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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4177]-101

M. C. M. (Semester - I) Examination - 2012

‘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) Find and explain output of the following programs. Assume suitable header files :

[12]

- (a) `void main() {`
 `int a = 5, b, c;`
 `b = a = 15;`
 `c = a < 15;`
 `printf("a = %d, b = %d, c = %d\n", a, b, c);`
 `}`
- (b) `void main() {`
 `int x = 130, z = x ++ + 100;`
 `printf("%d\n %d", x, z);`
 `}`

```

(c) void main( ) {
    void ser();

    int i;

    for (i = 0; i < 10; i++) ser();
}

void ser( )
{
    static int n = 7;

    printf("\t %d", n);

    n = n + 7;
}

(d) void main( ) {
    char suit = 3;
    switch (suit)
    {
        case 1 : printf("Diamond\n");
        case 2 : printf("Spade\n");
        default : printf("Heart\n");
    }
    printf("I thought one wears a suit\n");
}

```

(B) Explain the following : **(Any Two)**

[08]

- (a) String Functions
- (b) Dynamic Memory Allocation
- (c) Structures and Unions

Q.2) Write a 'C' program to display the following pattern using nested loops : **[10]**

```
A   B   C   D   E   F
    B   C   D   E   F   G
      C   D   E   F   G   H
        D   E   F   G   H   I
```

Q.3) Write a 'C' program to accept a string and display on the screen the number of vowels, characters, digit symbols and spaces from the string. **[10]**

Q.4) Write a recursive function which accepts two integer numbers as parameters and returns multiplication of these numbers. Without using multiplication operator. **[10]**

Q.5) Write a 'C' program to copy the contents of one file to another. Accept file names from the user through keyboard. **[10]**

Q.6) Write a 'C' program which accepts 10 numbers in an array and one additional number from the user. The program should then find the total number of numbers less than the number, number of numbers equal to the number and number of numbers greater than the number, and display the information. **[10]**

Q.7) Write a 'C' program to accept bill no, customer code, name and amount of 100 bills into a structure and print the details of the customer with bill of maximum amount. **[10]**

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-102

M. C. M. (Semester - I) Examination - 2012

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 7 is compulsory.
- (2) Attempt **any five** from the remaining.
- (3) Figures to the right indicate full marks.

Q.1) Define Network and explain its types with advantages and disadvantages. [10]

Q.2) Solve : [10]

- (a) $(120)_{10} = (?)_2$
- (b) $(110110)_2 = (?)_{10}$
- (c) $(CBA)_{16} = ()_{10}$
- (d) $(78)_{10} = ()_8$
- (e) $(56)_8 = ()_{10}$

Q.3) Explain any two Input Devices. [10]

Q.4) Explain OSI Layers in detail. [10]

Q.5) Explain Time Sharing with diagram. [10]

Q.6) Explain different types of Computer Languages. [10]

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

[20]

- (a) Multiprogramming Techniques
 - (b) Virtual Memory and Cache Memory
 - (c) ASCII Code and BCD Code
 - (d) Printers
 - (e) Compiler and Interpreter
 - (f) Client Server Network
-

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Total No. of Questions : 6]

[Total No. of Printed Pages : 3

[4177]-103

M. C. M. (Semester - I) Examination - 2012

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 to 5.*
- (3) *Write assumptions. (if required)*

Q.1) A Famous Biscuit Company wants to develop the software for their wholesaler. Main focus of the company is to track the order and inventory monitoring of/at wholesaler. To develop the software following system specification are given to System Analyst :

- (1) On every updates, price list is given to wholesaler and wholesaler to retailer respectively.
- (2) Wholesaler gives orders, collected by retailer to Company's Sales Department.
- (3) The above orders are given to Store Department and on the basis of these orders, delivery is given to wholesalers.
- (4) Company allow, wholesalers to maintain some stock to manage small orders. As when required, material request is given to company irrespective of orders from retailer.
- (5) Individual wholesaler makes collective payments against orders to company accounts.

As System Analyst, design the following :

- (a) Draw 1st Level DFD. **[10]**
- (b) Design two suitable entry screen. **[10]**
- (c) Prepare Menu Design for proposed Software. **[05]**

Q.2) Considering Gas Booking for refilling and delivery problems at the different agencies, company wants to develop and implement following innovative steps in proposed system :

- (1) Customer have to register their mobile number with agency.
- (2) Customer can book the cylinder for refilling from their registered mobile.
- (3) While booking, customer have to dial a specific number for booking and agency phone number in a sequence.
- (4) After doing above step no. 3, customer get updates about delivery date and time.
- (5) One day before the delivery, customer get precise schedule about delivery on customer's mobile.
- (6) Next Day of delivery, customer get receipt details against payment done by the customer during delivery of cylinder. These details are also available on customer's mobile.

Draw use case diagram for the above.

[10]

Q.3) For horse racing 2012, following data is to be maintained logically :

- (1) A owner can have many horses.
- (2) Sturd Farm maintains data of all horses and their previous performances.
- (3) Monthly Health Record of horses is maintained by the Sturd Farm.
- (4) Jockey details and their bidding information is also maintained.
- (5) All above data is of many horse owners.

Draw Entity Relationship Diagram and Design suitable tables for the same.

[10]

Q.4) Explain Decision Table and Decision Tree, with suitable example of Decision Table.

[10]

Q.5) Explain different users involved in Software Development Life Cycle and also explain their roles in detail.

[10]

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

[5x3=15]

- (a) Waterfall Model
 - (b) State Transition Diagram.
 - (c) Types of Entities in E-R Diagram
 - (d) Qualities of Good Software
 - (e) Types of a Keys in E-R Diagram
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4177]-104

M. C. M. (Semester - I) Examination - 2012

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

-
-
- Q.1)** (A) Discuss the Evolution of Management Thought with reference to Scientific Management and Modern Management Theories. **[15]**
- (B) Define Motivation. Describe the role of Maslow's Theory for Employee Needs. **[10]**
- Q.2)** Effective Decisions are pre-requisite for future success. Comment. What are the factors responsible for Decision-making ? Explain various types of Decision. **[15]**
- Q.3)** Leader decides the future of organisation - comment by enumerating the essential qualities of Leader and Styles of Leadership. **[15]**
- Q.4)** What are the Ego States ? Elaborate the role of Transactional Analysis in resolving conflict. **[15]**
- Q.5)** Classify different Structures of Organisation with examples. **[15]**

Q.6) Short notes : (Any Three)

[15]

