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**[5567]-101**

**M.C.M. (I Sem.) EXAMINATION, 2019**

**101 : FUNDAMENTALS OF INFORMATION TECHNOLOGY**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Question No. 1 is compulsory.

(ii) Solve any *four* questions from the remaining.

(iii) Figures to the right indicate full marks.

**1.** Draw neat labelled block diagram of computer and explain function of each unit of block diagram. [10]

**2.** (a) Solve : [8]

(i)  $(AC)_{16} = (?)_2$

(ii)  $(111100)_2 = (?)_{10}$

(iii)  $(76)_8 = (?)_{10}$

(iv)  $(82)_{10} = (?)_2$

(b) Give difference between Magnetic Tape and Magnetic Disk. [7]

**3.** (a) What is meant by Communication Media ? Discuss various types of communication media. [8]

(b) Define software and explain types of software in detail. [7]

P.T.O.

4. (a) Explain any *two* output devices in detail. [8]  
(b) Give difference between Compiler and Interpreter. [7]
  
5. (a) Define Computer Network and explain various benefits of its. [8]  
(b) Discuss various computer languages. [7]
  
6. (a) Give difference between Multiprogramming and Multi-processing. [8]  
(b) Explain Primary Memory with its types. [7]
  
7. (a) Discuss the need of Special Processors. [8]  
(b) Explain File Management function of Operating System. [7]

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**[5567]-102**

**M.C.M. (First Semester) EXAMINATION, 2019**

**102 : C PROGRAMMING AND DATA STRUCTURE**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Question No. 1 is compulsory.

(ii) Solve any *five* from the remaining.

(iii) Figures to the right indicate full marks.

1. (a) Find and explain output of the following programs. Assume suitable header files : [12]

(i) Void main()

```
{  
int x=123, z=x++ +100;  
printf("%d\n%d",x,z);  
}
```

(ii) Void main()

```
{  
void swap (int, int);  
int a=5, b=7;  
swap (a, b);  
printf("\na=%d and b=%d", a,b);
```

P.T.O.

```
}  
void swap (int a, int b)  
{  
    int c=a;  
    a=b;  
    b=c;  
}
```

```
(iii) void main( )  
{  
    int k=0; int arr[10];  
    while (k<10)  
    {  
        arr[k]=k+1;  
        printf("%d", arr[k]);  
        k++;  
    }  
}
```

```
(iv) 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*) : [8]

- (a) Data types in C
- (b) Linked list
- (c) Constants and macros.

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

```

A   B   C   D   E
a   b   c   d
A   B   C
a   b
A

```

3. Write a C program to accept two matrices of order  $3 \times 3$  and print subtraction of the two matrices. [10]
4. Write a C program to accept a string and convert all uppercase characters into lowercase, all lowercase characters to uppercase, replace all digits with 9 and all other special characters with \* then print the string. [10]
5. Write a recursive function to accept two numbers and return multiplication of the two numbers without using multiplication operator. [10]
6. Write a C program to accept name of the file on command line and print the even numbered lines only, with line number. [10]
7. Write a program that accepts in an array of structure name and telephone number of 30 people. Sort them on name in ascending order and display in tabular form. [10]

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**[5567]-103**

**M.C.M. (I Semester) EXAMINATION, 2019**  
**103 : SOFTWARE ENGINEERING WITH UML**  
**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

- N.B. :—** (i) Question No. 1 and 6 are compulsory.  
(ii) Solve any *three* question from the remaining.  
(iii) Neat diagrams carry marks.

1. A computerized authoring tool is to be developed so that several authors can write a book simultaneously over a network. A book has several chapters which in turn will have sections and sub-sections, author can add data in the form of paragraphs to existing sub-section or if needed add new subsections. Author can modify data added by them but not the data added by other but can view data added by them. One of the authors is designated as editor who can add, modify, delete paragraphs added by author *i.e.* he can add remove statements or even words. Apart from the pages containing the chapters, there are other pages such as preface, forward index, references, contents; author can add these pages already existing can be modified.

- (i) Draw E-R Diagram [10]  
(ii) Draw Data Flow Diagram [10]  
(iii) Normalized File Design/Layout [5]

P.T.O.

2. (a) Explain Role of System Analyst ? [5]  
(b) Describe different sections of SRS in detail ? [5]
3. A system is need to be designed for a department store dealing with a consumer items. Member enjoys 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 mernber by paying initial membership amounts and gets credit card. He has to pay his outstanding on quarterly basis. System sends reminders to the members. Defaulters are not allowed to purchase items until the defaulter amount is cleared. Consider different aspects of the above problems and model them appropriately.
- (a) Draw a use case Diagram [5]  
(b) Draw the class diagram [5]
4. Explain Decision Tree and Decision Table with suitable example ? [10]
5. Describe SDLC and its phases in detail ? [10]
6. Write shorts notes (any *three*) : [15]  
(a) RUP  
(b) Data Abstraction and Data Encapsulation.  
(c) Functional and Non-functional Requirements  
(d) Waterfall Model of SDLC.



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**[5567]-104**

**M.C.M. (I Semester) EXAMINATION, 2019**  
**104 : DATABASE MANAGEMENT SYSTEM (DBMS)**  
**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. No. 1 is compulsory.

(ii) Solve any *five* questions from the remaining.

(iii) State assumptions whenever necessary.

1. A tours and travels system is to be computerized which has the following details : [20]
  - (a) Customer books seat in a tour.
  - (b) If booking by customer is in bulk then he can avail discount.
  - (c) A tour has many stations.
  - (d) A tour rate is calculated as per distance to be travelled (km).
  - (e) A tour has tour manager.
  - (f) Assume that driver drives the assigned bus. for the above case, draw an ER diagram and normalize upto 3NF.
  
2. Explain the concept of serializability and its types. [10]
  
3. Explain any *five* notations used in relational algebra with example. [10]
  
4. Explain various recovery techniques. [10]
  
5. Explain 3-tier architecture of DBMS. [10]

P.T.O.

6. Explain ACID property of transaction. [10]
7. Write short notes on (any *two*) : [10]
- (1) Database Security
  - (2) Data warehousing
  - (3) Locking techniques
  - (4) Characteristics of DBMS.

Total No. of Questions : 7]

SEAT No. :

P4755

[Total No. of Pages : 3

[5567]-11

MCM

101 : C PROGRAMMING

(2008 Pattern)

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates :*

- 1) *Q.1 is compulsory.*
- 2) *Solve any five from remaining question.*

**Q1) A)** Trace the output and justify the answer. Assume suitable header files. **[12]**

