[5467]-101

MCM (I Sem.) EXAMINATION, 2018

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. Define Computer. Discuss various characteristics of Computer. [10]

2. (A) Solve :

　　(*a*) $(ABC)_{16} = (?)_2$

　　(*b*) $(10011010)_2 = (?)_{10}$

　　(*c*) $(456)_8 = (?)_{10}$

　　(*d*) $(98)_{10} = (?)_2$

　(B) Give difference between Primary and Secondary memory. [7]

3. (A) Define Computer Network and give difference between LAN and WAN. [8]

　(B) Discuss various functions of Operating System. [7]

4. (A) Explain any *four* Input Devices. [8]

(B) Discuss various types of computer languages. [7]

5. (A) What is meant by Network Topology ? Explain any *three* topologies with neat labelled diagram. [8]

(B) Differentiate between Compiler, Assembler and Interpreter. [7]

6. (A) Explain Batch Processing system in detail. [8]

(B) What is a Pen Drive ? Explain with diagram. [7]

7. (A) Discuss various types of Computers. [8]

(B) Explain the terms Bit, Byte, KB, MB, RAM, ROM and PROM. [7]

Seat No.	

[5467]-102

M.C.M. (First Semester) EXAMINATION, 2018

102 : C-PROGRAMMING AND DATA STRUCTURE

(2012 PATTERN)

Time : Three Hours　　　　　　　　**Maximum Marks : 70**

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

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

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

1.　(A)　What would be the output of the following program segments ? Explain :　　　　　　　　[12]

　　　(*a*)　void main( ){

　　　　　　int x[25];

　　　　　　x[0]=100;

　　　　　　x[24]=400;

　　　　　　printf("\n%d\t%d", *x, *(x+24) + *(x+0));

　　　　}

　　　(*b*)　void main( ){

　　　　　　char *p;

　　　　　　printf("%d%d", sizeof(*p), sizeof(p));

　　　　}

(c) void main( ) {
```
        int i=3;
        switch(i) {
        default : printf("zero");
        case 1 : printf("one");
                break;
        case 2 : printf("two");
                break;
        case 3 : printf("three");
                break
                }
        }
```

(d) void main( ){
```
    int x=10, y=-20;
    x=! x && !y;
    y=!x||y;
    printf("x=%d, y=%d", x, y);
    }
```

(B) Write short notes on (any *two*) :   [8]

(i) Linked list

(ii) Queue

(iii) Dynamic memory allocation.

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

```
1   0   0   0   0
    1   0   0   0
        1   0   0
            1   0
                1
```

3. Write a C program to accept a decimal number and convert it to octal equivalent number. [10]

4. Write a C function that accepts a string as argument and returns number of vowels in the string. [10]

5. Write a C program that assigns a 5 × 5 matrix with the following values using for loops. Elements in the first row or first column or last row or last column = +1 and the rest of the elements should be set to 0. Print the matrix row-wise. [10]

6. Write a program to read the source file and find number of occurrences of given character in the file. Accept source file name and character through command line arguments. [10]

7. Create a structure of bank account holder as account number, name, balance. Write a program to display the name of accountholder with : [10]
(*i*)   Maximum balance
(*ii*)   Minimum balance.

Total No. of Questions—6]   [Total No. of Printed Pages—2

Seat No.

[5467]-103

M.C.M. (I Semester) EXAMINATION, 2018

103 : SOFTWARE ENGINEERING WITH UML

(2012 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

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

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

1.   The ABC Hospital Management has decided to computerised their hospital i.e. Hospital Management for IPD and OPD System. There are Doctors who are full time as well as residential and visiting with various specialisations. Consulting doctors visited hospital at different hours of the week. Charges for the same can vary from doctor to doctor depending on their experience. Parients 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 maintain, the different records such as Patient Records, Doctors Records, and Bill Records etc.

(*a*)   Draw DFD diagram   [10]

(*b*)   File Layout   [8]

(*c*)   Report generation i.e. Output Report Forms (any *two*)   [7]

2.   (*a*)   Explain the Functional and Non-functional Requirements.   [5]

(*b*)   Explain the role of System Analyst in SDLC.   [5]

P.T.O.

