

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-1001

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

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(2012 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 with block diagram and explain characteristics of Computer. [10]

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

- (a) $(186)_{10} - ?_2$
- (b) $(BCD)_{16} - ?_{10}$
- (c) $(712)_{10} - ?_8$
- (d) $(BAB)_{16} - ?_2$

(B) Explain Primary Memory with its types. [07]

Q.3) (A) Explain OSI Model in detail. [08]

(B) Discuss the need of Special Processors. [07]

Q.4) (A) Compare and differentiate between Windows with open source O.S. [08]

(B) Explain various Scanning Input Devices. [07]

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P.T.O.

- Q.5)** (A) Define Communication Media. Explain different type of Communication Media Model. [08]
(B) Differentiate between Compiler, Assembler and Interpreter. [07]
- Q.6)** (A) Explain Time Sharing Processing with neat diagram. [08]
(B) Explain any two Printers in detail. [07]
- Q.7)** (A) Define Computer Network. State difference between LAN and WAN. [08]
(B) Explain the terms Bit, Byte, MB, KB, TB, RAM, ROM, PROM. [07]
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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4277]-1002

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

'C' PROGRAMMING AND DATA STRUCTURE

(2012 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) Find and explain output of the following programs. Assume suitable header files :

[12]

(a)

```
void main() {
    int k = 12, n = 30;
    k = (k > 5 && n == 4 ? 100 : 200);
    printf("k = %d", k);
}
```

(b)

```
void main() {
    int no = 123;
    while (no)
    {
        no /= 10;
        printf("%d", no % 10);
    }
}
```

```
(c) #define CUBE(a) a * a * a
void main() {
    int a;
    a = CUBE(5 - 3);
    printf("\n value of a = %d", a);
}
```

```
(d) void main() {
    int j, a = 0;
    for (j = -1 ; j < = 4; j++) {
        swtich (j - 1) {
            case 0 :
            case 1 : a + = 2; break;
            case 2 :
            case 3 : a + = 3; break;
            default : at = 4; }
        printf("%d\n", a);
    }
}
```

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

[08]

(a) Stack

(b) Union

(c) Dynamic Memory Allocation

Q.2) Write a 'C' program to generate the following pattern using nested loops :

[10]

```

      *
     * *
    * * *
   * * * *
```

- Q.3)** Write a program to accept a string. **[10]**
The program should print :
- (a) No. of Vowels
 - (b) No. of Digits
 - (c) No. of Spaces
 - (d) No. of Capital Letters in the string
- Q.4)** Write a 'C' program that accepts two file names from Command Line Arguments and appends contents of the first file to the second file. **[10]**
- Q.5)** Write a program to accept two 3×3 matrices and prints the addition of the two matrices. **[10]**
- Q.6)** Write a 'C' recursive function that will accept an integer number and returns multiplication of digits. **[10]**
- Q.7)** Define a structure array with acc_no, acc_type, name and balance. Write a program to accept data of 100 customers and print names of customers having balance greater than 10,000. **[10]**
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4277]-1003

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

SOFTWARE ENGINEERING WITH UML

(2012 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question No. 1 and 6 are compulsory.
- (2) Solve **any three** from Q. Nos. 2, 3, 4 and 5.

Q.1) A system need to be designed for a departmental store dealing in consumer items. Members enjoy credit facility and can purchase items as and when he or she needs them. Store has several counters and one can almost get all kinds of consumer items after visiting these counters. He becomes members by paying initial membership amount and get the credit cards. He has to pay his outstanding on quarterly basis. System generate alert to these members. Defaulters are not allowed to purchase items until the default amount is cleared. Consider the different aspects of the above problem and model them appropriately.

- (a) Draw 1st level DFD. **[10]**
- (b) Draw Databases of the Departmental Store. **[05]**
- (c) Draw Bill and Membership Form. **[10]**

Q.2) Design a Home Page for On-line Hoarding System is advertisement displayed on boards which are usually seen on streets is to be computerized. **[10]**

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

Q.4) Explain Rational Unified Process with four major phases. **[10]**

Q.5) Explain RAD Model. **[10]**

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

- (a) Decision Tree
 - (b) Difference between Activity and State Chart Diagram
 - (c) Class Diagram
 - (d) Elements of Good Design
 - (e) Fact Finding Tools
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-1004

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

DATABASE MANAGEMENT SYSTEM (DBMS)

(2012 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) Kautilya University Research Group publishes an analysis of all journal papers to Physics, Chemistry and Mathematics. Each paper may have more than one author and man appear in only one journal. Journals are identified by publisher details, titles, volumes and issue number. One issue contains many papers of many subjects. Each paper contains series of references to their papers. Authors contribute to many papers appearing in varieties of journals.

Draw Entity - Relationship Diagram and convert it into Relational Database (Tables).

[10]

(B) Normalize the following up to 3NF : [10]

AZZ Shipping Corporation Ltd.

Invoice

Invoice No. : []	Consignee Name : []
Date : [-/-/-]	Consignee Address : []
	Consignor Name : []
	Consignor Address : []
Vessels No. : []	From : [] To : []
Port of Loading : []	Date of Loading : [-1-1]
Destination : []	

Consignment details :

Sr. No.	Description	UOM	Quantities in Pack	Packing Type	Gross Weight

Net Weight : []

Dispatcher Signature :

Receiver's Signature :

Q.2) Explain various characteristics of DBMS. [10]

Q.3) What is Deadlock ? Explain any one Method of Deadlock Solution. [10]

Q.4) Explain any five Fundamental Relational Algebra Operators with example [10]

Q.5) (A) Explain Relational Model Constraints. [05]

(B) Explain Failure Classification. [05]

Q.6) (A) What is Serializable Schedule ? Explain with example. [05]

(B) What is Encryption ? Explain it with example. [05]

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

(a) Data Warehousing

(b) Cardinality Ratio

(c) Database Users

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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4277]-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 x;
 x = 4% 5 + 6%5;
 printf(“x = %d”, x);
}`
- (b) `void main(){
 int x = 2, y = 3;
 x = ++x * ++x;
 y = ++y * ++y;
 x = x++ * y++;
 y = y++ * x++;
 printf(“x = %d\t y = %d”, x, y); }`

```
(c) #define CUBE(a) a * a * a
void main()
{
    int a;
    a = CUBE(5-3);
    printf("\n value of a = %d", a);
}
```

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

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

[08]

- (a) Data Storage Classes
- (b) Command Line Arguments
- (c) Recursion

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

```

        1
      1 2
    1 2 3
  1 2 3 4
1 2 3 4 5
```

Q.3) Write a 'C' program to accept multiline text from the user till user enters 'g' from the keyboard. The program should print. **[10]**