```
a) void main()
    {
    int x;
    x=3%7+8/6;
    printf("x=%d",x);
    }

b) int x=10;
void main()
{
Printf("%d",x);
{
Int x=20;
{
Int x=30;
Printf("%d",x);
}
Printf("%d",x);
}
}
```

**P.T.O.**

```

c) void main()
    {
    int x=2 , y=3;
    x=++x*++x;
    y=++y*++y;
    x=x++*y++;
    y=y++*x++;
    printf("x=%d\ty=%d",x,y);
    }

```

```

d) voidmain()
    {
    void ser();
    int i;
    for(i=0;i<10;i++)
        ser();
    }
void ser()
{
static int n=5;
printf("\t%d",n);
n=n+5;
}

```

B) Explain the following (Any two) [8]

- a) Data Types in C
- b) Recursive function
- c) Dynamic Memory allocation

**Q2)** WAP to display following pattern using nested loops [10]

```

1
2 3
4 5 6
7 8 9 10

```

- Q3)** Write a program to accept two  $3 \times 3$  matrices and display the addition on the screen. **[10]**
- Q4)** Write a recursive function which receives the string and return the length of the string. **[10]**
- Q5)** Write a program to accept bill no, customer code ,name and amount of 100 bills into a structure and print the details of the customer with maximum amount. **[10]**
- Q6)** Write a program to accept the two file names from the user and copy the contents of first file to the second file. **[10]**
- Q7)** Write a program to accept the 10 numbers and display the numbers by sorting in descending order. **[10]**



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**[5567]-201**

**MCM (Second Semester) EXAMINATION, 2019**  
**201 : BUSINESS APPLICATION AND ERP TOOL**  
**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**Instructions to the Candidate:**

1. All questions are compulsory  
Figures to the right indicate full marks

Q.1.A] What is Payroll? Draw the layout of Pay Slip & Explain all Income and Deduction heads? [10]

OR

B] Explain recruitment process with the help of DFD. [10]

Q.2.A] What is MRP? How it affect directly on production? [10]

OR

B] Explain FIFO and LIFO methods with examples? [10]

Q.3.A] Draw the normalized employee database for HRM for Multinational organization? [10]

OR

B] Explain the procedure to prepare Profit and Loss A/c along with it's format for any small scale company who engaged in automobile sector. [10]

Q.4.A] Define Market Segments. Specify Different Market Segments. Explain how different market segment boost sales. [10]

OR

B] What is sales budget? Explain the different market segments used to boost sales? [10]

P.T.O.

**Q.5.A] What is ERP? What are the different phases of ERP implementation life cycle? [10]**

**OR**

**B] What is the role of ERP implementation team? [10]**

**Q.6.A]What do you mean by BOM? List the types of BOM. Draw the layout of BOM? [10]**

**B] Draw layout of Trial Balance. Explain the significance of Trail Balance in Financial Accounting System?[10]**

**Q.7.A]What is ratio Analysis? Describe how the Financial Ratio Analysis supports Management to make Decisions? [10]**

**B]Write short notes on (any Two) [10]**

- a) Types of Accounts
- b) Material Requisition
- c) Stock Ledger

Total No. of Questions—7]

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**[5567]-202**

**M.C.M. (II Semester) EXAMINATION, 2019**

**202 : PRINCIPLES AND PRACTICES OF MANAGEMENT AND  
ORGANIZATIONAL BEHAVIOUR**

**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 1 is compulsory.

(ii) Solve any *three* out of the remaining.

(iii) Figures to the right side indicate full marks.

1. (a) Define management. Explain management process in detail and its importance. [15]  
(b) “Leader are made not be made”. Justify. [10]
2. What is decision-making. Elaborate Herbert Simon model with example. [15]
3. Explai how administrative theory applicable to the current industry. [15]
4. Define motivation. Elaborate theories of X, Y and Z. [15]
5. Define ego state. Explain how transactional analysis used to resolve conflict. [15]

P.T.O.



6. What is group ? Explain process of group formation and discuss the importance of group formation. [15]
7. Write short notes on (solve any *three*) [3×5=15]
- (a) Team building process
  - (b) Global cultural behaviour
  - (c) Johari Window
  - (d) Organizational structure
  - (e) OB need and importance.

Total No. of Questions—6]

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**[5567]-203**

**M.C.M. (II Semester) EXAMINATION, 2019**  
**203 : ADVANCED RDBMS USING ORACLE**  
**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

- N.B. :—** (i) Q. Nos. 1 and 6 are compulsory.  
(ii) Attempt any *three* from the remaining.  
(iii) Figures to the right indicate full marks.

1. Consider the following tables to solve (any *ten* queries) : [20]  
PARTICIPANT (P\_id, Pname, Gender, DOB, City, State).  
RESEARCH\_PAPER (Paper\_id, Paper\_Name)  
PAPER\_PARTICIPANT (P\_id, Paper\_id, Status).
- (1) Display the research paper authored by 'Jai Prabha'.
  - (2) Display All female participants from "New Delhi".
  - (3) Display List of participants who are above 30 years old (Age).
  - (4) Display List of Participants whose name starts with "B".
  - (5) Display the name of participants whose paper has been "SELECTED".
  - (6) Display the papers from all participants from Pune.