3. Considering Gas booking for refilling and delivery problem at the different agencies. company wants to develop and implement the following innovative steps in proposed system :

(1) Customers have to register their mobile number with agency.

(2) Customer can book the cylinder for refilling from their registered mobile.

(3) While booking, customers have to dial a specific number for booking and agency phone number in a sequence.

(4) After doing above step no. 3, customers get updates about delivery date and time.

(5) One day before the delivery, customer get precise schedule about delivery on customer's mobile.

(6) Next Day of delivery, customer get receipt details against payment done by the customer during delivery of cylinder. These details are also available on customer's mobile.

Draw use case diagram for the above case. [10]

4. (*a*) Explain various phases of RUP. [5]

(*b*) Explain Function Decomposition. [5]

5. Describe input and output design with suitable example. [10]

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

(*a*) Decision Tree and Decision Table

(*b*) SSAD and OOAD

(*c*) Pseudo Code and Structure English

(*d*) Data Abstraction and Data Encapsulation

Total No. of Questions—7]

Seat
No.

[5467]-104

M.C.M. (I Semester) EXAMINATION, 2018

104 : DATABASE MANAGEMENT SYSTEM (DBMS)

(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*)   Punjab University Research Group publishes an Analysis of all journal papers to Physics, Chemistry and Mathematics. Each paper may have more than one author and may 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) Magnum Electric Company is a distributor of electricity in a small town having about 5000 consumers. The consumers are divided into three categories i.e., Agriculture, Commercial, Domestic for whom different rates per unit are chargeable according to a slabwise table. There is also minimum charge for each category. The billing is made according to reading which was reported by meter readers working with the company. The bills are paid by the consumers at a central collection center of the company.

Normalise the above case upto 3NF. [10]

2. Explain different characteristics of DBMS. [10]

3. (a) What is Transaction ? Explain Acid properties of Transaction. [5]

(b) Explain states of Transaction with neat diagram. [5]

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

5. Explain various concurrency control techniques. [10]

6. (a) Explain failure classification. [5]

(b) What are Database security issues ? [5]

7. Write short notes on (any *two*) : [10]

(a) Application of Data Mining

(b) Database Users

(c) Cardinality Ratio.

Seat No.	

[5467]-11

M.C.M. (First Semester) EXAMINATION, 2018
C-PROGRAMMING
(2008 PATTERN)

Time : Three Hours　　　　　　　　　Maximum Marks : 70

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

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

1. (A) Trace the output and justify the answer. Assume suitable header files : [12]

   (*a*) void main( )
   ```
   {
       int a=5, b, c;
       b=a=15;
       c=a<15;
       printf("a=%d, b=%d, c=%d", a, b, c);
   }
   ```

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

(c) void main( )

```
{
void  disp(char*);
disp("Hallo");
}
void  disp(char*s)
{
if(*s)
    disp(s*1);
putch(*s);
}
```