- (a) Group Dynamics
 - (b) Decentralization
 - (c) Delegation of Authority
 - (d) Controlling Techniques
 - (e) Managerial Skills
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-105

M. C. M. (Semester - I) Examination - 2012

WEB PROGRAMMING AND E-COMMERCE

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 7 are compulsory.*
- (2) Attempt **any four** from the remaining.*
- (3) Figure to the right indicate full marks.*
- (4) Draw neat diagrams wherever necessary.*

Q.1) Explain E-commerce Framework. Also explain types of E-commerce. **[10]**

Q.2) Explain various ways of On-line Marketing. Also tell its advantages and disadvantages. **[10]**

Q.3) Explain various Protocols involved in each Layer of Internet Protocol Suite. **[10]**

Q.4) Explain the steps to develop an E-commerce Website. **[10]**

Q.5) What are Software Agents ? Explain their characteristics. **[10]**

Q.6) What are Firewalls ? Explain their types. **[10]**

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

[20]

- (a) Credit Cards
 - (b) Internet
 - (c) Deep Linking
 - (d) Cryptography
 - (e) EDI
-

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Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4177]-201

M. C. M. (Semester - II) Examination - 2012

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) Write ANSI 'C' Code for a function for evaluating a postfix form consisting of single digit integer operands. **[08]**

OR

(A) Evaluate the following postfix form

AB + CDE / + *

where A = 9, B = 5, C = 6, D = 8, E = 2.

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

(B) Write ANSI 'C' function for finding the total number of nodes having (a) Zero Values, (b) Positive Values, (c) Negative Values in a Linear Doubly Linked List of Integers. **[07]**

Q.2) (A) Consider a message :

Queues

Draw Huffman Tree for the message. What kind of Tree is Huffman Tree ? **[06]**

(B) Write ANSI 'C' Codes for **any three** of the following : [09]

- (a) A function for the count total number of nodes in a Binary Search Tree.
- (b) A function for the right rotation of a Binary Search Tree.
- (c) A function for the Inorder Traversal of a Binary Search Tree of Integers.
- (d) A function for the Preorder Traversal of a Binary Search Tree of Integers.

Q.3) Write ANSI 'C' Codes for **any three** of the following : [15]

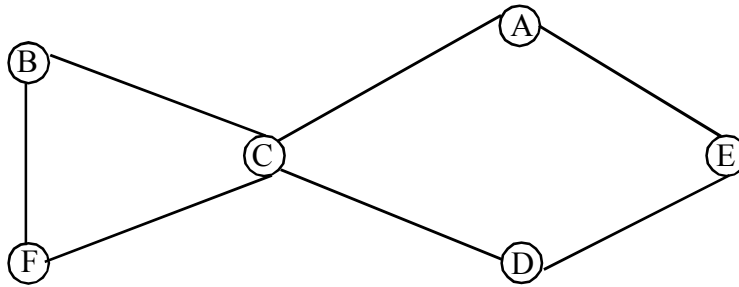
- (a) A function for reversing a Linear Single Linked List.
- (b) A function for finding the Sum of data stored in a Linear Linked List of Integers.
- (c) A function for BINARY SEARCH when the array of Integer Values is sorted in ascending order.
- (d) A function for deleting a node from a Circular Queue of characters when this Circular Queue is implemented as a Linked List.

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

- (a) Consider declaration :
`int num[20][20];`
compute row major and column major address of an element `num[10][10]`, when base address of array is 200 and each elements occupies 2 bytes in memory.
- (b) Construct an AVL Tree for the following tokens :
P, F, C, D, B, Q
- (c) Sort the following sequence of numbers using Quick Sort.
Show all the steps in sorting.
7, 6, 1, 8, 12, 3, 2, 5, 28
- (d) Define the following terms :
 - (i) Hashing
 - (ii) Tree
 - (iii) Queue
 - (iv) Graph
 - (v) Stack

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 Representation.
- (d) Its Adjacency List Representation.

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-202

M. C. M. (Semester - II) Examination - 2012

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) Study the following document and normalize the data upto 3NF : [12]

Student Examination Form		Year : November, 2011
Registration No	: _____	Date of Submission : _____
Name of Institute	: _____	
Address	: _____	
Name of Student	: _____	
Address of Student	: _____	
Sex	: M/F _____	
Name of the Course	: _____	
Semester	: _____	
Subject Codes	: _____	
1		Subject Name : _____
2		
Appearing for	: Internal \ External \ Both	
Subject Fees	: _____	Total Fee Paid : _____
Signature of Principal		Institute Stamp

Note : Assume that there are 5 subjects per course and students appear for all the subjects.

- (B) Explain the following terms with proper examples : [08]
- (1) Discriminator
 - (2) Relationship Set
 - (3) Entity Set
 - (4) Multivalued Attribute
- Q.2)** Explain any six Basic Operations in Relational Algebra with example. [10]
- Q.3)** Compare NDM and HDM. Give an example of each. [10]
- Q.4)** Explain the following terms with proper example : [10]
- (1) Primary Key
 - (2) Candidate Key
 - (3) Super Key
 - (4) Secondary Key
 - (5) Alternate Key
- Q.5)** Explain Time Stamp based Ordering Protocol in detail. [10]
- Q.6)** (A) Explain Log based Recovery. [05]
(B) What is Check Point ? Explain its concept. [05]
- Q.7)** Write short notes : (Any Two) [5x2=10]
- (a) Functions of DBA
 - (b) CODD's Rule (any five)
 - (c) Data Mining
 - (d) DML Commands

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Total No. of Questions : 6]

[Total No. of Printed Pages : 3

[4177]-203

M. C. M. (Semester - II) Examination - 2012

ORACLE

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 6 are compulsory.*
- (2) Attempt **any three** from the remaining.*
- (3) Figure to the right indicate full marks.*
- (4) Write your assumptions.*
- (5) Draw neat diagrams wherever necessary.*

Q.1) Consider the following tables to solve **any 10** SQL queries given below :

[20]

Account (Acno, Ac_holdername, address, city, DOB, ac_type, opening_date, cheque_book_issued (Y/N), ac_status (active/closed), ac_balance (>500), Branch_id)

Ac_Transaction (Trans_id, Trans_date, Acno, Trans_type (withdrawal/deposit), amt)

Branch (Branch_id, branch_name, branch_addr)

- (1) Create 'Account' table with constraints.
- (2) List total number of Savings Accounts.
- (3) List account-holder's details whose name starts with 'A'.
- (4) Display account details whose opening date is before '11-11-11'.
- (5) List account-holder's details who does not have cheque book.