- (a) No. of tab spaces
- (b) No. of blank spaces
- (c) No. of lines
- (d) No. of alphabets in the given text

Q.4) Write a recursive 'C' function which accepts an integer number as a parameter and returns sum of digits of that number. **[10]**

Q.5) Write a 'C' program to copy one file into another. Use command line arguments. Do all possible validations. **[10]**

Q.6) Write a 'C' program to sort an array of 10 numbers in descending order and display the sorted array. **[10]**

Q.7) Accept information of 50 students as - rollno, name, marks1, marks2. Calculate total and percentage of each student and store them in an array of appropriate structure student. Display all the information in a tabular format. **[10]**

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

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

FUNDAMENTALS OF INFORMATION TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

-
-
- Q.1)** (A) Define Computer. Discuss Computer Generations with advantages and disadvantages. [12]
- (B) Explain BCD and EBCDIC in brief. [08]
- Q.2)** Write the difference between Windows and Open Source Operating System. [10]
- Q.3)** Explain Communication Media. [10]
- Q.4)** Classify Computer Memory. Explain any two Primary Storage Devices. [10]
- Q.5)** Explain Time Sharing with merits and demerits. [10]
- Q.6)** Explain with the example - LAN, MAN, WAN. [10]

Q.7) Solve the following :

[10]

(a) $(ABC)_{16} = (?)_{10}$

(b) $(101101)_2 = (?)_{10}$

(c) $(1001)_{10} = (?)_8$

(d) $(765)_8 = (?)_{10}$

(e) $(121)_8 = (?)_2$

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Total No. of Questions : 6]

[Total No. of Printed Pages : 3

[4277]-103

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

SOFTWARES 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 necessary.

Q.1) A well known I.T. Company have organized a national level meet of academicians at Goa. For the meet various Lecturers/Professors of eminent PG Institutions or Engineering Colleges from all over India have been short listed by the company and accordingly it is communicated to all concerned academicians. After getting communication from company, respective Lecturers/Professors have to confirm for the participation. After getting participation confirmation, company makes a booking for participants of To and Fro flight with one of the best Domestic Airline in India. Company also hired the cars to pick up the participants from their residence and to drop them at Airport and vice versa. The schedule for pickup and drop at both ends in conveyed to the concerned participants. Also the details for participating persons are given to the concerned travel agents

Around 120 participants have confirmed the participation for the event. Company made the staying arrangements at various Taj Group of Hotels at Goa for the three days. Payment against participants of Airlines, Travel Agent and Taj Group of Hotels of Goa is made by the company. The payment is made against the bills submitted by each one of above.

The entire co-ordination is done by HR Person of the company, who finally communicate respective transactions to Administrative Department and Accounts Department of the Company.

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P.T.O.

Considerd the above scenario and design :

- (a) First Level DFD [10]
- (b) Any two GUIs [10]
- (c) Functional Decomposition Diagram [05]

Q.2) ABC Pvt. Ltd has a centralised Purchase Department located at Mumbai. Centralised Purchase System collects requisitions from other departments. Suppliers send their quotations according to the requirements given. Supplier is short listed and purchase order is released on him. Draw the ER diagram and normalized file layouts. [10]

Q.3) A electricity distribution company has installed billing collection ATM System at some locations on trial basis. This is automated ATM machine, which collects the payment in form of cash or cheques. First a bill is kept below the lazer rays to scan the barcode, which is printed on the bill. System displays the consumer number, end bill date and bill amount on the screen. A operator have to confirm the details by cross verifying it from the bill. After confirming it, system prompts to select payment option as cash or cheque.

- (a) If option selected is cash then system prompts to insert the Indian currency in cash paying slot of the machine. If currency inserted is not valid, then system ejects that currency. If currency is accepted by the machine, system shows denominations and shows the cumulative amount on the screen. The machine accepts exact total amount as per the bill amount, which is totally depend on the bill pay date.
- (b) If option selected is cheque, then operator has to enter cheque number, cheque date and pay amount. Then operator have to insert cheque in cheque depositing slot. ATM machine ejects the cheque, if wrong amount is mentioned or it has been inserted in wrong direction.

After completing any one of the above step, operator confirm for payment transaction and get printed pay receipt slip from the slip dispensing slot of the machine. The above application does not support group bills payment.

Considering the above system draw the use case diagram. [10]

Q.4) Sahdy sellers operate a graded commission policy for their salesman as follows :

Items above Rs. 5,000 are subject to a commission of 10%, if more than 300 items are sold and the salesman's salary is below Rs. 29,000. Salesman getting salaries in the range of Rs. 20,000 - 25,000 gain 8% commission and those getting salaries above Rs. 25,000, gain 7%.

If less than 300 items are sold then the commission is 8%, 7%, 6% for the same classification of salesman. For items having a value under Rs. 5,000, sales over 300 items give a flat commission of 8% to all categories of salesmen.

For the above case draw decision tree. **[10]**

Q.5) Explain spiral model and prototyping model in detail with advantages and disadvantages of each model. **[10]**

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

- (a) Feasibility Study
- (b) Structured English
- (c) Characteristics of System
- (d) Normalization
- (e) Skills required for System Analyst

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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4277]-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) Define the term 'Management'. Discuss briefly characteristics and scope of Management. **[15]**
- (B) Discuss the Contribution of F.W. Taylor to the Management Theory. **[10]**
- Q.2)** Define 'Decision-making'. What are its characteristics ? Explain the importance of Decision-making. **[15]**
- Q.3)** What do you mean by 'Organisation Structure' ? Explain the essential features of Good Organisation Structure. **[15]**
- Q.4)** Define 'Leadership'. Explain the various 'Styles of Leadership'. **[15]**
- Q.5)** Explain Theories of Group Formation and discuss the importance of Group Formation. **[15]**

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

[15]

- (a) Transactional Analysis
 - (b) Team Building
 - (c) Principle of Rationality
 - (d) System Approach
 - (e) Types of Managers
-

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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 No. 7 is compulsory.*
- (2) Attempt **any five** from the remaining.*
- (3) Figure to the right indicate full marks.*
- (4) Draw neat diagrams wherever necessary.*

-
-
- Q.1)** What is E-commerce ? What are various E-commerce Models ? Also explain E-commerce Framework ? **[10]**
- Q.2)** What are the steps involved in Website Development ? Explain what is the difference between In-house Development and Outsource Development ? **[10]**
- Q.3)** Explain various types of Firewalls. Also explain their advantages and disadvantages. **[10]**
- Q.4)** Why there is need of On-line Marketing ? What are the various ways of On-line Marketing ? **[10]**
- Q.5)** What is Software Agents ? Explain their characteristics. How they can be useful in E-commerce ? **[10]**