  - (7) Display the Youngest Participant Name.
  - (8) Display the List of all papers which are "not selected".
  - (9) Display the Participant who are awarded "BEST PAPER". Also Display Paper Name.
  - (10) Display List of male Participants from "MAHARASTRA".
  - (11) Display total No. of papers presented.
  - (12) Display Pname, Gender, City, Paper\_name, Status.

P.T.O.

2. Write a Function Display() which accept the P\_id and display participant Name.  
[PARTICIPANT (P\_id, P\_Name)] [10]
3. Write a package specification and body which contains the following :[10]  
(a) A procedure which accept the number and calculate the factorial of given number.  
(b) A function which accept the number and if it is Odd or Even.
4. Write the procedure to display : [10]  
A  
A B  
A B C  
A B C D  
A B C D E
5. Explain the various Database Recovery Methods. [10]
6. Write short notes on (any *four*) : [20]  
(a) Set Operators  
(b) Views in Oracle  
(c) Exception Handling  
(d) Data Types in Oracle  
(e) DDL Commands.

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**[5567]-204**

**M.C.M. (II Sem.) EXAMINATION, 2019  
204 : JAVA PROGRAMMING  
(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**Note: -**

- 1. Question 1 is compulsory.**
- 2. Attempt any 5 questions from the remaining.**
- 3. Figures to right indicate full marks.**

- 
- Q.1** A. Explain the following : **[10]**  
(a) What is an Exception?  
(b) List down different methods in Object class  
(c) Keywords 'static' and 'final'.  
(d) List down different methods of File class.  
(e) How to create Object of thread ?
- B. Differentiate between **[10]**  
a. Class and Interface  
b. Method overloading and method overriding
- Q.2** Write a class Item with properties, itemId, description, quantity, price. Take the details for 5 items and store these details using array of Item. Print the details of these 5 item objects. **[10]**
- Q.3** Write java application to demonstrate Inheritance, polymorphism. **[10]**
- Q.4** Write an AWT application which will take the color from the user and draw a circle of that colour. **[10]**
- Q.5** Write a program which will accept a string from the user at command line. If this string matches "VIRUS" then throw a "VirusFoundException". Else print a message, "your system is virus free!". **[10]**

P.T.O.

**Q.6** Write a program in Java which will take a string from the user and print the reverse of the string. For printing the reverse no ready made String class functions can be used. **[10]**

**Q.7** Explain the following (any two): **[10]**

- (a) Life cycle of a thread
- (b) Different access modifiers in Java
- (c) Flow layout and Border Layout

Total No. of Questions—5]

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**[5567]-21**

**MCM (Second Semester) EXAMINATION, 2019**

**201 : DATA STRUCTURE AND ALGORITHM**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

- N.B. :-i)** All questions are compulsory  
ii) State your assumptions clearly, if any.  
iii) Write appropriate structure definitions wherever necessary  
iv) Figures to the right indicate full marks.

1. (A) Convert the following Infix expression to Postfix expression  
Show the contents of stack at each step in tabular form : [8]  
 $((a + b) + c * (d + e) * f) / (g + n)$
- (B) Evaluate the following postfix form : [7]  
AB-CD+E/-  
Where A=8, B=4, C=5, D=4 & E=9. Show the contents of stack at  
each step in tabular form .
2. Answer any three of the following [15]
- a) Write a function to insert and delete the element from queue
- b) Write an algorithm for Heap sort
- c) Write a function to count leaf nodes of the BST
- d) Construct AVL tree for the following tokens :  
CPP , VB , PYTHON , JAVA , ASP

P.T.O.

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

(a) Consider a message :

WHATSAPP

Draw a Huffman tree for the message . What kind of tree is Huffman tree ?

(b) Sort the following numbers using Insertion sort :

45 , 89 ,23 ,-5 ,60, 56

(c) Consider declaration

double arr[30][40];

Compute row major and column major address of an element arr[21][15] when base address is 7000 .

d)Write a function to delete element from any location in doubly linked list.

4. Answer any three of the following [15]

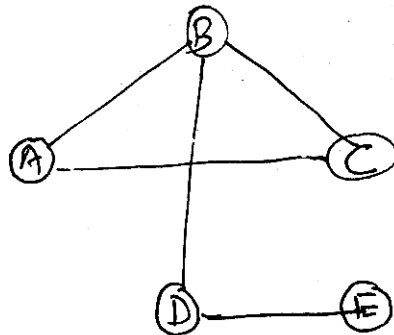
(a) Write a function to merge two linked list and create third linked list .

(b)Write a short note on Hashing

(c) Write a function to display elements in circular queue .

(d) Write a function for Binary Search in an array .

5. Answer using the following graph :



- i)Adjacency Matrix representation [3]
- ii)Adjacency List representation [3]
- iii)Generate output of BFS ,when starting vertex is A [4]



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**[5567]-22**

**M.C.M. (II Sem.) EXAMINATION, 2019  
203 : CORE RUBY  
(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 1 and 7 are compulsory.  
(ii) Solve any *four* from the rest.

Q.1) Find output of the following : [15]

- a) `x = 1`  
`while x < 100`  
`puts x`  
`x = x * 2`  
`end`
- b) `y = []`  
`y << "Ruby"`  
`y << "Java"`  
`y << "HTML"`  
`puts y.pop`  
`puts y.pop`  
`puts y.length`