- (6) List account-holder's details who belongs to either 'Pune' or 'Nagar.'
- (7) Display total amount withdrawn on '1-Dec-09'.
- (8) Add 'E-mail' column in 'Account' Table.
- (9) List account-holder's details whose account was opened in 'November'.
- (10) Display account-holder's details with branch name.
- (11) Display the list of account-holders whose branch is 'ANagar_Main_Branch'.

Q.2) Explain Oracle Architecture in detail. **[10]**

Q.3) Solve the following : **[10]**

- (a) Write a PL/SQL program to accept a string and print its length.
- (b) Write a cursor for displaying top 3 salaried employees of dept 5.

Q.4) Solve the following : **[10]**

- (a) Write a PL/SQL program to accept two numbers and print the numbers between those two numbers.
- (b) Write a trigger will not allow user to delete the records 'EMP' table after 5 pm.

Table : **EMP** (Eno, Ename, Dno)

Q.5) Write a **Package Body** and **Package Specification** which will have following function and procedure : **[10]**

- (a) Function **Emp_insert**

It will accept Emp details (Emp_no, Emp_name, Dept_no) and insert the record in EMP table.

- (b) Procedure **P_Upper**

It will accept a string and print that string in uppercase.

Also write how you will call this function and procedure in a PL/SQL Program ?

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

[20]

- (a) Data Types in Oracle
 - (b) Numeric Functions
 - (c) Set Operators
 - (d) Exceptions
 - (e) PL/SQL Features
-

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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4177]-204

M. C. M. (Semester - II) Examination - 2012

BASIC JAVA

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 7 are compulsory.*
- (2) Solve **any three** from Q. 2 to 6.*
- (3) Figures to the right indicate full marks.*

**Q.1) Predict the outputs for the following and give an explanation :
(Any Three)**

[15]

(a) class class 1

```
{  
    public static void main (string arg[])  
    {  
        for (string s : arg)  
            system.out.print/n.(s); }}
```

class class 2

```
{  
    public static void main (string arg [])  
{ string names [] = {"Hari", 'Kamal', 'Vijay', "Neeta" };  
    class1.main (names); }}
```

- (b)

```
public class counter {  
    int count;  
    public static void main(string arg [])  
    {  
        for (int i = 0; i < 5; i++)  
            new counter (i);  
        public counter (int c)  
        {  
            system.out.print(c + " ");  
        }  
    }  
}
```
- (c) How many string objects are created from the following code :

```
string S1, S2, S3;  
S1 = '1234';  
S2 = S1;  
S3 = S1 + S2;
```
- (d)

```
class base { int x = 10; }  
class derived extends base { int x = 20; }  
base b = new base();  
derived d = new derived();  
base bd = new derived();  
system.out.print/n(b.x + " " + d.x);
```

Q.2) Create a billing form, where the flavours of ice-creams are displayed. On the selection of a flavour and the quantity entered, the total amount is calculated and displayed. **[15]**

Q.3) Create a Superclass Person. Make two subclasses student and instructor. A person has attributes name and year of birth. A student has attributes major and instructor has attribute salary. Write class definition, constructors and methods to string for all classes. **[15]**

- Q.4)** Write an application that will create the following threads : **[15]**
- (a) To display the following sequence (1, 4, 9, 16, 25....).
 - (b) The series a, c, e, g, z.
- Q.5)** Write an application to accept the age of a person through command line. If the age is less than 18, throw a user defined exception 'Minor Exception'. **[15]**
- Q.6)** Write an application to accept two file names. Copy the contents of the first file to the second. Perform necessary validations. **[15]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Abstract Class
 - (b) Thread Life Cycle
 - (c) Adapter Classes
-

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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4177]-205

M. C. M. (Semester - II) Examination - 2012

CORE RUBY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

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

[15]

- (a) `$_="quick brown fax"`
`gsuls/[aeiou]/, '*'`
`print $_`
- (b) $h_1 = \{\text{"a"} \Rightarrow 1, \text{"c"} \Rightarrow 2\}$
 $h_2 = \{7 \Rightarrow 35, \text{"c"} \Rightarrow 2, \Rightarrow \text{"a"} \Rightarrow 1\}$
 $h_3 = \{\text{"a"} \Rightarrow 1, \text{"c"} \Rightarrow 2, 7 \Rightarrow 35\}$
 $h_4 = \{\text{"a"} \Rightarrow 1,, \text{"d"} \Rightarrow 2, \text{"f"} \Rightarrow 35\}$
`puts h1 = = h2`
`puts h2 = = h3`
`puts h3 = = h4`

- (c) `a = 1`
`puts a * = 2 while a < 100`
`puts a - = 2 until a < 100`
`a`
- (d) `print "Hello\n" while false`
`begin`
`print "Goodbye\n"`
`end while false`
- (e) `x = nil`
`y = nil`
`[1, 2, 3].each do|x|`
`y = x + 1`
`end`
`puts [x, y]`
- (f) `puts [1, 3, 5, 7].inject {|s,element| sum + element}`
`puts [1, 3, 5, 7].inject {|sum, element | sum * element}`
- (g) `def fib_cal(max)`
`a, b = 1, 1`
`while a < = max`
`yield a`
`a, b = b, a + b`
`end`
`end`
`fib_cal (10) {1+1 printf, ""}`
`puts`

- Q.2)** Write a Ruby Program to find the size of file, words, characters without space. **[10]**
- Q.3)** A cashier has currency notes of denomination 10, 50 and 100. If the amount to be withdraw is input through the keyboard in hundred. Find the total number of currency notes each denomination the cashier will have to give to the withdrawer. Write a Ruby Program by using class. **[10]**
- Q.4)** If the three sides of the triangle are entered through the keyboard, write a program to check whether the triangle is isosceles, equilateral, scalene or right angled triangle. **[10]**
- Q.5)** Write a Ruby Program to calculate interest, use class interest with two methods `simple_int` and `compound_int` accept `account_no`, `account_bal`, `cust_name`, `rate_of_int` and `time`. Display Simple and Compound Interest. **[10]**
- Q.6)** Write a Ruby Program to create a file `xyz` and write the content of ABC file into `xyz` file while writing, the word 'a', 'the', 'an' is replaced by blank space. **[10]**
- Q.7)** Write in short : **(Any Three)** **[15]**
- (a) Explain `attr_methods` with suitable example.
 - (b) Explain collection objects (array, hash, ranges).
 - (c) Explain regular expression with suitable example.
 - (d) Exception Handling with example.
 - (e) Garbage Collection
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-206

M. C. M. (Semester - II) Examination - 2012

OBJECT ORIENTED DESIGNING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 is compulsory.*
- (2) Answer **any five** from the remaining.*
- (3) Mention assumptions, if necessary.*

Q.1) (A) Draw a use case diagram and class diagram for On-line Admission System for a Post-graduate Management Institute.