Q.6) What is Internet Protocol Suite ? Explain various Protocols available in each layer ? **[10]**

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

- (a) Internet
 - (b) Internet Service Provider (ISP)
 - (c) Electronic Data Interchange (EDI)
 - (d) Cyber Squatting
 - (e) Credit Cards
-

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Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4277]-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) Convert the following Infix Expressions to Postfix show the contents of the stack at each step : **(Any Two)** **[08]**

- (a) $A + B - C/D * F$
- (b) $A \$ ((B + C) / d) * F$
- (c) $A * B + C / D - F$

(B) Evaluate the following Prefix Expression, where $A = 6, B = 4, C = 3, D = 9, E = 3$. Show the contents of stack at each step in a tabular form : **(Any One)** **[07]**

- (a) $- + AB * / CDE$
- (b) $+ * A / - BCDE$

Q.2) Answer any three : **[15]**

- (a) Write a function to add an element in Linear Queue implemented as Linked List.
- (b) Write a function to search an integer in any array of integers using Binary Search.
- (c) Write PUSH() and POP() functions for stack implemented as Linked List.
- (d) Write a function to print the contents of Binary Search Tree using Inorder Traversal.

[4277]-201

1

P.T.O.

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

- (a) Draw Huffman's Tree for following message HIPPOPOTAMUS.
- (b) Sort the following numbers in ASCENDING Order using BUBBLE Sort.

12, 0, 23, 1, 3

(c) Define the following terms :

- (i) Binary Tree
- (ii) Non-leaf Node
- (iii) Graph
- (iv) Degree of Vertex
- (v) Cyclic Graph

(d) Consider the following declaration into info[10][20];

Compute the row major and column major address of the member info[6][11] when base address of array is 1000 and each member occupies 2 bytes in memory.

Q.4) (A) Answer any three : **[10]**

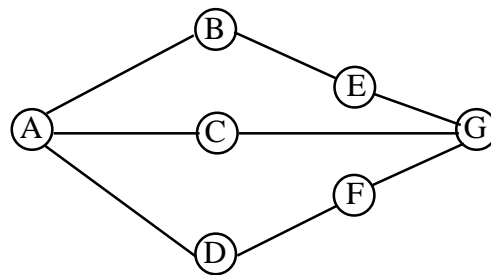
- (a) Write ANSI 'C' function to count total number of odd integers stored in different nodes of Double Linear Linked List of Integers.
- (b) Write ANSI 'C' function to sort Single Linear Linked List of Integers in ascending order.
- (c) Write ANSI 'C' function to print the integers stored in different nodes of circular Double Linked List from Head to Tail and from Tail to Head.

(B) Write short notes : (Any One) **[05]**

- (a) Stacks and Queues
- (b) Symbol Tables

Q.5) Answer using the following graph :

[10]



- (a) Generate output of 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 Depth First Search (DFS) Algorithm for the above graph, when starting vertex is B. Adjacent vertices be picked up in Alphabetical Order.
- (c) Adjacency Matrix for above graph.
- (d) Adjacency List for above graph.

Q.2) Explain the following terms with proper examples : [2x5=10]

- (a) Degree of Relationship
- (b) Composite Attribute
- (c) Aggregation
- (d) Weak Entity

Q.3) Explain : [5x2=10]

- (a) Log Based Recovery
- (b) Shadow Paging

Q.4) Explain Data Warehouse Architecture. [10]

Q.5) Explain HDM in detail. How M : M Relationship is shown in HDM ? [10]

Q.6) Explain Codd's Rules. (Any 10) [10]

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

- (a) Distributed Database
- (b) Assertion and Triggers
- (c) Users of DBMS
- (d) MVT

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Total No. of Questions : 5]

[Total No. of Printed Pages : 2

[4277]-203

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

ORACLE

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *All questions are compulsory.*
 - (2) *Figure to the right indicate full marks.*
 - (3) *Write your assumptions clearly.*
-
-

Q.1) Consider the following table to solve the following queries : (Any Ten) [20]

Emp (eno, e_name, dob, gender, sal, deptno, designo, address, city, date_of_join)

Dept (deptno, dept_name, loc)

Designation (designo, design_name, min_qualification)

- (1) Create Emp table with constraints.
- (2) Display department wise maximum salary.
- (3) Display the total number of male employees in each department.
- (4) Display list of employees whose name begins with 'H' and ends with 'I'.
- (5) Display list of employees whose designation is 'clerk'.
- (6) Display the employee details along with dept name.
- (7) Display the list of employees who born in the month of 'January'.
- (8) Display the list of all employees whose working location is 'Pune'.
- (9) Display the list of all employees whether they have allotted dept or not.

[4277]-203

1

P.T.O.

(10) Display the list of employees who joined the company in the year '2007'.

(11) Display list of employees whose salary is in between 15000 and 30000.

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

Q.3) Write differences between following : **(Any Three)** **[09]**

(a) LTRIM and RTRIM

(b) Drop and Truncate

(c) Ceiling and Floor

(d) Primary Key and Unique Key

Q.4) Write short notes : **(Any Four)** **[16]**

(a) Set Operators

(b) Views

(c) Locks in Oracle

(d) Aggregate Functions

(e) Report Writing Commands in SQL*PLUS

Q.5) Solve the following PL/SQL Programs : **(Any Three)** **[15]**

(a) Write a PL/SQL block to print an accepted string in reverse ?

(b) Write a DML trigger for STUD which will keep track of all operation type and operation date and user name in an AUDIT_STUD Table.

(c) Write a cursor which will display top 5 salaried employees.

(d) Write a PL/SQL Program to accept a number and print its sum of digits.

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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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 3* from questions 2 to 6.

Q.1) Solve the following :

[15]

- (a) Which are the Life Cycle Methods of an Applet ?
- (b) What is Inner Class ?
- (c) What are Compilation Errors and Run-time Exception ?
- (d) List Methods of File Class.
- (e) Write Anonymous Class for Window Closing Event.

Q.2) Write a program which will read the file byte by byte and convert into uppercase and copy it into another file.

[15]

Q.3) Write a program that accepts two numbers and a operator like (+, -, *, /) as command line arguments and perform the appropriate operation indicated by the operator.

If user enters any other character, fire user-defined exception with appropriate message "Invalid Character Exception".

[15]

OR

- Q.3)** Write an application to define an interface 'CalculateResult' with methods CalculateTotal(), CalculatePercentage() and CalculateGrade(). Write student class with implementation of 'CalculateResult'. Create student object and display total marks, percentage and grade of student. **[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 AWT Application to draw a circle. Accept the necessary parameters for drawing a circle and a colour to fill the circle. **[15]**
- Q.6)** Define Class Employee. Define another two subclasses :
- (a) Temporary Employee Class
 - (b) Permanent Employee Class
 - (i) Calculate salary for temporary employee depending upon no. of hours per month and overtime hours.
 - (ii) Calculate salary for permanent employee depending upon no. of days per month.
 - (iii) Override calcsal() method
 - (iv) Write appropriate constructors. **[15]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Abstract Class
 - (b) String Buffer Class
 - (c) Thread Class

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Total No. of Questions : 7]

[Total No. of Printed Pages : 4

[4277]-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 Question Nos. 2 to 6.