(d) void main( )

```
{
int  x;
for(x=ϕ;  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*) Command line arguments

(*c*) Pointer.

2. Write a program to display the following pattern using nested loops : [10]

1

2 3

4 5 6

7 8 9 10

3. Write a program to accept two 3 × 3 matrices and display the subtraction on the screen. [10]

4. Write a recursive function which receives a number and return the sum of digits of a number. [10]

5. Write a program to accept information of 50 students as rollno, name, mark1, mark2. Calculate total and percentage, store them in respective students. Display all the data in tabular format. [10]

6. Write a program to accept the file name from the user and display the number of digits present in the file. [10]

7. Write a program to accept 10 numbers and display the numbers by sorting them in ascending order. [10]

[5467]-12

M.C.M. (Semester I) EXAMINATION, 2018

105 : WEB PROGRAMMING AND E-COMMERCE

(2008 PATTERN)

Time : Three Hours　　　　　Maximum Marks : 70

N.B. :— (*i*)　Question No. **7** is compulsory.

(*ii*)　Attempt any *five* questions out of the remaining.

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

(*iv*)　Write assumptions wherever necessary.

1. "E-Commerce an Integral part of business in Globalization." Comment.　　　　　[10]

2. Discuss privacy and security issues of consumers in e-commerce. [10]

3. Explain the difference between online marketing and direct marketing.　　　　　[10]

4. Discuss characteristics of software agent and explain role of it.　　　　　[10]

5. Why is auditing important in e-Commerce applications ?　　[10]

6. What are cyber squatting crimes ? [10]

7. Write short notes on (any *four*) : [20]

    (*a*)   PCI-DSS

    (*b*)   Global Contracts

    (*c*)   Internet Service Providers (ISPs)

    (*d*)   EPS

    (*e*)   Internet Protocol Suite

Total No. of Questions—**5**] [Total No. of Printed Pages—**3**

Seat No.	

[5467]-13

MCM (II Sem.) EXAMINATION, 2018
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*) Evaluate the following postfix form :

ABC*+DEF/–+

Where A = 4, B = 5, C = 6, D = 32, E = 9, F = 3.

Show the contents of stack at each step in tabular form. [7]

Or

Evaluate the following prefix expression :

+ – AB–/C+DEF

Where A = 9, B = 5, C = 2, D = 4, E = 8, F = 1.

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

(*b*) Convert the following Infix form to Postfix form (any *two*) : [8]
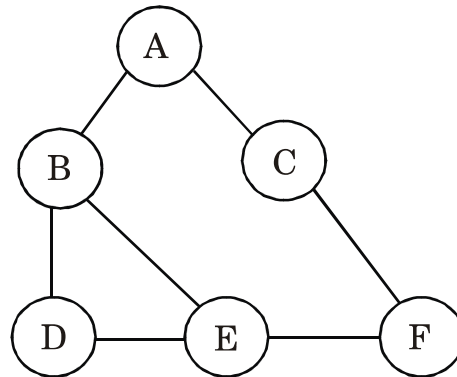
(*i*) ((a+b)/c)*(d+(e–f)/g)

(*ii*) a+b–(c*(d+e)–f

(*iii*) (a+b)*(c–d)/e

P.T.O.

2. Answer any *three* of the following : [15]

(*a*) Write a function to push and pop the element from stack.

(*b*) Write a function to insert an element in a linear queue.

(*c*) Write a function to count non-leaf nodes of a Binary Search Tree.

(*d*) Write a function to search an element in Singly Linked List of integers.

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

(*a*) Consider a message :

FACEBOOK

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

(*b*) Sort the following numbers using bubble sort :

25, 8, –4, 80, 56

(*c*) Consider declaration :

int a[6] [7];

Compute row major and column major address of an element a[3] [4] when base address is 300.

(*d*) Write a ANSI C code to find the sum of data fields stored in the different nodes of linear linked list of integers.

4. Answer any *three* of the following : [15]

(*a*) Write a function for level order traversal of binary tree.

(*b*) Write a function to add node in Doubly Linked list.

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

(*d*) Write a function print mirror image of the Binary Search Tree.

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5. Answer using the following graph :

    (*i*)   Adjacency Matrix representation [3]

    (*ii*)   Adjacency List representation [3]

    (*iii*)   Generate output of DFS, when starting vertex is A [4]

Seat
No.

M.C.M. (Second Semester) EXAMINATION, 2018

203 : CORE RUBY

(2008 PATTERN)

Time : Three Hours **Maximum Marks : 70**

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

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

1. Find output of the following : [15]

(*a*)
```
a = [5, 4, 3, 2, 1]
sum = 0
a.each {|i| sum + = i}
puts sum
```

(*b*)
```
i = 0
while (i < 50)
i + = 1
next if i % 2! = 0
puts i
end
```

(c)   b = 1

      puts b * = 3 while b < 50

      puts b + = 2 until b < 50

      b

(d)   print "Hello\n" while false

      begin

      print "Good Morning\n"