- At the beginning of academic year, institute displays course details, admission schedule and detailed admission procedure for the academic year. Candidate also gets a link to download an application form of the institute. Candidate can submit application form either by post or on-line.
- After scrutinizing application forms with selection criteria short-listed candidate list is displayed on institute's website alongwith GD and PI Schedule, venue details. An E-mail is also sent to the short-listed candidates.
- Panel of Experts in the institute conducts GD and PI. Results of GD and PI are then displayed on institute's website alongwith schedule for fees payment. Student can pay fees amount either using on-line payment option or by cash.
- After fees payment, student gets user-id and password for getting regular updates in the institute. Student can change password periodically.

[4177]-206

1

P.T.O.

- As per the requirements of various institute controlling authorities such as AICTE, University, student details are uploaded on respective portals. [15]
 - (B) Explain Aggregation and Association with suitable example. [05]
 - Q.2)** What is Inheritance ? Explain various types of Inheritance with example. [10]
 - Q.3)** (A) Draw a Sequence Diagram for On-line Ticket Booking System. [05]
(B) Compare between SSAD and OOAD. [05]
 - Q.4)** Explain various phases of RUP in detail. [10]
 - Q.5)** Draw a State Transition Diagram for Chess Game. [10]
 - Q.6)** Draw an Activity Diagram for On-line Matrimonial Portal. [10]
 - Q.7)** Write short notes : **(Any Two)** [10]
 - (a) CRC
 - (b) Design Pattern
 - (c) OOSE
 - (d) Object Persistence
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4177]-301

M. C. M. (Semester - III) Examination - 2012

LINUX PROGRAMMING

(New 2008 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 PHP program which take E-mail/ID from Student Table having fields rollno, name, e-mail/id, class of database college and send E-mail to student with message 'BEST OF LUCK'. **[10]**

(B) Explain Server Side includes in Apache. **[10]**

Q.2) Write MYSQL Commands for the following : (Any Five) [10]

(a) To create Database PROJECT of type InnoDB.

(b) To create table EMPLOYEE with proper constraints.

(c) To display all employees born before 1982.

(d) Create User Manager having permissions to access PROJECT Database.

(e) Take backup of Database PROJECT.

(f) To remove column salary from EMPLOYEE Table.

Q.3) Explain the following Linux Commands with example : **[5x2=10]**

- (a) grep
- (b) less
- (c) top
- (d) init
- (e) rpm
- (f) cpio

Q.4) Explain PHP and HTTP Environment Variables and state use of these Variables in PHP Programs. **[10]**

Q.5) Explain MYSQL Administration Commands with example. **[10]**

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

- (a) Authentication in Apache
 - (b) Processes and Daemons
 - (c) Arrays in PHP
 - (d) Data Types in MYSQL
 - (e) Constructor in PHP
 - (f) Runlevels in Linux
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4177]-302

M. C. M. (Semester - III) Examination - 2012

BUSINESS APPLICATIONS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** Draw First Level Data Flow Diagram and Normalized File Layouts for Payroll System. **[20]**
- Q.2)** What is BOM ? Describe BOM Processing with Product Configuration. **[10]**
- Q.3)** Design Data Entry Screen for Purchase Order with required Validations. **[10]**
- Q.4)** What is Ratio Analysis ? Describe how the Financial Ratio Analysis supports Management to make Decisions ? **[10]**
- Q.5)** How Invoice and Delivery Challan differ from each other ? **[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) Sales Analysis
 - (b) EOQ
 - (c) Account Receivable
 - (d) Layout of Employee Master Table

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-303

M. C. M. (Semester - III) Examination - 2012

ADVANCED JAVA

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) Solve the following : [10]

- (a) Write Life Cycle Methods of Servlet.
- (b) What is RequestDispatcher ?
- (c) Interfaces used in JDBC.
- (d) What is ResultSetMetadata ? List any two methods.
- (e) Write code to call a stored procedure using JDBC.

Q.2) Write Servlet Code for accepting two numbers from user and display addition, multiplication and division of the numbers. If error occurs, then call JSP Error Page to display appropriate error message. [15]

Q.3) Write a JDBC application to insert, update and delete record from Company Shareholder's Table. Given the structure : SHAREHOLDER : holder_id, Hname, Address, NoOfShares, ShareSrFrom (Share Serial from Number), ShareSrTo (Share Serial upto Number), facevalue, cost. [15]

Q.4) Create a bean to calculate factorial of a given number. Use bean in JSP program. Accept number from the user and display factorial of that number. [15]

Q.5) Write a Client - Server Socket Program to accept a string from the Client. The server will check whether the string is a palindrome or not and send response. **[15]**

Q.6) Design a HTML Page to accept student details and store student details into the database using Servlets. (Assume suitable table name and fields) **[15]**

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

- (a) JNDI
 - (b) Struts
 - (c) RMI Architecture
 - (d) JSTL
-

Seat No.	
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Total No. of Questions : 2]

[Total No. of Printed Pages : 2

[4177]-304

M. C. M. (Semester - III) Examination - 2012

ADVANCED RUBY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Q.1) Write short notes : (Any Five) [30]

- (a) Explain Model-View-Control Architecture.
- (b) Explain Rendering with suitable example.
- (c) Explain Exception handling with suitable example.
- (d) Explain Thread with suitable example.
- (e) Explain Layouts in detail.