- c) `a = [2, 4, 6, 8, 10, 12]`  
`puts a[1..4].inspect`  
`a[1..3] = ["a", "b", "c"]`  
`puts a.inspect`
- d) `print "Hello\n"` while false  
  
`begin`  
  
`print "Good Morning \n"`  
  
`end while false`
- e) `(1..10).each {|x| print x if x == 3 ... x>=3}`

P.T.O.

- Q.2) Write a ruby program to print numbers which is divisible by 5 [10]  
and 7 from 1 to 100.
- Q.3) Write a program that reads a file and prints total number of [10]  
words and total number of lines in the file.
- Q.4) Design a class for Book\_Master with instance variables [10]  
(Bookid,Bookname, AuthorName, and Price)  
Write a routine to accept 50 records and store it in array.  
Write a method MaxBooks that prints author's name who had  
written maximum books and also prints book details of that  
author.
- Q.5) Write a program to accept 2 strings and check given strings are [10]  
equal or not.
- Q.6) Write a Ruby program to print the following pattern. [10]  
5 4 3 2 1  
5 4 3 2  
5 4 3  
5 4  
5
- Q.7) Write short notes : (Any Three) [15]  
a) Nested Classes  
b) Symbols  
c) Garbage Collection  
d) OOPs in Ruby  
e) File Handling

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**[5567]-23**

**M.C.M. (Sem. II) EXAMINATION, 2019**

**206 : OBJECT ORIENTED DESIGNING**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Question No. 1 is compulsory.

(ii) Answer any *five* from the remaining.

(iii) Mention assumption made for solving case study.

1. (a) Anand Services is a Vehicle Inspection Centre. The centre carries out the inspection process as follows :

Customer arrives at the centre with his vehicle and stand in a queue. The data of vehicels are recorded when they come for initial inspection and the registration number is allocated to them. For the next inspection customer has to provide his registration number. The clerk searches the vehicle information with the help of the registration number. Actual inspection is performed and the vehicle data is updated. The future appointment data is generated by the clerk for vehicle inspection. The clerk has to maintain the dates for which bookings for inspection are full and should also consider the holidays on which the centre is closed.

Draw use case and class diagram for the above case. [15]

- (b) Explain aggregation and composition with example. [5]

P.T.O.

2. Explain RUP in detail. [10]
3. (a) Draw a sequence diagram for send Email with Attachment. [5]  
(b) Concept of pattern and Antipattern. [5]
4. Explain different approaches to identify classes. [10]
5. (a) Draw a state transition diagram for an automatic washing machine. [5]  
(b) Draw the activity diagram ter online flight reservation system. [5]
6. Explain Coad-Yourdan methodology for Object Oriented Analysis (OOA). [10]
7. Write short notes (any *two*) : [10]
  - (a) Testing strategies
  - (b) Checking completeness and correctness
  - (c) Design user interface layer
  - (d) Mapping object to rational data structure.

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**[5567]-24**

**M.C.M. (III Sem.) EXAMINATION, 2019**

**301 : LINUX PROGRAMMING**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 1 and 6 are compulsory.

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

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

b) Explain Configuring Virtual Host in Apache Web Server. [10]

**Q.2** Write MySQL Commands for following: [5x2=10]

a) To create Database PROJECT of type InnoDB

b) To create table EMPLOYEE with proper constraints.

c) To display all employees born before 1992.

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

e) To remove column salary from EMPLOYEE Table.

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

a) Renice

b) Tar

c) Sort

d) Kill

e) Cat

f) Find

**Q.4** Explain different types of arrays in PHP with example. [10]

P.T.O.

**Q.5** Explain use of include ( ) and require ( ) in PHP with suitable example. **[10]**

**Q.6** Write Short Notes on [Any Four] **[4x5=20]**

- a) Constructors in PHP
- b) Server Side Includes in apache
- c) Loops in PHP
- d) Package Management in Linux
- e) MySQL GUI Tools

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**[5567]-25**

**M.C.M. (Sem. III) EXAMINATION, 2019**

**304 : ADVANCED RUBY**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. 1 and Q. 6 are compulsory.

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

1. (a) Explain Restful Architecture in Rails.  
(b) Using Ruby UDP Socket write a client that passes string 'Happy' to the server and server responds by appending 'Diwali' and sending 'Happy Diwali' string with current date and time. [20]
2. Write migration for creating table employee having empno, name, address and phonno fields. [10]
3. Write authentication method in ATM Model which will accept ATM Card Number and Pin No. as parameters. If ATM Card with provided Pin No. is present in Database, then return ATM object; otherwise return nil. [10]
4. Write a SOAP Server which defines a method that accepts a number from client and returns whether that number is prime or not. Write SOAP Client Application also. [10]

P.T.O.