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

[3x5=15]

- (a) ['cat', 'dog', 'horse']. each {|name| print name, ""}
5.times {print "*"}
3.upto (6) {|i| print i}
(‘a’ .. ‘e’). each {|char| print char}
puts.
- (b) a = ['ant', 'bee', 'cat', 'dog', 'elk']
puts a[0]
puts a[3]
a[5] = 'ram'
puts a

- (c) `def call-block`
`puts "Start of Method"`
`yield`
`yield`
`puts "End of Method"`
`end`
`call_back {puts "In the Block"}`
- (d) `3.times {print "x"}`
`1.upto(5) . {|i| print i, " "}`
`99.downto(95) {|i| print i, " "}`
`50.step (80, 5) {|i| print i, " "}`
`puts`
- (e) `x = []`
`x << "good morning"`
`x = << "good afternoon"`
`x = << "good evening"`
`puts x.pop`
`puts x.pop`
`puts x.length`
- (f) `Class Allvowels`
`include Enumerable`
`@@ vowels = %w {a, e, i, o, u}`
`def each`
`@@ vowels. each {|v|. yield v}`
`end`
`end`
`x = Allvowels.new`
`x. collect {|i| print i + "x"}`


```
(g) def routine (n)
    puts n
    throw : done if n < = 0
    routine (n - 1)
end
catch (:done) {routine (4)}
```

Q.2) Write a ruby program to swap the content of 2 text files. **[10]**

Q.3) Write a ruby program to display balance, use class account with two methods deposit and with draw accept acount_no, account_balance, cust_name. **[10]**

(a) When customer deposit amount that account_balance must be updated.

(b) When customer withdraw some amount the account_balance must be updated.

Q.4) Write a Ruby Program to find the size of file, words, characters with space, characters without spaces.

assumptions : the file exist in the same folder as the program. **[10]**

Q.5) Accept a sentence and replace all capital with lower and lower with capital and special character with '&'.

Input : My email id IS xyz @ gmail.com.

Output : MY EMAIL ID is xyz@GMAIL.COM

Q.6) Write a Ruby Program to display where driver is insured as not, input following variables (name, gender, age, status). Consider following assumption drivers are insured in following condition : **[10]**

(a) Married

(b) Male and age greater than 35

(c) Female and age greater than 25

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

[5x3=15]

- (a) Explain different types of Array in Ruby with example.
 - (b) Exception handling with example
 - (c) Scope of variables, local, global, class, instance
 - (d) Ruby Modules
 - (e) Duck Typing
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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 made for solving case study.*

Q.1) (A) Draw use case diagram and class diagram for the case Course Ware Management System. (CMS). **[15]**

The XYZ Organisation offers a variety of courses in a variety of areas such as learning management techniques and understanding different software languages and technologies. Each course is made up of a set of topics. Tutor in the organisation are assigned courses to teach according to the area that they specialize in and their availability. The organisation publishes and maintains a calendar of the different courses and the assigned tutors every year. There is a group of courses administrators in the organisation who manage the courses including course content, assign courses to tutors and define the course schedule. The training organisation aims to use the CMS to get a better control and visibility to the management of courses as also to streamline the process of generating and managing the schedule of the different courses. Student view the course calendar.

(B) Explain Specialisation and Generalisation Class relationship with example. **[05]**

- Q.2)** Explain OMT in details. **[10]**
- Q.3)** (A) Draw a sequence diagram for contacting a person using Mobile Phone. **[05]**
- (B) Explain CRC Approach with example. **[05]**
- Q.4)** Explain various phases of RUP in details. **[10]**
- Q.5)** Draw an activity diagram for Liquid Boiler System. Liquid Boiler consist a heater and thermometer. Thermometer senses the current temperature, if temperature, goes below 200 degree then start the heater. If temperature goes above 800 degree then stop the heater. **[10]**
- Q.6)** Draw a state transition diagram for balance enquiry through ATM. Check validity. **[10]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Design Pattern
 - (b) SSAD Vs OOAD
 - (c) Object Persistence
 - (d) Guidelines for Test Cases
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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 7 are compulsory.*
- (2) *Solve **any three** from the remaining.*

-
-
- Q.1)** (A) Write a PHP Script which accept student rollno and delete record of such student from STUDENT table of COLLEGE database. [10]
- (B) Explain Disk Partition Scheme and Disk Management in Linux. Explain any three command for Disk Management. [10]
- Q.2)** Explain MySQL Commands for : [10]
- (a) Creating User
 - (b) Creating Table
 - (c) Mysqlshow
 - (d) Granting Permissions
- Q.3)** What are Server Side Includes in Apache ? Give example of Server Side Includes and show how it is included in HTML Page. [10]

Q.4) Explain following Linux Commands with example : **[10]**

- (a) sort
- (b) cpio
- (c) init
- (d) less
- (e) rpm

Q.5) Explain different types of arrays in PHP with example. **[10]**

Q.6) Explain built in database function in PHP. **[10]**

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

- (a) MySQL GUI Tools
 - (b) Processes and Daemons
 - (c) Authentication in Apache
 - (d) Classes in PHP
 - (e) Php.ini
 - (f) GET and POST
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4277]-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 Normalised File Layout for Recruitment System. **[20]**
- Q.2)** Explain LIFO, FIFO Methods with example. **[10]**
- Q.3)** Draw a layout of Sales Order Processing System's Main Menu. **[10]**
- Q.4)** Draw a layout of pay-slip with required heads and dummy data. **[10]**
- Q.5)** Draw a layout of Trial Balance. Explain the significance of Trial Balance in Financial Accounting System. **[10]**
- Q.6)** What is MRP ? How it affect directly on production ? **[10]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) BOM
 - (b) Ratio Analysis
 - (c) Employee Appraisal
 - (d) Sales Network

[4277]-302/1

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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) *Solve **any five** out of remaining.*
- (3) *Figures to the right indicate full marks.*

Q.1) Answer the following :

[20]

- (a) What is Jsp:forward and Jsp:include ?
- (b) How cookies are created and values are set ?
- (c) What are different Statements used in JDBC ? Which methods are supported by these Statements ?
- (d) What are different rules for writing simple bean ?
- (e) What is URL ? List any four methods.