Q.2) Solve the following : (Any Five) [40]

- (a) Write a Soap Server and Soap Client such that server defines a method that accepts a year as a parameter and returns whether its leap year or not. Client invokes this method and prints.
- (b) Using Ruby UDP Socket write a client that passes string 'Happy' to the server and server responds by appending 'Holi' and sending 'Happy Holi' string with current date and time.
- (c) Create a TK Window that has 2 radio button 'Vegetarian' and 'Non-vegetarian' a label and button 'Select' and one more label 'Name' with text-box when user enter his name and select radio button. Message is displayed as Mr.<<name>> is Vegetarian or Non-vegetarian.
- (d) Write migration for creating table employee having empno, name, address and phonno fields.
- (e) Write a Toolkit program that create Railway Reservation API.
(Make suitable assumption)

- (f) Write a program in Rail to Create three web pages. Home Page, About us and Photo-gallery. Home Page has two links one for about us and other for photogallery. User can easily navigate between these three pages.
-

Seat No.	
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Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[4177]-305

M. C. M. (Semester - III) Examination - 2012

VB.NET

(New 2008 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)** (A) Explain .NET as a better programming platform. **[05]**
(B) What is Microsoft .NET ? Explain .NET Framework Architecture in detail. **[10]**

- Q.2)** What do you mean by Inheritance ? What are its uses ? Explain with an example. **[10]**

- Q.3)** Explain the terms Events and Delegates. Explain Delegate in detail using suitable example. **[10]**

- Q.4)** Define a class 'Account' include following Member : **[10]**

Data Member :

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

Member Functions :

- (1) To assign initial values
- (2) to deposit an amount
- (3) To withdraw an amount after checking balance
- (4) To show balance

Also provide proper validations wherever necessary. Write main program to test the above class.

Q.5) 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.6) Design a form and write sectional code to :

- (a) Open text file and display its contents in text box using stream reader class when open button is clicked.
- (b) Save the contents of the text box to the text file using stream writer class when save button is clicked.

(Note : Use built-in-dialogs to accept file names) **[10]**

Q.7) Design a form and write code to display list of items from Item Table (ItemNo (PK), ItemName, UOM, Rate) in a combo box. On selection of an item, a price of item is displayed on label. Accept quantity to be ordered from user in a text box. Display the cost of order and add a record in a order table (OrderNo [PK], OrderDate, ItemNo, Qty Purchased, Amount).

(Make your assumptions wherever necessary.) **[10]**

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

- (a) Member Shadowing
- (b) DataGridView Control
- (c) ListView and TreeView Control
- (d) Collection Object

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4177]-306

M. C. M. (Semester - III) Examination - 2012

SOFTWARE PROJECT MANAGEMENT AND IT MANAGEMENT

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

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

Q.1) Explain different Stake-holders of Project Management with their role. **[15]**

Q.2) Explain various factors considered while setting a Computer Centre. **[10]**

Q.3) Explain Risk Management Process in detail. **[10]**

Q.4) Explain in detail procedure followed to acquire ISO Certificate. **[10]**

Q.5) Explain and compare Lines of Code and Function Point Analysis. **[10]**

Q.6) Explain procedure followed and care taken while terminating a person in IT Organisation. **[10]**

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

(a) Gantt Chart

(b) FTR

(c) Delphi Technique

(d) Version Control

[4177]-306/1

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4177]-31

M. C. M. (Semester - III) Examination - 2012

OBJECT ORIENTED CONCEPTS AND BASIC 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 :

[14]

(a) Which of the following declaration will compile without errors ?

(Choose Two)

- (i) `public abstract class Digit {public asbstract void print();}`
- (ii) `public class Digit {public abstract void print();}`
- (iii) `public abstract class Digit {public abstract void print(){} }`
- (iv) `public abstract class Digit {public void print();}`
- (v) `public class Digit {public void print(){};}`

(b) What are the legal modifiers which the constructor can be declared with ?

- (i) `public`
- (ii) `protected`
- (iii) `private`
- (iv) `final`
- (v) `static`
- (vi) `abstract`

- (c) Which of the following are true ?
- (i) Constructors can be declared as abstract
 - (ii) Final class can be sub classed
 - (iii) Constructor does not have return type
 - (iv) Constructors can be overloaded
- (d) Select the common methods, which are defined for both String Class and StringBuffer Class :
- (i) reverse()
 - (ii) length()
 - (iii) append(String)
 - (iv) trim()
 - (v) equals(Object)

Q.2) Design 4 overloaded forms of method to find absolute value.

Method Signatures are –

int absolute(int), long absolute(long), double absolute(double), float absolute(float) [14]

Q.3) Write an awt application which will have a button with caption 'OK'. When user will try to click on the button the button should change caption to 'KO'. [14]

Q.4) Write a threaded applet which will display circle with different colours. Colour will change after 1 second. Accept radius of the circle as parameter. [14]

Q.5) Write an application which will accept 2 file names from command line. Then append the contents of file 1 to other file. Do necessary validations ? [14]

Q.6) Write an application for Item Class with instance variables itemno, name, stock. Instance methods issue(no_of_items), receipt (no_of_items). If stock is less than 100 then throw user defined exception 'insufficient stock'. [14]

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

[14]

- (a) Object Oriented Concepts
 - (b) Access Modifiers
 - (c) Use of Static and Final Keywords
 - (d) Difference between Overloading and Overriding
-

Seat No.	
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Total No. of Questions : 10]

[Total No. of Printed Pages : 2

[4177]-32

M. C. M. (Semester - III) Examination - 2012

INTERNET TECHNOLOGY

(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 E-commerce ? Explain benefits of E-commerce.

Q.2) Explain methods, properties of Array, Date and String Object of JavaScript.

Q.3) What is DHTML ? Write code to change background colour after every 1 minute. Stop it when stop button is clicked.

Q.4) Write code to add a new record to emp table (ASP).

Q.5) What is Cookies Collection ? What are different types of Cookies ? How you can create, read and destroy a Cookie ? Explain with examples.

Q.6) Explain various methods, collections and properties of Request and Response Object.

Q.7) Explain Table Tag and its attributes.

Q.8) Accept Dept Code from dropdown list. Display all employees of that department when display button is clicked in table format,

Database : Payroll.mdb

Table : emp(empno, name, salary, deptcode)

Q.9) Explain **any two** with examples :

- (a) XSLT
- (b) CSS
- (c) XML Parsers Viz SAX and DOM

Q.10) Write XML and Internal DTD to save Emp Information :

Emp : Emp (empno, name, salary, date of birth)

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-33

M. C. M. (Semester - III) Examination - 2012

NETWORK TECHNOLOGY

(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) Draw neat diagram wherever necessary.*

-
-
- Q.1)** (A) Explain Stepwise Installation of Linux from CD. [10]
(B) Explain various server roles in Windows Server 2003. [10]
- Q.2)** What is Firewall ? Explain Procedure to Configure Firewall in Linux. [10]
- Q.3)** Explain features of IIS in Windows 2003. State Procedure for Implementing Web Services using IIS. [10]
- Q.4)** Explain .NET Framework and Common Language Runtime. [10]
- Q.5)** Explain Network Management in Linux using suitable commands. [10]
- Q.6)** Explain Default Directories in Linux with their purpose. [10]