- 5.** Write a Toolkit program that create Movie ticket booking API. (Make suitable assumption) [10]
- 6.** Write short notes on (any *four*) : [20]
- (a) Label and Radiobutton widget in Ruby TK
  - (b) Web Scaffolding
  - (c) Database Relationships
  - (d) Session and Cookies
  - (e) Message Box widget with example.



Total No. of Questions—8]

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**[5567]-26**

**M.C.M. (III Semester) EXAMINATION, 2019**

**305 : VB.NET**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. No. 1 and Q. No. 8 are compulsory.

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

(iii) Figures to the right indicate full marks.

1. Draw and explain .Net Framework architecture in detail. [15]

2. Describe the use of each of these visual studio windows :  
Forms Designer, Code Editor, Solution Explorer, Properties, Server  
Explorer. [10]

3. Create a class 'Bank' with the following criteria :

Data Members : Account\_No, Name, Type, Amount.

Write default constructor for data initialization.

Write methods :

(a) Withdraw (amt float) – To withdraw amount.

(b) Deposit (amt float) – To deposit amount.

Write console based application to test your class. [10]

P.T.O.

4. Design a form and write ado.net code to perform Insert, Update, Delete, First, Next, Previous and Last operations on ItemTable (ItemID, ItemName, Price, Company).  
SQL Server Name : SPPU, User Name : MCM, Password : Pune. [10]
5. Write a program which will read and copy text file using StreamReader and StreamWriter. [10]
6. Explain ADO.Net architecture in detail. [10]
7. Explain the following controls : [10]
- (a) Radio Button
  - (b) Combo Box
  - (c) Status Bar
  - (d) Text Box.
8. Write short notes on the following (any *three*) : [15]
- (a) Crystal Reports
  - (b) Method Overloading
  - (c) Error Handling in VB.Net
  - (d) Image List Control.

Total No. of Questions—7]

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**[5567]-27**

**M.C.M. (III Semester) EXAMINATION, 2019**  
**306 : SOFTWARE PROJECT MANAGEMENT**  
**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. No. 1 and 7 are compulsory.

(ii) Solve any *four* questions from the remaining.

1. Explain various techniques of project tracking. [15]
2. Which factors are considered while forming teams in IT organizations ? [10]
3. Explain how software size is estimated, also explain advantages and disadvantages. [10]
4. Explain procedure followed while acquiring any hardware. [10]
5. Explain and compare different user acceptance testing techniques. [10]
6. Which factors are considered while setting a computer centre ? [10]
7. Write short notes on (any *three*) : [15]
  - (1) Contents of project plan
  - (2) COLOMO
  - (3) FTR
  - (4) Configuration Audit.

Total No. of Questions—6]

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[5567]-28

M.C.M. (IV Sem.) EXAMINATION, 2019

CYBER LAW

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 70

**Instructions:**

- (1) Q. Nos. 1 and 6 are compulsory.
- (2) Solve any three from Q. Nos. 2 to 5.

Q.1) Many a user while accessing website of a corporate observes sometimes a window appears on a page displaying some erroneous messages even though the page is loaded correctly. Mr. Babu, cyber security, feels that the site is being hacked by intruder using some kind of Technical Attack and some code is introduced by the hacker. Guide Mr. Babu with various types of technical attacks and measures to prevent such attacks. [20]

Q.2) What is Hash Function? Explain its role in detail. [10]

Q. 3) Differentiate between Multilevel and Multilateral security with the help of example.[10]

Q.4) Explain various Biometric Techniques. [10]

Q.5) Explain Hacker, Hacking and Hacking Techniques. [10]

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

(a) Digital Signature

(b) Asymmetric Cryptography

(c) Monitoring Systems

(d) Concurrency in Distributed Systems

(e) Access Control List

(f) Incident Response Team

[5567]-28

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[5567]-29

**MCM (Fourth Semester) EXAMINATION, 2019**

**405 : MULTIMEDIA AND WEB DESIGNING**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**Instructions:**

- (1) Question No. 1 and 7 are compulsory.
- (2) Answer any 4 from the remaining.
- (3) Net Diagrams carry marks

- Q.1) (A) Explain Built-in Objects in ASP. [10]  
(B) Explain difference between XML and HTML. [05]

- Q.2) (A) What is Multimedia? Explain Components of Multimedia. [05]  
(B) Explain MIDI Messages. [05]

- Q.3) (A) Write HTML Code to draw table: [05]

A	C	D	
1	2	3	4
	5	6	7
8	9	10	11
12		13	14

- (B) Explain Loop Statements in JavaScript. [05]

- Q.4) (A) Explain Colour Models. [05]  
(B) Explain 1-bit and 8-bit Images. [05]

- Q.5) Design Interface for accepting id, name, DOB, passwd, from user. Checks following validations on submit and show error messages to user. If data is valid then transfer control to insert.asp page. [10]

- (a) id : Not null, Numeric
- (b) name: Not null
- (c) passwd : password length should be greater than 8 characters

P.T.O.

Q.6) Create a cookie to store user name and login time and display total time used by the user when he clicks logout. **[10]**