Q.2) Write Servlet Application to accept movie name from user through HTML page. Display movie details and names of theaters, timeslot where the movie is showing. If the movie is not currently showing anywhere display message "Movie Not Available now !"

Use Tables :

Movie : MovieId, Mname, Casting, Launch Date, Director, Musician

MovieDisplay : Serialno, MovieId, Theater, Timeslot, DisplayStatus
(could be showing or not showing)

[10]

Q.3) Write an Employee bean containing eno, ename, dept, salary attributes and calculated Commission(float percentage) Method.

Write JSP Application to use this Employee bean. Accept details from html page set the values for Employee bean and display calculated commission in client's browser. **[10]**

Q.4) Write Multithreaded Server - Client Chat Application using Sockets. **[10]**

Q.5) Write JDBC Application to insert records in movie table. Continue insertions till user want. Use table Movie of question 2. **[10]**

Q.6) Write JSP Application using JSTL to display cubes of first 30 natural numbers in a tabular form. The table should contain the number and its cube. **[10]**

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

- (a) Struts' MVC Architecture
 - (b) JNDI Interfaces and Methods
 - (c) Working of RMI
-

Seat No.	
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Total No. of Questions : 2]

[Total No. of Printed Pages : 2

[4277]-304

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

ADVANCED RUBY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Question Nos. 1 and 2 are compulsory.*
- (2) *Figures to the right show marks.*

Q.1) Solve any four :

[40]

- (a) Write a program that accept Date_Of_Birth of user and calculate the age of the user. Create a method on SOAP Server. SOAP Client invokes this method and print age of user.
- (b) Write a ToolKit Program that create MSEB BILL API.
- (c) Using Ruby Socket API, write a client that passes two string to the server and server responds by sending length of the string to the client and display concatenated string.
- (d) Write migration for creating table 'BOOK' having book_id, book_name, author, publication, date_of_published, volume and pages.
- (e) Write a ruby script with multiple views when user enter time, if it is less than 12 O'clock it will display message "goto work" if it is greater than 12 O'clock then it will display message "go for lunch".
- (f) Write a program in rails that accept customer_id and pin from user if customer_id or pin is wrong it will return the nil object. If customer_id and pin is right it will display the welcome message. Create authentication method in model to verify customer_id and pin of user.

[4277]-304

1

P.T.O.

Q.2) Solve any five :

[30]

- (a) What is Action Controller ?
 - (b) Explain TCP/IP and Port.
 - (c) Explain Web Scaffolding with suitable example.
 - (d) Define Relationships in Database.
 - (e) Explain Custom Validation with suitable example.
 - (f) Explain Render Method with suitable example.
 - (g) Explain Rails Development Environment.
-

Seat No.	
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Total No. of Questions : 8]

[Total No. of Printed Pages : 2

[4277]-305

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

VB.NET

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

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

Q.1) Explain Dot.Net Framework in detail. **[15]**

Q.2) Write class bank with following criteria. **[10]**

(a) Withdraw Method : Withdraw(amt float)

(b) Deposit Method : Deosit(amt float)

Q.3) Accept file name from user and print all contents from file. **[10]**

Q.4) Accept number from user and check whether number is prime or not.
Write user defined PrimeNuberException to check functionality. **[10]**

Q.5) Write Ado.net code that will accept user name and password from user and check using database, design appropriate screen
(Server Name : Unipune, User Name - M.C.M., Password = MCM)

OR

Q.5) Write snippet of code for insert, update, delete, first, next, 1st, previous item table, ItemName, UOM, Rate.

(Server Name : Unipune, User name = MCM, Password = MCM) **[10]**

[4277]-305

1

P.T.O.

Q.6) Explain what is Event and Delegate in Vb.Net. **[10]**

Q.7) Explain the following controls : **[10]**

- (a) List Box and Dropdown List
- (b) Grid View Control
- (c) Crystal Report Control
- (d) Masked Text Box Control

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

- (a) Object Oriented Concepts in Vb.Net
 - (b) Access Specifiers and Access Modifiers
 - (c) Name Spaces
 - (d) Variable Scope
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-306

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

SOFTWARE PROJECT MANAGEMENT

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) Question Nos. 1 is compulsory.
- (2) Answer **any five** from remaining.
- (3) Neat diagram carry marks.
- (4) Q. No. 1 carries **20 marks**. Remaining questions carry **10 marks** each.

Q.1) (A) Draw PERT diagram by using following activities and calculate Time Duration of each activity and find out critical path : [15]

Activity	Precedents	Optimistic Time (Hr.)	Most Likely Time (Hr.)	Pessimistic Time (Hr.)
A	—	4	6	8
B	—	1	4.5	5
C	A	3	3	3
D	A	4	5	6
E	A	0.5	1	1.5
F	B, C	3	4	5
G	B, C	1	1.5	5
H	E, F	5	6	7
I	E, F	2	5	8
J	D, H	2.5	2.75	4.5
K	G, I	3	5	7

(B) Explain Project Life Cycle.

[05]

[4277]-306

1

P.T.O.

- Q.2)** What do you mean by Risk ? Explain Software Project Risk Management in detail. **[10]**
- Q.3)** Write a detail note on Software Implementation. **[10]**
- Q.4)** Explain Software Project Maintenance in detail. **[10]**
- Q.5)** What do you mean by IT Operation Management ? Explain roles and responsibility. **[10]**
- Q.6)** Explain SCM in detailed. **[10]**
- Q.7)** Write short notes : **(Any Two)** **[10]**
- (a) Version Control
 - (b) Software Testing
 - (c) COCOMO
 - (d) QA Vs QC
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 3

[4277]-31

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

BASIC JAVA

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

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

Q.1) (A) What is the output of following program ? **(Any Four)** [12]

(a) Class out 1

```
{
public static void main(String args[])
{
int s = 0, i = 0,
while(i++<5)
{
System.out.print/n(i)
s+=i,
}
int value=5;
if (value++==6)
System.out.print/n("six");
else
if(--value==5)
```

[4277]-31

1

P.T.O.


```

System.out.println("five");
else
if(++value==5)
System.out.println("still five");
}
}

```

(b) class A

```

{
public static void main (String[]s)
}
System.out.println(s[1] + s[2] + s[3]);
}
}
java A 12345

```

(c) What is wrong in the code ?

```

Vector v = new Vector(10);
v.addElement(21)

```

(d) Which class is called cosmic super class. List any three methods of that class.

(e) What are the different types of layout manager ? Write explanation of each in brief.