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

[4x5=20]

- (a) Topologies
 - (b) IP4 Vs IP6
 - (c) Active Directory
 - (d) Wi-Fi Network
 - (e) Connectivity Components
 - (f) Microsoft Software Update Service
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4177]-34

M. C. M. (Semester - III) Examination - 2012

INFORMATION SYSTEM AUDIT (ISA)

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** Write short notes : **(Any Four)** **[20]**
- (a) Code of Ethics
 - (b) IT Crimes
 - (c) Software Testing
 - (d) Audit Trail
 - (e) Evidence Collection Technique
- Q.2)** What is the need of IS Audit ? State its objectives. **[10]**
- Q.3)** Describe how the IS Auditor can help to improve Software Quality by participating in Software Development Stages ? **[10]**
- Q.4)** What are the Indices used to evaluate the System Performance ? **[10]**
- Q.5)** State some important controls in Designing and Distribution of Reports. **[10]**
- Q.6)** State importance of Risk Management alongwith its various steps. **[10]**
- Q.7)** What is Concurrent Auditing Technique ? Explain with examples. **[10]**
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4177]-35

M. C. M. (Semester - III) Examination - 2012
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) Solve **any three** out of the remaining.
- (3) Figures to the right indicate full marks.

-
-
- Q.1)** (A) Explain the term Organisational Behaviour with its relevance. [15]
(B) Elaborate Theory X and Theory Y. [10]
- Q.2)** Explain the need and scope of Management with different functions of Management. [15]
- Q.3)** What are the contributions made by Henry Fayol and F.W. Taylor ? [15]
- Q.4)** Define Group. How can team building be effective in any Organisation ? [15]
- Q.5)** "Conflict can be resolved in an Organisation if proper steps are taken in an Enterprise." Discuss. [15]
- Q.6)** What do you mean by the term Organisational Structure ? Explain any one type of Structure. [15]
- Q.7)** Write short notes : (**Any Three**) [15]
- (a) Herbert Simon's Model
 - (b) System Approach
 - (c) Human Resource
 - (d) Unstructured Decisions
 - (e) Leadership

[4177]-35/1

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-401

M. C. M. (Semester - IV) Examination - 2012

MOBILE COMPUTING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

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

- (1) Mobile Station
- (2) VLR
- (3) BSC
- (4) SIM
- (5) Gateway MSC
- (6) MSC

(B) Explain GSM Operational Requirements in details. [10]

Q.2) What is HYPERLAN. Explain HYPERLAN Reference Model. [10]

Q.3) Explain Design issues of MANET. Define Infrastructureless and Infrastructure Network. [10]

Q.4) Explain DHCP support for Dynamic Address Allocation. [10]

Q.5) Discuss Selective Retransmission in TCP with example. [10]

Q.6) Describe WAP Protocol Suite. **[10]**

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

- (a) PICONET
 - (b) TDMA and FDMA
 - (c) M-TCP
 - (d) Wireless Network Security
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-402

M. C. M. (Semester - IV) Examination - 2012

ASP.NET

(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 to the right indicate full marks.*

Q.1) Explain ASP.NET Architecture in detail. [10]

OR

Q.1) Explain ADO.NET Object Model in detail. [10]

Q.2) Explain Client Side State Management Technique in detail. [15]

Q.3) Explain Methods, Properties and Events of the following : [15]

- (a) DropDownList Control
- (b) ImageMap Control
- (c) AdRotator Control

Q.4) What is Web Service ? Explain the steps and code to create and consume_web service. [15]

Q.5) Write a Sectional Code for the following :

- (a) Disable the next and previous months buttons of a calendar control, also make a provision that user can not able to select the dates from other months. [06]
- (b) Create an application using FileUpload Control, which will upload your photo, and display it in a Image Control. The file type must be image only and file size should not exceed 1 MB. [09]

Q.6) Design a form and write code to : [15]

- (a) Populate and display item's names in a dropdown list.
- (b) Select a item from dropdown list and display its details in underlying text boxes.
- (c) Add a record.
- (d) Delete selected record.
- (e) Edit selected record.

Use connected architecture.

Name of Table : ItemMaster (ItemNo, Name, Description, Unit of Measure, Price)

Name of Server : MyAspDB (SQL Server)

Q.7) Write short notes : [15]

- (a) Exception Handling
- (b) Validator Controls (Any Two)
- (c) Login Controls (Any Two)

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4177]-403

M. C. M. (Semester - IV) Examination - 2012

INFORMATION SECURITY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

*(2) Solve **any three** from Q. No. 2 to 5.*

Q.1) Sangali Rural Development Bank decided to computerized its operation along with ATM Facility. As a Computer Policy Planner of the Bank what security model you will study and implement ?

[20]

OR

Q.1) 'Info IT Ltd.' is a Software Development Company. They provides database application software to various organisations across the country. Development of Software is carried out by employees working at various locations across the country.

How will you as Software Professional of that organisation do the following :

- (a) Manage Security of their information
- (b) Integrate different modules
- (c) Implement Mobile Work Force
- (d) Implement Network Security

[20]

Q.2) What are the Threats in Infrastructure Security ?

[10]

Q.3) Discuss different Biometric Controls for protecting Information System.

[10]

[4177]-403

1

P.T.O.

Q.4) What are various ethical issues concerned with the Information System Professionals ? **[10]**

Q.5) Discuss System Security Engineering – Capability Maturity Model (SSE - CMM) in detail. **[10]**

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

- (a) Disaster Recovery Planning
 - (b) Cryptographic Techniques
 - (c) Privacy Issues in Web Services
 - (d) Security of Virtual Private Networks
 - (e) COBIT
 - (f) Security of E-mail System
-

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4177]-404

M. C. M. (Semester - IV) Examination - 2012

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 the remaining.

Q.1) Solve any two :

[2x10=20]

- (a) Recently Web Administrator complained about non-functioning of some of the features of Company's Website. He thinks that website has been attacked by insider or outsider. State various attacks that are possible and suggest suitable preventions to avoid such attacks.
- (b) A payment gateway is to be incorporated in sales system of super market so that customer can pay bills by Credit Card or Debit Card. Use of Cryptography can be incorporated. Explain Cryptography and suggest how Cryptography will be incorporated in the system ?
- (c) Some important files and folders are stored on UNIX Machine. These files should be accessed only by authorized person. Design suitable access control list, groups and roles for the same.

Q.2) Explain in detail RSA Algorithm.