      end while false

(e)   x = [10, 20, 30, 40, 50]

      sum = 0

      x.each {|i| sum +=i}

      puts sum

2. Write a ruby program to print prime numbers between 100 to 200. [10]

3. Write a program that reads source file and copies file to the target file by replacing all the spaces with '$'. [10]

4. Design a class student with instance variables (Roll no, Name, marks of 6 subjects). Write a method that to calculate percentage and print the details of the student whose percentage is more than 70. [10]

5. Write a program that checks the entered string is palindrome or not. [10]

6. Write a program to accept 10 students' name and display them in ascending order. [10]

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

   (*a*)   Duck typing

   (*b*)   Inheritance and Polymorphism

   (*c*)   Exception handling

   (*d*)   Blocks and Iterators

   (*e*)   Classes and Modules.

Total No. of Questions—**7**]　　　　　[Total No. of Printed Pages—**2**

MCM (II Sem.) EXAMINATION, 2018

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 questions.

(*iii*) Mention assumptions made for solving case study.

1. (*a*) Draw class and use case diagram for the following : [15]

In ABC online book purchase system, customer can login, select the desired books by searching the author or by entering the subject of the book. From the list of books, the customer selects the book and put it into the cart. He can remove the book from the cart before final bill is generated. Once the bill is generated he has to pay using debit or credit card, online banking etc.

The new book arrivals are uploaded by website administrator.

(*b*) Explain aggregation and association with a suitable example. [5]

2. Explain various phases of RUP in detail. [10]

3. (*a*) Draw a sequence diagram for online Air ticket booking. [5]

(*b*) Compare between SSAD and OOAD. [5]

4. Draw a state transition diagram for a fully automated washing machine. [10]

5. Explain with the help of an example Grady Booch methodology. [10]

6. Explain different approaches to identify classes. [10]

7. Write short notes on (any *two*) : [10]

   (*a*)   OOSE

   (*b*)   Antipattern

   (*c*)   Mapping Object to Relational Data Structure

   (*d*)   Testing Business Process.

Seat
No.

[5467]-16

MCM (III Sem.) EXAMINATION, 2018

301 : LINUX PROGRAMMING

(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.

1. (*a*) Write PHP Code which accepts time and display Good morning, Good afternoon and Good evening. [10]

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

2. Write MySQL Commands for the following : 5×2=10

   (*a*) Creating User

   (*b*) Creating Table

   (*c*) Granting Permissions

   (*d*) Alter table

   (*e*) Updating Data in Table.

3. Explain the following Linux Commands with example (any *five*) : [5×2=10]

   (*a*) PID and PPID

   (*b*) Sort

   (*c*) Find

   (*d*) Tar

   (*e*) Kill

   (*f*) Chmode.

4. Explain GET, POST, SESSION and COOKIES variables in PHP. [10]

5. Explain constructor in PHP with the help of an example. [10]

6. Write short notes on (any *four*) : [4×5=20]
   (*a*)   Include and Require in PHP
   (*b*)   Process and in Linux
   (*c*)   Structure of linux file system
   (*d*)   Data Types in MYSQL
   (*e*)   Function in PHP.

Seat
No.

M.C.M. (III Semester) EXAMINATION, 2018

303 : 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 Logger Class with all constraints.   [10]

   (*b*)   Write a SOAP server which defines a method that accepts two strings from client and returns the concatenated string. Write SOAP client application also.   [10]

2. Write migration for creating table 'Item' in database having Item_code, Item_name, Qty, Rate, Amount as columns.   [10]

3. Write a Ruby Script to generate a ListBox. When a button is clicked, the caption/text of button is changed to item selected in the ListBox.   [10]

4. Write a Server Socket Application that accepts a string from client and returns number of capital letters in the string using Ruby Socket API. Also write Client Socket Application.   [10]

5. Create a TK window that has 2 check boxes "RUBY" and "JAVA", *a* label and a button "Select". The label should change its caption according to the selection.   [10]

6. Write short notes on (Any *Four*) : [20]
   (*a*) Model-View-Control Architecture
   (*b*) Layouts in detail
   (*c*) Database Relationships
   (*d*) OOPs in Ruby
   (*e*) Threading

Total No. of Questions—8]   [Total No. of Printed Pages—2

Seat
No.