(B) (a) Differentiate between the following : [06]

(i) Applet and Application

(i) Abstract Class and Interface

(b) Write anonymous class to close the window. [02]

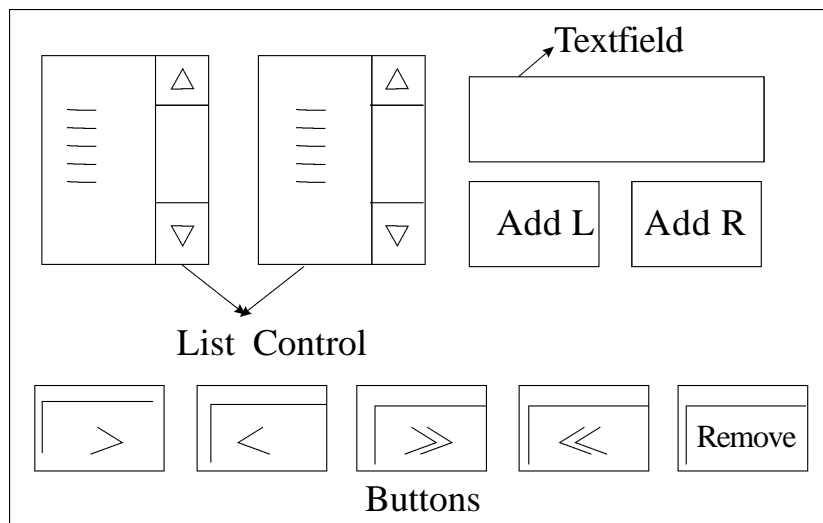
Q.2) Write a user defined Exception - "Too many special characters". Write a program which accept a string with special characters like, #, \$, @, % from command line. If the string has more than one vowel, then throw above exception. [10]

Q.3) Write an applet application that will act as calculator. Which supports operations - add, subtract, multiply and divide. [10]

Q.4) Write a program which will read the text file character by character and convert into upper case and copy it into another file. [10]

Q.5) Create package 'Sun' and define two classes within that 'Stars' and 'Planet' these classes should have self explanatory methods. Then create other class satellite within that class call all the methods of present in package Sun and classes. [10]

Q.6) [10]



Write a code in java to design above application on click event of AddL whatever text is entered in the textfield should be added in list of left side and AddR for right side. On click event of selected item from left list should be shifted to right and same for shifted to left. On click event of all item from left should be shifted to right and vice versa for . On remove button all selected items should remove from the list.

Q.7) Write short notes : (Any Four) [20]

- Differentiate Final and Finalise
- Differentiate between Overloading and Overriding
- Thread Life Cycle
- Applet Life Cycle
- Methods in Mousetlistener

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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) Explain steps in Installing Windows 2003 Server. Also explain Post Installation Configuration. [20]
- Q.2) Explain Configuring Apache Web Server in Linux. [10]
- Q.3) With help of block diagram explain Microsoft .NET Framwork. [10]
- Q.4) Explain default directories in LINUX. [10]
- Q.5) Explain Web Server and Mail Server Service in Windows 2003. [10]
- Q.6) What is Active Directory ? Explain buitn components of Active Directory. [10]

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

[4x5=20]

- (a) Wireless Network
 - (b) Mail Protocols
 - (c) Connectivity Components
 - (d) WINS
 - (e) Packages in Linux
 - (f) Enterprise UDDI Service in Windows
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4277]-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)** (A) What is IS Audit ? Explain the Audit Procedure in detail. [10]
(B) Explain in detail Format of Audit Report. [10]
- Q.2)** Explain different functions of Steering Committee. [10]
- Q.3)** How Software Acquisition Process is Audited ? [10]
- Q.4)** What is Evidence ? How evidence will help to Resolve Fraud ? [10]
- Q.5)** Explain various controls in ISA'S Internal Procedure. [10]
- Q.6)** Explain IT Act, 2000. How it helps in E-commerce Fraud Detection ? [10]
- Q.7)** Write short notes : **(Any Two)** [10]
- (a) EDI
 - (b) Hacking
 - (c) CAAT

[4277]-34/1

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-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) *Attempt **any three** from the remaining.*
- (3) *Figures to the right indicate full marks.*

-
-
- Q.1)** (A) Criticise the Theory of Scientific Management put forth by F.W. Taylor. [15]
(B) Is Management 'Art or Science' ? Discuss. [10]
- Q.2)** What is the Process of Managerial Decision-making ? Explain in details. [15]
- Q.3)** What is the significance of Organisational Structure ? Write down the Principles of Organisational Structure. [15]
- Q.4)** Discuss the term 'Transactional Analysis'. What is the role of 'Johari Window' in Understanding O.B. ? [15]
- Q.5)** Discuss the essence of Leadership. What are the various Leadership Styles ? [15]

Q.6) Define 'Team Building'. What is the role of Group Dynamics in Team Building ? **[15]**

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

- (a) Theory X, Y
 - (b) Planning
 - (c) Conflict Management
 - (d) Levels of Management
-

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 1

[4277]-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) Explain Call Originating from PSTN to Mobile Station (MS). [10]
(B) Explain Call Handover in GSM Network. [10]
- Q.2)** Explain Hidden Terminal and Exposed Terminal in detail. [10]
- Q.3)** Compare TDMA, CDMA, FDMA. [10]
- Q.4)** Explain Indirect TCP with example. [10]
- Q.5)** How DHCP can be used for Mobility Management ? [10]
- Q.6)** Define MANET. Explain performance issues in Wireless Network. [10]
- Q.7)** Write short notes : (**Any Two**) [10]
- (a) LEO
 - (b) NSS
 - (c) Logical Channel
 - (d) TCP-Freezing

[4277]-401/1

Seat No.	
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Total No. of Questions : 7]

[Total No. of Printed Pages : 2

[4277]-402

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

ASP.NET

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. No. 7 is compulsory.*
- (2) *Solve **any four** from the remaining.*
- (3) *Figures to the right indicate full marks.*

Q.1) Design GUI and write code for following :

[15]

- (a) Add New Record
- (b) Delete Record
- (c) Edit Record
- (d) Use Disconnected Architecture

Table Name - Student (sno, sname, sdob, quailification, address)

SQL Server - College

Server Name - UOP

Q.2) Explain the following controls : (**Any Three**)

[15]

- (a) Login Control
- (b) Dropdown List Control
- (c) Treeview Control
- (d) Listbox Control
- (e) Adrotator

[4277]-402

1

P.T.O.