[10]

Q.3) What is Incident Response ? What are the pre-requisites to planning an IRT ?

[10]

Q.4) Which Biometric Techniques can be used to secure the access to critical areas of a Bank. **[10]**

Q.5) What is Unauthorized Computer Access under IT Act, 2000 ? **[10]**

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

- (a) Organisational Issues
 - (b) Digital Signatures
 - (c) Sand Boxing
 - (d) Scripts Kiddies
 - (e) Concurrency in Distributed System
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4177]-405

M. C. M. (Semester - IV) Examination - 2012

MULTIMEDIA AND WEB DESIGNING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 compulsory.
- (2) Attempt **any five** from the Q. 2 to 7.

Q.1) (A) Write ASP Code to accept item code from the user and display item details on page display .asp page if the record is found in database Inventory.mdb otherwise display error message. **[10]**

(B) Explain any two Multimedia Data Compression Techniques. **[10]**

Q.2) Explain Colour Models in Image and Video. **[10]**

Q.3) Write HTML Code to draw table : **[10]**

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

Q.4) Explain use of functions in JavaScript. **[10]**

Q.5) Write XML Code to store information about Student (ROLLNO, NAME, CLASS) and write HTML Code to display data in tabular format using DSO Object. **[10]**

Q.6) Explain string functions in VBScript.

[10]

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

[2x5=10]

- (a) Multimedia and Hypermedia
 - (b) Session Objects in ASP
 - (c) CSS
 - (d) MIDI
-

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[4177]-406

M. C. M. (Semester - IV) Examination - 2012

SOFT SKILLS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Q. No. 1 is compulsory and carries 25 marks.*
- (2) Out of Q. Nos. 2 to 6, answer **any three**. Each one carries 15 marks.*

-
-
- Q.1)** (A) Define Communication. Explain any four principles of Communication. Give examples. [15]
- (B) Differentiate between Formal and Non-formal Communication with appropriate examples. [10]
- Q.2)** Reports are one of the important tools of Management. What are the different types of Reports in an Industrial Organisation ? [15]
- Q.3)** Explain different Electronic Media used in today's business. Give examples. [15]
- Q.4)** Compare Listening Process with Hearing. Why are these processes important ? [15]
- Q.5)** Discuss the nature of Body Language in Interpersonal Communications. [15]
- Q.6)** What do you mean by Upward and Downward Communication ? What are the methods used to encourage such Communications ? [15]

[4177]-406/1

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 1

[4177]-407

M. C. M. (Semester - IV) Examination - 2012

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 to the right indicate full marks.*

-
-
- Q.1)** (A) What is Review ? Explain its purpose. **[04]**
(B) Write test cases on procedure for saving file successfully. **[10]**
- Q.2)** What is Integration Testing ? Explain different types of Integration Testing. **[14]**
- Q.3)** What is Defect Management ? Explain Defect Management Life Cycle. **[14]**
- Q.4)** What is Test Plan ? Explain IEEE Standards in Test Planning. **[14]**
- Q.5)** What is Verification and Validation ? Explain Verification Techniques. **[14]**
- Q.6)** Write short notes : **(Any Two)** **[14]**
- (a) Difference between Alpha and Beta Testing
 - (b) Mobile Computing Applications
 - (c) Risk Based Testing

Seat No.	
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Total No. of Questions : 8]

[Total No. of Printed Pages : 1

[4177]-408

M. C. M. (Semester - IV) Examination - 2012

NETWORK TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 8 is compulsory.*
- (2) Attempt **any five** from the remaining.*
- (3) Figures to the right indicate full marks.*
- (4) Write your assumptions.*
- (5) Draw neat diagrams whenever necessary.*

-
-
- | | |
|--|-------------|
| Q.1) Explain the steps for Installation of Windows Server 2003. | [10] |
| Q.2) Explain the steps for Configuring Firewall in Linux. | [10] |
| Q.3) Explain the steps for Implementing Web Services in IIS in Windows Server 2003. | [10] |
| Q.4) Explain how we can Configure Backup in Windows Server 2003 ? | [10] |
| Q.5) Explain Network Management Commands in Linux with example. | [10] |
| Q.6) Explain how we can Configure Apache Server in Linux ? | [10] |
| Q.7) Explain the steps for Configuring DHCP Server in Windows Server 2003. | [10] |
| Q.8) Write short notes : (Any Four) | [20] |
| (a) Microsoft Software Update Services | |
| (b) Package Management Commands in Linux | |
| (c) Hub, Switch and Router | |
| (d) E-mail Protocols | |
| (e) Default Directories in Linux | |

Seat No.	
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Total No. of Questions : 6]

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M. C. M. (Semester - IV) Examination - 2012

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 Q. Nos. 2 to 5.*

Q.1) (A) Write PHP Code which accepts E-mail Address and message from user and sends E-mail in entered address. **[10]**

(B) Explain with example how to connect to MYSQL Database using PHP ? **[10]**

Q.2) Explain Services in Linux and mentioned the commands. **[10]**

Q.3) Explain Linux Commands, with example : **(Any Four)** **[10]**

- (a) kill
- (b) top
- (c) cpio
- (d) init
- (e) grep
- (f) sort

Q.4) Explain the Authentication in Apache. **[10]**

Q.5) Explain the function in PHP. **[10]**

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

[5x4=20]

- (a) Virtual Host name setting
 - (b) Array in PHP
 - (c) Partition in Linux
 - (d) Backup Commands
 - (e) Restore Commands
 - (f) Service Management Commands
-

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Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[4177]-42

M. C. M. (Semester - IV) Examination - 2012

VISUAL BASIC .NET

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Q. 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 Object Model in detail. **[15]**
- Q.2)** Explain all the components of .NET Framework Architecture in detail. **[10]**
- Q.3)** Explain the ASP.NET. State Maintenance Techniques in detail. **[10]**
- Q.4)** Explain the terms Events and Delegates. Explain Delegates in detail using suitable example. **[10]**
- Q.5)** Write ADO.NET Code for table 'Employee' with fields EmpNo, Name, Date of Birth, Salary to provide the facility to Insert, Update, Delete the records. Also provide the facility of navigation buttons to view the records. Make use of disconnected architecture. **[10]**
- Q.6)** 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.7) Create a class 'Student' –

Data Members : StudID, Name, Qualification, Percentage
Method–GetData() : will read the information from user and write it in a text file.

ShowData() : will display the information on screen.