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

(a) Analog and Digital Signal

(b) Image File Data Types

(c) Array Object in ASP

(d) XSLT

(e) Style Sheets

Total No. of Questions—8]

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**[5567]-30**

**M.C.M. (IV Semester) EXAMINATION, 2019**

**NETWORK TECHNOLOGY**

**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. No. 8 is compulsory.

(ii) Attempt any *five* from the remaining.

(iii) Write your assumptions.

(iv) Figures to the right indicate full marks.

(v) Draw neat diagrams wherever necessary.

1. Describe the Linux File System and structure in detail. [10]
2. Write the steps for the implementation of Windows 2003 VPN.[10]
3. Explain with example User Management Commands in Linux. [10]
4. Explain IIS and steps for implementing Web Services in IIS. [10]
5. Explain Network Management and File Management Commands in Linux. [10]
6. Explain Windows Rights Management Services in detail. [10]
7. Explain Procedure to configure DHCP Server in Windows 2003 Server. [10]

P.T.O.

8. Write short notes on (any *four*) :

[20]

- (a) Application Protocols
- (b) Mail Protocols
- (c) Network topologies
- (d) Wi-Fi Network
- (e) Default Directories in Linux
- (f) HTTP
- (g) Firewall.



Total No. of Questions—6]

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**[5567]-301**

**M.C.M. (III Sem.) EXAMINATION, 2019**

**301 : INFORMATION SECURITY AND AUDIT**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Question Nos. 1 and 6 are compulsory.

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

(iii) Figures to the right indicate full marks.

1. Solve any *two* cases :

[20]

**Case 1**

Pratham education institute having branches all over the India. Institute conducting various online exams as per need of syllabus and company requirement for the institute students only. Students register through site, admin check and verify the user and send the user name and password to students through mail as system expert identify threats regarding system also suggest security control.

**Case 2**

The ABC Hospital Management has decided to computerized their hospital i.e. Hospital Management for IPD and OPD System. There are Doctors who are full time, Resident and visiting with various specializations, Consulting doctors visiting hospital at different hours of the week. Charges for the same can vary from doctor to doctor

P.T.O.

depending on their experience. Patients are admitted to the hospital for various reasons according to the category. Room charges are also vary according to the category of room. In the Hospital Employee are recorded the different information time to time and mention the different records such as Patient Records, Doctors Records, Bill Records etc. as security manager suggest different access role and also suggest some access control, security control to maintain system security.

### **Case 3**

Cybercrime increased rapidly. People are not aware about cybercrime and how to protect the valuable data and information assets as Computer Expert suggest impact of cybercrime and some guideline to computer user to protect data.

2. What are the threats to information systems security ? [10]
3. How organizations manage security of their information systems ? [10]
4. What is Firewall ? Explain with merits and demerits. [10]
5. Explain Cryptographic techniques with its types. [10]
6. Write short notes on (any *four*) : [20]
  - (i) Physical Security
  - (ii) Cybercrime with Mobile Device
  - (iii) Threats for E-Mail
  - (iv) COBIT model
  - (v) Security of virtual private networks.

Total No. of Questions—7]

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**[5567]-302**

**M.C.M. (Third Semester) (Specialization) EXAMINATION, 2019**

**302-NT : BASICS OF NETWORK TECHNOLOGIES**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Solve any *five* form **1** to **6**.

(ii) Question No. **7** is compulsory.

1. Explain .NET Framework. [10]
2. Explain features of various types of Servers. [10]
3. Explain steps for implementing Active Directory and Domain. [10]
4. Explain various Network Connectivity Components. [10]
5. Explain with example. [10]
6. What is Internet Service Provider ? Explain various types of ISP. [10]
7. Write short notes on (any *two*) : [20]
  - (a) User Management Commands in Linux
  - (b) Domain Name System (DNS)
  - (c) Application Protocols.

[5567]-302

Total No. of Questions—8]

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**[5567]-303**

**M.C.M. (III Semester) EXAMINATION, 2019**  
**303NT : SERVER AND DESKTOP TECHNOLOGIES**  
**(Specialization—II)**  
**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** Solve any *seven* questions.

1. Explain the process of hardware and driver installation in Windows 7. Discuss network installation process in Windows 7. [10]
2. Explain mother board along with its components and various interfaces. [10]
3. Explain the process of repairing Windows XP and Bluetooth configuration in Windows 7. [10]
4. Explain 80286 microprocessor architecture with suitable diagram. [10]
5. Give installation steps for Windows XP professional edition. [10]