[5467]-18

MCM (III Semester) EXAMINATION, 2018
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 **4** 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.   What do you mean by event driven programming ? Explain any
     four events with example.   [10]

3.   Explain the use of Forms Designer Window, Code Editor Window,
     Solution Explorer Window, Properties Window, ToolBox Window available
     in visual studio.   [10]

4.   What is Polymorphism ? Explain the concept of polymorphism with
     example.   [10]

5.   Explain the following controls :   [10]
     (*a*)   Button Control
     (*b*)   CheckBox Control
     (*c*)   PictureBox Control
     (*d*)   Tree View Control

6. Design a form and write Ado.Net code to perform Insert, Update, Delete, First, Next, Previous and Last operations on table customer (CustId, Name, DOB, email, mobileNo)

Server Name : SPPU

Password : MCM2008 [10]

7. Write a program for reading and writing binary files using Binary reader and Binary writer. [10]

8. Write short notes on the following (any *three*) : [15]

(*a*) Crystal reports

(*b*) Exception handling

(*c*) Data types in vb.net

(*d*) Menu control.

Seat No.

[5467]-19

M.C.M. (Semester III) EXAMINATION, 2018
306 : SOFTWARE PROJECT MANAGEMENT
(2008 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

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

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

1. Explain and compare various team structures used in software projects.   [15]

2. Explain testing phase of software development projects.   [10]

3. What care is taken while setting a computer center ?   [10]

4. Explain project planning procedure in detail.   [10]

5. Explain software configuration management.   [10]

6. Explain Capability Maturity Model.   [10]

7. Write short notes on (any *three*) :   [15]
    (*a*) Earned Value Analysis
    (*b*) Human resource acquisition process
    (*c*) Function point analysis
    (*d*) Expert's Judgment and Delphi Technique.

Total No. of Questions—**6**]   [Total No. of Printed Pages—**3**

1.   Solve any *two* cases :   [20]

Case-1

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 depending on their experience. Patients are admitted to the hospital for various reasons according to the category. Room Charges are also very 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-2

With continuing security concerns for 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 for International Airport which can protect the critical information related to airport operations. The ISS was developed in consideration of information life cycle of airport workflow. As a result, it can securely protect the computer system at International Airport by :

(1)   Performing real-time encoding of the users who accessed the protected files and folders.

(2)   Limiting the user's capability to edit the protected documents.

(3)   Tracking transmitted files to the outside companies.

(4)   Blocking the user's access to portable storage devices, and

(5)   Inserting security water marks on the printed outputs.

With the implementation of the ISS, the real-time information system audit environment has been securely established at the International Airport Corporation

As System Analysis specify the threat and security for above Airport Company.

Case-3

Swyam Corporative Bank having multiple branches all over the Maharashtra. Customer can perform the transaction from any branch as well as through Internet. As Security Expert suggest some network threats also suggest security for protecting data from unauthorized access.

2. What is Fault Tolerance ? How fault recovers in Distributed System ? [10]

3. Explain cyber security with different type of physical threats. [10]

4. What is access control ? Define the role of access control in Cyber Security. [10]

5. Define E-Banking with its threats and protection policy. [10]

6. Write short notes on (any *four*) : [20]

    (1)   Network Attack

    (2)   Behavioral Biometric Techniques

    (3)   Incident Response Team

    (4)   Physical Security.

    (5)   Scripts Kiddies and Packaged Defense.

Total No. of Questions—7]   [Total No. of Printed Pages—**2**

[5467]-201

MCM (II Semester) EXAMINATION, 2018
201 : BUSINESS APPLICATION AND ERP TOOL
(2012 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

1. (A) Define ERP ? Explain the importance of ERP with respect to manufacturing company. [10]

Or