- Q.3)** Explain Validator Controls. [15]
- Q.4)** Explain Exception handling in ASP.Net. [15]
- Q.5)** Explain how Session Management is done in ASP.Net ? [15]
- Q.6)** Write short notes : (**Any Three**) [15]
- (a) Imagemap Control
 - (b) Web Services
 - (c) ADO.Net Object Model
 - (d) Site Map
- Q.7)** Create theme for Textbox, Buttons and Gridview. Apply theme using web.config file. [10]

OR

- Q.7)** Explain Authentication and Authorization of User. [10]
-

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4277]-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. Nos. 2 to 5.*

Q.1) With continuing security concerns for the airport operations, the protection of internal operational protocols of an international airport has become more critical than ever before. Therefore, the Information Security System (ISS) was developed which can protect the critical information related to airport operations. The ISS can securely protect the computer system at airport by :

- Performing real-time encoding of the users who accessed the protected files and folders.
- Limiting the user's capability to edit the protected documents.
- Blocking the user's access to portable storage devices.
- Inserting security water marks on the printed outputs.

As a system analyst specify the additional threats and security for Airport System. [20]

OR

Q.1) An International Library have decided to perform open transactions. Library will be fully computerised with web based application. No human assistant will operate it for issue/return transactions. Biometric System will be used for accessing Library and CCTV will be fitted inside stack room.

As a system analyst suggest specific biometric system and also suggest a security policy for the application software. [20]

[4277]-403

1

P.T.O.

- Q.2)** What is IPR ? Explain various approach regarding it. **[10]**
- Q.3)** Define Information Security. Explain the role of Security in the Internet. **[10]**
- Q.4)** Discuss in brief the need for VPN and Security Issues. **[10]**
- Q.5)** Explain in detail the three major pillars of Information Security. **[10]**
- Q.6)** Write short notes : **(Any Four)** **[20]**
- (a) Business Continuity Plan
 - (b) COBIT
 - (c) Database Security
 - (d) Intrusion Detection System
 - (e) Ethical Issues for Information Security Professionals
 - (f) Cryptographic Techniques
-

Seat No.	
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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4277]-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 cases :

[2x10=20]

- (a) It is predicted that on 8th March, 2012 the domain servers will collapse and internet facilities will be down and there will be disaster in IT. Any incident can occur. The management want incident Response Team and pre and post incident planning to be done. Suggest composition of IRT and plans you want do for the same.
- (b) Ms. Smita was complaining about somebody is stealing information from her computer. She feels that her computer is hacked. Explain Ms. Smita all different ways of hacking and how to prevent it ?
- (c) Company want to restrict people moving within different departments. Company has given swipe cards for access thru doors. Company feels that this is very old biometric technique. Suggest new biometric techniques company can adopt. State advantages and disadvantages of each of them.

Q.2) What are Organisational Issues ?

[10]

Q.3) What is Cryptography ? How it is helpful for Authentication ?

[10]

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1

P.T.O.

Q.4) What is Multilevel Security ? Explain in detail. **[10]**

Q.5) Discuss the scope and objectives of Information Technology Act, 2000. **[10]**

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

- (a) Granularity
 - (b) Electronic Book-keeping
 - (c) Asymmetric Cryptography
 - (d) Most Common Attacks
 - (e) Access Control
-

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Total No. of Questions : 7]

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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 is compulsory.*

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

-
- Q.1)** (A) Write ASP Code for accepting StudentID, Name, Feespaid from the user. On submit of the form check data entered with following validation : **[10]**
- (a) StudentID - Numeric and Not Null
 - (b) Name - Not Null
 - (c) Fees_paid - Greater than 10,000
- If data is correct write data in database student.mdb.
- (B) Explain various file formats for Images. **[10]**
- Q.2)** Explain various Operators and Control Structures used in JavaScript with example. **[10]**
- Q.3)** Explain Image Handling in HTML Page with example. **[10]**
- Q.4)** Write XML Code to store information about Employee (EMPNO, NAME, SAL) and write HTML Code to display data in tabular format using DSO Object. **[10]**

Q.5) Explain control structures in VBScript with example. **[10]**

Q.6) Explain quantization and transmission of Audio. **[10]**

Q.7) Write short notes : **(Any Two)** **[2x5=10]**

(a) Style Sheets

(b) Lossless Image Compression

(c) Request and Response Objects in ASP

(d) Web Hosting

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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

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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) Elaborate the Communication Process in Action. Explain its essential elements. [15]
- (B) Effective listening can be ensured by taking up a few precautionary measures. Suggest such measures from point of view of a Speaker. [10]
- Q.2)** Examine the statement “A good communicator is one whose non-verbal clues authenticate and reinforce his words”. Give examples in support of your argument. [15]
- Q.3)** Audience needs and subject matter influence the writing a report. A report can be written in a number of styles, however, there are common steps to be taken in report writing. Explain with examples. [15]
- Q.4)** Visual aids dramatically increase the audience’s ability to comprehend and retain a message. What are the different visual aids that can be supplement speeches and presentations. [15]
- Q.5)** Explain the role of Interviewer and respondent in a Job Interview. [15]

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

[15]

- (a) Smile
 - (b) Telephone Manners
 - (c) Proximics
 - (d) Internet and Intranet Links
-

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Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4277]-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 Testing ? Explain Functional and Non-functional Testing ? [04]**
(B) Write test case for ATM Money Withdrawal Operation with necessary rules and regulations. [10]
- Q.2) What is Defect Management ? How it is important ? Explain Process of Defect Reporting and Tracking. [14]**
- Q.3) Describe Unit Level Testing and Integration Testing in detail with suitable examples. [14]**
- Q.4) What is White Box Testing ? Explain various White Box Testing Techniques with example. [14]**
- Q.5) What is Test Plan ? List down contents of Test Plan. [14]**

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

[14]

- (a) Wireless / Mobile Computing Applications
 - (b) Static V/s Dynamic Testing
 - (c) Manual V/s Automated Testing
-

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Total No. of Questions : 7]

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

NETWORK TECHNOLOGY

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 70

Instructions :

- (1) *Q. Nos. 1 and 7 are compulsory.*
- (2) *Solve **any three** from the remaining.*
- (3) *Draw neat diagrams whenever necessary.*

-
-
- Q.1)** (A) Explain the procedure to install Windows Server 2003. [10]
(B) Explain the procedure to configure Apache Web Server in Linux. [10]
- Q.2)** Explain procedure to Configure Firewall in Linux. [10]
- Q.3)** Explain Storage Management Services in Windows Server 2003. [10]
- Q.4)** Explain Directory Structure in Linux. [10]
- Q.5)** Explain Microsoft Software Update Service and its benefits. [10]
- Q.6)** Explain File Management Commands in Linux. [10]
- Q.7)** Write short notes : (**Any Four**) [20]
- (a) VPN
 - (b) STAR Topology
 - (c) Mail Protocols
 - (d) Modems
 - (e) Compare between Hubs and Switches
 - (f) HTTP Protocol

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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 remaining.