6. How to upgrade from Windows XP to Windows 7 ? Explain. [10]
7. Explain pipelining and pipelining types in detail. [10]
8. What is interrupt ? Explain different types of interrupts. [10]

Total No. of Questions—7]

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**[5567]-304**

**M.C.M. (III Semester) EXAMINATION, 2019**

**304-NT : SYSTEM ADMINISTRATION AND SERVER INTEGRATION**

**(Specialization-III)**

**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 1 and 7 are compulsory.

(ii) Answer any *three* questions from remaining.

(iii) Figures to the right side indicate full marks.

(iv) Draw neat diagram wherever necessary.

1. (a) Explain Features Active Directory and Domain Services in Window server 2003. [10]  
(b) Explain User Management and Group Management Command in Linux. [10]
2. What are the features of Windows Server 2008 ? Explain functionality of Directory services. [10]
3. Explain Services in Linux. How are services selected for startup in Linux ? [10]
4. What are the installation steps of Fedora Operating System ? Explain. [10]
5. Explain in detail Installation procedure of Windows Server 2003.[10]

P.T.O.

6. Explain with examples. File Management and Print Management Command in Linux. [10]
7. Write short notes on (any *four*) : [20]
- (a) Windows 2003 Server Role
  - (b) Linux Apache Server
  - (c) Distributed Operating System
  - (d) Architecture of Linux OS
  - (e) Package Management.

Total No. of Questions—7]

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**[5567]-305**

**M.C.M. (Third Semester) (Specialization) EXAMINATION, 2019**

**B : 302-ST : SOFTWARE QUALITY ASSURANCE**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Question Nos. 1 and 7 are compulsory.

(ii) Solve any *four* questions from the remaining.

(iii) Figures to the right indicate full marks.

1. Explain project life cycle in detail with the role of stakeholders. [15]
2. What is Review ? Explain different types of Review. [10]
3. What do you understand by SQA ? Describe major activities necessary for effective SQA. [10]
4. Define Software quality. Describe errors, fault and failure with proper justification. [10]
5. What is risk management ? Explain different stages involved in risk management. [10]

P.T.O.

- 6.** What is IEEE 1012 standard ? Explain it in detail. [10]
- 7.** Write short notes on (any *three*) : [15]
- (a) Corrective and preventive actions
  - (b) Staff training
  - (c) Software maintenance
  - (d) Release and version control.



Total No. of Questions—6]

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**[5567]-306**

**MCM (III Semester) EXAMINATION, 2019**

**303-ST : SOFTWARE TESTING PROCESSES AND DOCUMENTATION**

**(Software Testing Specialization)**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :-** (i) Question No. 1 and 6 are compulsory.

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

1. What is Verification and Validation ? Draw and explain V and V life cycle in detail. [14]
2. (a) Explain Software Testing Life Cycle with neat diagram. [7]  
(b) Compare Functional and Structural Testing Techniques. [7]
3. What are various factors affecting the Software Testing Process ? Explain acquitted software and various challenges faced by testers for testing acquitted software. [14]
4. What do you understand by Defect ? Discuss how to reduce the frequency of defects in software development. [14]

P.T.O.

- 5.** Discuss Internal controls of Software Testing. Explain Internal Control Models. [14]
- 6.** Write short notes on (any *two*) : [2×7=14]
- (a) Penetration Point Matrix
  - (b) COTS Software Test Process
  - (c) Incremental Testing.

Total No. of Questions—8]

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**[5567]-307**

**M.C.M. (III Semester) EXAMINATION, 2019**

**304 ST : SOFTWARE TEST PLANNING AND DOCUMENTATION  
(Specialization-III)  
(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Solve any 7 questions.

(ii) All questions carry equal marks.

1. Explain use cases. Write down use cases for android based student attendance system. [10]
2. How test plan is documented ? Discuss test plan standards.[10]
3. Explain Erroneous test cases and Stress test cases. [10]
4. Discuss in detail various risks associated with software development.[10]
5. Explain User Acceptance Testing. [10]
6. Explain Acceptance test plan and execution. [10]
7. Discuss various Tools used to prepare test report. [10]
8. Write short notes on (any two) : [10]
  - (a) Risk Mitigation
  - (b) System Testing
  - (c) Test Matrix.

Total No. of Questions—7]

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**[5567]-308**

**M.C.M. (Third Semester) EXAMINATION, 2019**

**302-SD : PROGRAM AND DESIGN WITH ASP.NET**

**(Specialization—I)**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. No. 1 is compulsory.

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

1. Draw and explain .NET framework architecture. [10]
  
2. Design form and write code : [15]
  - (a) Add new cord
  - (b) Delete record
  - (c) Edit record.(Table Name : Company (cid, cname, cadd, cphone, cemail).
  
3. Explain client side state management techniques. [15]
  
