Server : SQL Server

Database Name : Bank

Table Name : Fixed Deposit (FD_No, Cust_Id, FD_date, Period, Amount, Int_Rate) [10]

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

- (a) Name Space
 - (b) Common Language Runtime (CLR)
 - (c) List View, Scroll Bar Controls
 - (d) String Functions (any 5)
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-403

M. C. M. (Semester - IV) Examination - 2009

ADVANCED JAVA

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Question No. 1 is compulsory.

*(2) Solve **any 4** questions from the remaining.*

Q.1) Solve the following :

[10]

- (a) “ResultSet can’t be updatable.” State True or False. Justify your answer.
- (b) If the browser does not support cookies or if they are disabled, how is session tracking done ?
- (c) What’s the difference between SendRedirect() and Forward() Methods ?
- (d) How can an application get to know when a HttpSession is removed ?
- (e) What are the Life Cycle Methods of EJB Session Bean ?

Q.2) Write Program Segments : (Any Three)

[15]

- (a) To get row count from a table.
- (b) To declare function in JSP using JSP expression.
- (c) To register out parameter with data type string.
- (d) To create DatagramPacket to send to specified address and port number.
- (e) To retrieve information from cookies in Servlet.

[3677]-403

1

P.T.O.

- Q.3)** Write RMI application for simple calculator. Interface has following methods : **[15]**
- (a) double addition (double, double)
 - (b) double subtraction (double, double)
 - (c) double multiply (double, double)
 - (d) double divide (double, double)
- Q.4)** Write Network Applications as follows : **[15]**
- (a) Write a Client Program which will send directory name to server.
 - (b) Write a Server Program which will accept directory name from client and send list of files in the directory. If directory does not exist, send proper message.
- Q.5)** Design HTML page to accept user information (Name, Address, City, Phone No., DoB etc.) and create a bean for the information. Write a JSP page to display this information in tabular format using JSP standard action. **[15]**
- Q.6)** Write a Servlet Program to accept user information and save it into database. If user has skipped any of the fields, then display message as “All fields are compulsory” and redirect user again to the login page. **[15]**
- Q.7)** Write short notes : **(Any Three)** **[15]**
- (a) JNDI
 - (b) DatabaseMetaData
 - (c) Difference between Session and Entity Bean
 - (d) JSP Actions
 - (e) Steps to Create Stateless Session Beans
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[3677]-404

M. C. M. (Semester - IV) Examination - 2009

CYBER LAW

(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) What are the different techniques for protecting E-commerce System ? [10]

Q.2) (A) What is Asymmetric Cryptography ? [08]

(B) What is Hash Function ? Explain role of Hash Function in detail. [07]

Q.3) (A) Explain in detail RSA Algorithm. [08]

(B) Discuss scope of the Information Technology Act, 2000. [07]

Q.4) (A) What is Unauthorised Computer Access under IT Act, 2000 ? [08]

(B) What are common network attacks and their defenses ? [07]

Q.5) (A) What are Access Control Lists ? [08]

(B) Define and explain Hacking. What is the punishment for the offence of hacking ? [07]

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

[15]

- (a) PKI
 - (b) New Biometric Techniques
 - (c) Multilateral Security
 - (d) Client Server Concurrency
-

Total No. of Questions : 8]

[Total No. of Printed Pages : 1

[3677]-405

M. C. M. (Semester - IV) Examination - 2009

SOFTWARE QUALITY ASSURANCE

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- | | |
|--|------|
| Q.1) Explain Software Quality and its importance. | [10] |
| Q.2) Explain J. M. Juran's Contribution to Quality. | [10] |
| Q.3) Explain 'V' Model of SDLC. | [10] |
| Q.4) Explain Integration Testing in detail. | [10] |
| Q.5) What are 'Quality Standards' ? Why they are required ? Also explain Malcom Bridge Quality Awards. | [10] |
| Q.6) Explain various Process Groups. | [10] |
| Q.7) Explain and compare Product Quality and Process Quality. | [10] |
| Q.8) Write short notes : (Any Two) | [10] |
| (a) Fish-bone Analysis | |
| (b) Risk Exposure | |
| (c) User Acceptance Testing | |
| (d) Version Control | |

[3677]-405/1

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[3677]-406

M. C. M. (Semester - IV) Examination - 2009

ADVANCED BUSINESS APPLICATIONS

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 must be answered.*
- (2) Attempt any 5 from the remaining.*
- (3) State your assumptions clearly.*
- (4) Draw neat diagrams. Neat diagrams carry marks.*

Q.1) (A) An Accountholder (Savings Account) submits withdrawal slip at Cash Counter in a Bank. Counter Clerk verifies all details entered in the slip, including signature. (Using Computer Database)

Explain process of verification and also explain how the transaction updates various accounts on-line. Draw suitable block diagram, if necessary. **[15]**