Write a console based application. Make use of file stream classes for file operations. **[10]**

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

- (a) Abstract Classes Vs Interfaces
 - (b) DataGrid Control
 - (c) ListView and TreeView Control
 - (d) Access Modifiers
-

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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4177]-43

M. C. M. (Semester - IV) Examination - 2012

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) List the Interfaces available in JDBC.
- (b) Life Cycle Methods of Servlet
- (c) Classes and Interfaces available in Java.NET Package
- (d) Life Cycle Methods of Bean
- (e) Different Session Management Methods in Servlet

Q.2) Write a Client Server Application to accept file name from client, check the file on server. If file is present display contents to client otherwise display file not found.

[15]

Q.3) Write a JDBC backend class, which establishes a connection with database having table student with structure - roll no, name, class, dob :

[15]

- (a) Using the above backend class write a program to accept roll no. from command line display the details with proper error message.
- (b) Display all records from table with proper formatting.

Q.4) Write a RMI program to copy the content of the file. Which is present on remote machine. **[15]**

Q.5) Write a Servlet for E-mail Registration consisting of following fields user id, password, name, dob, address, validate user id field. If user exists with same user id give proper message otherwise Welcome user with message containing his/her user id and password. **[15]**

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

- (a) JNDI
 - (b) MVC Architecture
 - (c) JSP Directive
 - (d) BDK
-

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Total No. of Questions : 6]

[Total No. of Printed Pages : 1

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M. C. M. (Semester - IV) Examination - 2012

CYBER LAWS

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 and 6 are compulsory.
- (2) Attempt **any three** from the Q. Nos. 2 to 5.
- (3) Figures to the right indicate full marks.

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-
- Q.1)** What is Network attacks, most common attacks on IT Systems ? How such attacks can be defenced ? How to protect E-commerce Systems from such attacks ? **[20]**
- Q.2)** Explain Cryptography and PKI in detail. **[10]**
- Q.3)** Explain Access Controls in Unix and Windows Operating System. **[10]**
- Q.4)** Explain any three New Biometric Techniques. **[10]**
- Q.5)** Explain Multilevel and Multilateral Security. **[10]**
- Q.6)** Write short notes : **(Any Four)** **[5x4=20]**
- (a) Sandboxing
 - (b) Fault Tolerance
 - (c) IT Act Provisions
 - (d) Script Kiddies
 - (e) Hash Functions
-

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Total No. of Questions : 7]

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M. C. M. (Semester - IV) Examination - 2012

SOFTWARE QUALITY ASSURANCE

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** (A) Define Software Quality. Describe the need and importance of Quality. [10]
(B) Explain Contribution of Deming Juran. [10]
- Q.2)** Explain Software Testing Life Cycle. [10]
- Q.3)** Explain British Standard 7799 for Information Security. [10]
- Q.4)** What are the various Testing Methods used to Test Web Based Applications ? [10]
- Q.5)** Explain Software Configuration Management. [10]
- Q.6)** What is Service Level Agreement ? Explain its importance. [10]
- Q.7)** Write short notes : (Any Two) [10]
(a) Risk Management
(b) Code Review
(c) Cause and Effect Diagram
-

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

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M. C. M. (Semester - IV) Examination - 2012

ADVANCED BUSINESS APPLICATIONS

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question No. 1 is compulsory.*
- (2) *Attempt **any five** from the remaining.*
- (3) *State your assumptions clearly.*
- (4) *Draw neat diagrams. Neat diagrams carry marks.*

Q.1) (A) A Insurance Company wants to develop website for their policy-holder. For designing consider following specifications :

- (1) Policy-holder make registration.
- (2) Policy-holder enroll their policies.
- (3) Policy-holder makes payment of premium on-line, using debit card/credit card/direct debit facilities.
- (4) Policy-holder can view and take printout of premium paid for Income Tax purpose.

Do the following :

- (a) Draw Activity Diagram
- (b) Design suitable Registration Form
- (c) Describe the Process of On-line Payment. **[15]**
- (B) Explain Premium Notice. **[05]**

Q.2) State the features of ERP. Also state the Pre-requisites for Implementing ERP in an Organisation. **[10]**

- Q.3)** What is BCP ? What steps are necessary to be taken in BCP ? [10]
- Q.4)** What is Datamining ? Highlight on DBMS Vs Datamining. [10]
- Q.5)** Explain various stages of SCM with the help of block diagram. What is the role of EDI in SCM ? [10]
- Q.6)** State the responsibility of Sales, Service and Dispatch Department in a Manufacturing Company. [10]
- Q.7)** Write short notes : (Any Two) [10]
- (a) Cyber Law
 - (b) Services in Separation Theatre in a Hospital
 - (c) Concept of Stock Exchange
 - (d) Knowledge Management
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Total No. of Questions : 6]

[Total No. of Printed Pages : 1

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M. C. M. (Semester - IV) Examination - 2012

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 four** from the remaining.
- (3) Assume suitable data if required.

Q.1) “Automated CASE Tool is the method which has high investment.”
Comment. **[10]**

Q.2) Draw use CASE, Sequence and Class Diagram for School Library System. **[15]**

Q.3) (A) What is CASE Tool ? Why CASE Tool used in Software Development ? **[10]**

(B) Define various CASE Tool types in Software Engineering. **[07]**

Q.4) (A) Define Re-documentation and Reverse Engineering. **[08]**

(B) Write short note on Rational Rose. **[07]**

Q.5) How CASE Tool useful for improving Software Quality ? **[15]**

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

(a) Disadvantages of CASE Tool

(b) Manual V/s Automated CASE Tool

(c) MS-Project as a CASE Tool

(d) Use of CASE Tool for Top Level Management

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Total No. of Questions : 9]

[Total No. of Printed Pages : 2

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M. C. M. (Semester - IV) Examination - 2012

BUSINESS PROCESS OUTSOURCING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 9 is compulsory.*
- (2) Solve **any six** from the remaining.*
- (3) All questions carry equal marks.*

Q.1) What is Business Process Outsourcing (BPO) ? List Opportunities in BPO.

Q.2) What are the Key Skills required for BPO ?

Q.3) Discuss the threat and challenges that face the BPO Industry in India.

Q.4) “BPO - a boon or bane for India.” Discuss.

Q.5) What are the models in BPO ? Explain any one model in detail.

Q.6) What are the factor considered while choosing a BPO Provider ? Explain the types of BPO Providers.

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

Q.8) Explain Concept of KPO.

Q.9) Write short notes : (Any Two)

- (a) Inbound and Outbound BPO
 - (b) Call Centre
 - (c) HR Outsourcing
 - (d) IT and ITES
-