Q.1) (A) Write PHP Program to display list of students form STUDENT table of COLLEGE database. **[10]**

(B) Explain Process and Process Control Commands in Linux. **[10]**

Q.2) Explain following Linux Commands with example : **(Any Five) [2x5=10]**

- (a) ls
- (b) cat
- (c) mount
- (d) ps
- (e) more
- (f) tar

Q.3) Explain following MySQL Commands with example : **[10]**

- (a) CREATE TABLE
- (b) SELECT ... INTO
- (c) CREATE USER
- (d) GRANT
- (e) USE
- (f) LOAD

Q.4) Explain Arrays in PHP. **[10]**

Q.5) Explain Authentication in Apache. **[10]**

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

- (a) Functions in PHP
 - (b) Kernel Space
 - (c) Runlevels in Linux
 - (d) MIME in Apache
 - (e) MySQL GUI Tools
-

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Total No. of Questions : 8]

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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. [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 a table 'Employee' with fields EmpNo, Name, DateOfBirth, 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) Create a Class Student :

Data Members : StudentID, Name, Qualification, Percentage.

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

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

- (a) Abstract Classes Vs. Interfaces
 - (b) Data Grid Control
 - (c) List View and Tree View Control
 - (d) Access Modifiers
-

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Total No. of Questions : 7]

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[4277]-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 five** from the remaining.*
- (3) *Figures to the right indicate full marks.*

Q.1) Solve the following :

[20]

- (a) List any four methods of ResultSetMetaData.
- (b) List any four interfaces involved in Java Mail.
- (c) What is Port Number ?
- (d) What are Cookies ?
- (e) What is Deployment Descriptor ?

Q.2) Write JSP application to accept item number from user through HTML page and display description, available quantity, rate and cost of available quantity from underlying table. ITEM table has : ITEMCD, DESCRIPTION, QUANTITY, RATE Fields.

[10]

Q.3) Write working of RMI with the help of suitable example.

[10]

Q.4) Write socket program for client that will send a sentence to server. Server will count the number of characters, special characters, digits from the sentence and send the counts as single string to client. Client program with display output as the passed string from server.

[10]

Q.5) Write servlet program to display department wise employee list and department wise total salary in the client's browser. Given tables (DEPT : DeptNo, Dname,Dloc); (EMP : EmpNo, Ename, DeptNo, Salary). **[10]**

Q.6) Write EJB component to display user details. The Browser client sent user name to the ejb. Through bean retrieve the record of that user from underlined database and display details in client browser. (Assume suitable data)

Remote Interface

Home Interface

Implementation Class

ejb-jar.xml File

Client Program

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

- (a) JSP Include and Forward
 - (b) Session tracking in servlets
 - (c) JNDI
-

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Total No. of Questions : 6]

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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) Solve *any three* from remaining.

-
-
- Q.1) What is Incident ? Explain in detail IRT and CERT. [20]
- Q.2) Explain different Organisational Issues. [10]
- Q.3) Explain Granularity and Sandboxing in detail. [10]
- Q.4) List out most common attacks a defences in detail. [10]
- Q.5) What is Fault Tolerance ? How fault recovers in a Distributed System ? [10]
- Q.6) Write short notes : (Any Four) [5x4=20]
- (a) PKI
 - (b) Behavioural Biometric Techniques
 - (c) Electronic Banking
 - (d) Multilevel Security
 - (e) E-commerce
-

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Total No. of Questions : 7]

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[4277]-45

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. Explain Quality Attributes. [10]
(B) Explain Concept of SCM from Quality Point of View. [10]
- Q.2)** Discuss Quality and Productivity. Explain in detail the Concept of COQ. [10]
- Q.3)** Explain in detail important features of CMM. [10]
- Q.4)** Why quality training is required for Software Quality Team ? [10]
- Q.5)** What is meant by Defect Management ? What are the processes used in this ? [10]
- Q.6)** "Quality Metrics is important in the Software Development Organisation." Justify. [10]
- Q.7)** Write short notes : (Any Two) [10]
- (a) Kaizen Principles
 - (b) PDCA
 - (c) Test Automation Tools
 - (d) Process Inventory

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Total No. of Questions : 6]

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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) *Q. Nos. 1 and 6 must be answered. Attempt **any three** from remaining.*
- (2) *Figure to the right indicate full marks.*
- (3) *Draw neat diagrams wherever required. Neat diagrams carry marks.*

Q.1) (A) A Manufacturing Co. proposes to Computerize On-line Sales Order Processing System. To design the system consider the following important specification :

- (1) Sales Order Acceptance
- (2) Preparation of Delivery Challan Cum Invoice
- (3) Intimation to Service and Production Department

Do the following :

- (a) Physical DFD
- (b) E-R Diagram
- (c) Design Delivery Challan Cum Invoice Form [15]

(B) Explain the role of Service Department in Manufacturing Co. [05]

Q.2) What is SCM ? Explain SCM with the help of block diagram. [10]

Q.3) What is BCP ? Explain the necessary factors in BCP. [10]

Q.4) Define ERP. Explain the pre-requisites to implement ERP. **[10]**

Q.5) Explain Concept of CRM (Customer Relationship Management) **[10]**

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

- (a) OLTP and OLAP
 - (b) Concept of Stock Exchange
 - (c) EDI
 - (d) Insurance Premium
 - (e) Cyber Law
-

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Total No. of Questions : 8]

[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. 8 is compulsory.
- (2) Solve **any five** from the remaining.

-
-
- Q.1)** “CASE TOOL is a tool for Software Testing.” Comment. [10]
- Q.2)** “Automated CASE TOOL is the method which is very useful for all Software Industry.” Comment. [10]
- Q.3)** Is CASE TOOL is a part of Software Engineering or Not ? Justify. [10]
- Q.4)** Define UML and Class Diagram with example. [10]
- Q.5)** Do you think MS-Project is used only by Top Level Management ?
If yes, Why ? No, give explanation. [10]
- Q.6)** What is CASE TOOL ? [10]
- Q.7)** “Use of CASE TOOL for Re-documentation”. Justify [10]
- Q.8)** Draw USE CASE, Collaboration, sequence and activity diagram for On-line Exam System of CAT Exam. [20]
[Assume required data if needed]

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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 are the Models in BPO ? Explain any one model in detail.

Q.2) Training in the BPO Industry is one of the key areas of Concentration. Comment.

Q.3) Why India is chosen as the major Hub BPO Sector ? Explain.

Q.4) What is BPO ? Explain current trends in BPO.

Q.5) What is BPO ? List its Opportunities.

Q.6) Explain 3 layer of BPO.

Q.7) What is the need for Outsourcing ? Explain pros and cons.

Q.8) What are the challenges faced by BPO in India ?

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

- (a) Problems faced by Employees in BPO
 - (b) Adoption of Strategies of BPO in Indian Companies
 - (c) Opportunities in various sectors for BPO Service Provides
-