4. Explain validation controls. [15]
  
5. Explain object-oriented concepts in detail. [15]

P.T.O.

**6.** Explain the following controls (any *three*) : [15]

- (a) Text box
- (b) Radio button
- (c) Drop down list
- (d) Wizard.

**7.** Write short notes on (any *three*) : [15]

- (a) LINQ
- (b) Web services
- (c) Exception handling
- (d) ADO.NET.

Total No. of Questions—7]

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**[5567]-309**

**M.C.M. (Third Semester) EXAMINATION, 2019**

**S/W DEVELOPMENT SPECIALIZATION**

**(302-SD : Mobile Programming Using Android)**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 2 and 7 are compulsory.

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

1. (a) Describe the cursor in SQLite. Explain it with example. [20]  
(b) Differentiate between interface and abstract class.
  
2. Explain any *four* layout with example in Android. [10]
  
3. Discuss cursor and content values in android. [10]
  
4. Explain in detail java classes and object. [10]
  
5. What are the various steps involved in creating a content provider. [10]
  
6. Explain Android Architecture. [10]

P.T.O.

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

[20]

- (a) Broadcast service life cycle
- (b) Views in android
- (c) Android version and features
- (d) VI components
- (e) SQLite open helper.

Total No. of Questions—9]

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**[5567]-31**

**M.C.M. (IV Sem.) EXAMINATION, 2019**

**407 : QUALITY CONTROL AND SOFTWARE TESTING**

**(2008 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Solve any *seven* questions.

(ii) *All* questions carry equal marks.

1. Write test cases for functional testing of student admission screen that accepts User ID and Password from student, after successful registration allows the student to view admission details.
2. Explain V model of software testing, also explain various deliverables of testing process.
3. Explain and compare functional and non-functional testing.
4. Explain various testing tools used in testing process.
5. How web applications or E-commerce applications are tested ?
6. Explain testing maturity model.

P.T.O.



7. Explain various test metrics.
8. Explain various IEEE standards used in Software testing.
9. Write short notes on any *two* :
  - (a) Agile testing
  - (b) Inspection
  - (c) Flow graph testing
  - (d) Object oriented testing.

Total No. of Questions—7]

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**[5567]-310**

**M.C.M. (III Semester) EXAMINATION, 2019**

**304 SD : ADVANCED JAVA**

**(Specialization-III)**

**(2012 PATTERN)**

**Time : 3 Hours**

**Maximum Marks : 70**

**N.B. :—** (i) Q. Nos. 1 and 7 are compulsory.

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

1. Answer the following (any *five*) : [15]
  - (a) What is stub and skeleton in RMI ?
  - (b) What is Servlet context ?
  - (c) What is an IP Address ?
  - (d) Write statement object methods.
  - (e) How are cookies created ?
  - (f) Difference between < JSP : Include > and < JSP : Forward >.
  
2. Write a client server application to implement the echo string.[10]
  
3. Write a JDBC code to print the number of accountholders with a balance < 1000. Assume suitable table. [10]
  
4. Write a servlet application to insert a record into product table and display records in tabular format. [10]
  
5. Write JSP program to accept rollno from HTML page and delete and record. If not found give an error. [10]

P.T.O.

6. Write JSP application using JSTL to display squares of first 20 numbers in a tabular form. [10]
7. Write short notes on (any *three*) : [15]
- (1) Java Beans
  - (2) JSP directive
  - (3) Types of JDBC drivers
  - (4) Sessions management.

Total No. of Questions—7]

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**[5567]-401**

**M.C.M. (Fourth Semester) EXAMINATION, 2019**

**401 : CURRENT TRENDS IN IT**

**(2012 PATTERN)**

**Time : Three Hours**

**Maximum Marks : 70**

**Instructions:**

- 1) Question No. 1 & 7 are compulsory.
- 2) Attempt any 3 from the remaining
- 3) Support your answers with relevant examples and Diagram.
- 4) Figures to the right indicate full marks.

**Q.1.** A reputed institute of management want to start PGDM programme only for working students. Institute is interested in having online admission process, online fee payment process, teaching learning process and online examination process. Suggest various models of e-learning and find out best model for their requirements as per the recent needs. [15]

**Q.2.** Explain Electronic Payment/Digital Payment Systems in brief. [15]

**Q.3.** What is cloud storage system? Explain the Platform as a service(PaaS). [15]

**Q.4.** "Electronic Document Management (EDM) is the need of recent era" Explain it. [15]

**Q.5.** Social media addiction is the major problem of young generation, Discuss it with the various security issues with example.

**Q.6.** "E-commerce can change Indian Business Scenario". Explain B2B,B2C concepts with appropriate example. [15]

P.T.O.

**Q.7. Write a Short Note: (Any Two)**

**[10]**

i) Cloud hosting

ii) Ethical hacking

iii) m-commerce

iv) Payment Gateway