(B) What is IPR ? **[05]**

Q.2) What is ERP ? Explain role of Re-engineering in ERP. **[10]**

Q.3) Explain different types of Securities. **[10]**

Q.4) There are number of areas where Information Technology plays significant role. In hospitals the technology can also be used effectively. As a hospital manager how would you promote use of IT ? **[10]**

Q.5) What is Dataware Housing ? Explain Dataware House Architecture with the help of a diagram. **[10]**

Q.6) Explain CRM Process in detail. **[10]**

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

(a) Inventory of Medicines and Consumables in Hospital

(b) Workflow Management

(c) Cyber Law

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[3677]-407

M. C. M. (Semester - IV) Examination - 2009

COMPUTER AIDED SYSTEM ENGINEERING TOOLS (CASE TOOLS)

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) *Question No. 1 is compulsory.*

(2) *Attempt any five questions from the remaining.*

-
-
- Q.1)** (A) What is CASE Environment ? What is the role of CASE TOOLS in automated diagramming tools ? [12]
(B) Explain CASE TOOL Evolution Process. [08]
- Q.2)** What is meant by Reverse Engineering and Re-engineering. [10]
- Q.3)** Define Integrated Tools. Where these types of tools are used ? Explain how these tools are used ? [10]
- Q.4)** What are the strategies required for CASE Adoption ? [10]
- Q.5)** How CASE Tool improves Quality of Software ? [10]
- Q.6)** Draw USE Case and Sequence diagram for the following : [10]
(a) User Login Creation Process
(b) Online Examination of CCNA
- Q.7)** Write short notes : (Any Two) [10]
(a) UML
(b) Project Support Tools
(c) Rational Rose

[3677]-407/1

Total No. of Questions : 8]

[Total No. of Printed Pages : 1

[3677]-408

M. C. M. (Semester - IV) Examination - 2009

BUSINESS PROCESS OUTSOURCING (BPO)

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

(1) Answer any seven questions.

(2) All questions carry equal marks.

Q.1) What is BPO ? List opportunities in BPO.

Q.2) Why is India chosen as the major hub for BPO Sector ? Explain.

Q.3) Training in BPO Industry is one of the key areas of concentration. Comment.

Q.4) What are Non-disclosure and Service Level Agreements in BPO ?

Q.5) Explain Outsourcing. Explain its advantages and disadvantages.

Q.6) What are the opportunities in various sectors for BPO Service Providers ?

Q.7) Explain genesis and importance of BPO.

Q.8) Short notes : **(Any Two)**

(a) Problems faced by Indians working in BPO.

(b) Skill Set required by employees in BPO.

(c) Models in BPO

[3677]-408/1

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[3677]-5

M. C. M. (Semester - I) Examination - 2009

BUSINESS COMMUNICATION

(2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (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) Define Business Communication. Explain any four principles of Communication. **[15]**

Q.2) What is the difference between Hearing and Listening Process ? How effective listening skills can be developed ? **[10]**

Q.3) Write brief notes on the following Meeting Documents : **[10]**

- (a) Notice
- (b) Agenda
- (c) Minutes

Q.4) As a Computer professional how will you promote use of electronic communication to make paperless communication ? **[10]**

Q.5) Draft a covering letter in response to the following job invitation : **[10]**

‘Java Programmer’ in Softech Co. Ltd., 1921, Sadashiv Peth, Pune 411 030. Assume your name to be Dominic Mendonca.

Q.6) What are the qualities of a good Public Speaker ? **[10]**

[3677]-5

1

P.T.O.

Q.7) What is the importance of an Application Letter ? Discuss qualities of a well written application letter. **[10]**

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

- (a) Kinesics
 - (b) Group Discussion
 - (c) Reading Skills
 - (d) Tele Meeting
 - (e) E-learning
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 2

[3677]-51

M. C. M. (Semester - III) Examination - 2009

ELEMENTS OF INFORMATION TECHNOLOGY

(2002 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions :

- (1) Solve any four questions from the following.*
- (2) Figures to the right indicate full marks.*
- (3) Draw appropriate diagrams wherever necessary.*

-
-
- Q.1)** (A) What is an Operating System ? Explain Process Management Function of Operating System in detail. [10]
- (B) Explain Hardware and Software Components of LAN. [10]
- Q.2)** (A) Discuss the terms - BUS and Interrupt. [10]
- (B) What is Primary Memory ? Explain it with example. Also explain Extended Memory in detail. [10]
- Q.3)** (A) Discuss Binary Arithmetic with examples. [10]
- (B) Draw neat diagram of Basic Building Blocks of Computer and explain each block. [10]
- Q.4)** (A) Explain Concept of Communication with the help of Serial, Parallel, Simplex, Half Duplex and Full Duplex. [10]
- (B) Discuss various Topologies used in Networking. [10]

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

[20]

- (a) Computer Virus
 - (b) Types of Operating Systems
 - (c) Device Drivers
 - (d) Registers
 - (e) Bar Code Scanner and Joy Stick
-