(B) Explain post-implementation review of ERP package with respect to service industry. [10]

2. (A) Explain steps involved in customer order processing system with the help of context level DFD. Draw format of any three reports generated from the system. [10]

Or

(B) What do you mean by BOM ? Draw the layout of BOM ? [10]

3. (A) What is Product ? Explain the PLC with diagram. [10]

Or

(B) Explain FIFO and LIFO methods with examples. [10]

4. (A) Define Market Segments. Specify different market segments. Explain how different market segments boost sales.

P.T.O.

Or

(B) Design a quotation for the following items. Consider you as sales manager of Arena Multimedia, Mumbai : [10]

Sr. No.	Particulars	Quantity
1	Laptop	3
2	Keyboard	6
3	Web camera	3
4	Printer	2
5	Speaker	5

5. (A) Explain the procedure to prepare Profit and Loss A/c along with its format for any small scale company who engaged in automobile sector. [10]

Or

(B) What is Ratio Analysis ? Describe how the Financial Ratio Analysis supports Management to make decisions ? [10]

6. (A) What is Payroll ? Draw the layout of Pay Slip and explain all Income and Deduction heads. [10]

Or

(B) Define recruitment. Explain the sources of Recruitment. [10]

7. (A) Explain barriers in ERP implementation in brief. [10]

Or

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

(*a*) Material Requisition

(*b*) E-Banking

(*c*) MRP.

Total No. of Questions—**7**]

[Total No. of Printed Pages—**2**

Seat No.

[5467]-202

M.C.M. (Second Semester) EXAMINATION, 2018

202 : PRINCIPLES AND PRACTICES OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR

(2012 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

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

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

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

1. (A) Define management. Explain how management functions to be used for the company success ?   [15]

(B) What is behaviour ? Explain impact of global cultural behaviour on organization and its activity.   [10]

2. Explain how administrative theory is applicable to enhance the productivity and co-ordination between employees and management ?   [15]

3. Explain Herbert Simon's model with example.   [15]

4. Define group. Elaborate the process of group formation and discuss the importance of group formation.   [15]

5. Elaborate leadership with its various styles and importance. [15]

P.T.O.

6. Define ego state. Explain how transactional analysis used to resolve the conflict. [15]

7. Write short notes on (any *three*) : [3×5=15]
   (A) Organizational structure
   (B) Need and importance of OB
   (C) Team building process
   (D) Theory X and Y
   (E) Line and staff manager.

Seat
No.

M.C.M. (Second Semester) EXAMINATION, 2018

203 : ADVANCE RDBMS USING ORACLE

(2012 PATTERN)

Time : Three Hours **Maximum Marks : 70**

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

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

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

1. Consider the following table to solve the following queries (any *ten*) : [20]

   EMP (E_id, Ename, Gender, Designation, Date_of_Joining)

   PROJECT (P_id, Project_Name, Start_date, End_Date, Domain)

   WORK (E_id, P_id, Status)

   (*i*) Display all male employees who joined before '1-3-1990'.

   (*ii*) Display list of Employees whose name begins with 'A' and ends with 'T'.

   (*iii*) Display list of employees whose designation if 'Programmer'.

   (*iv*) Display the project name which are 'Completed'.

(*v*)   Display the name of project along with Employee name.

(*vi*)   Display the name of project on 'Education' domain.

(*vii*) Display the name of project which started before '1-4-1996'.

(*viii*) Display the total no of projects completed by male and female employees.

(*ix*)   Display the name of Employees who have worked on project "Inventory management."

(*x*)   Display the name projects which were completed in less than two months duration.

(*xi*)   Add one column "Projct-cost" in PROJECT table.

(*xii*) Update the Designation of employee "Amit" as "System Analyst".

2.   Write a PL/SQL program to point an accepted string in rceverse. [10]

3.   Write a DML trigger on PROJECT table to Accept End_Date greater than Start_date.   [10]

4.   Write a cursor which will display the list of projects which were completed in less than two months time.   [10]

5. Write differences between the following : [10]

    (*a*)   Drop and Truncate

    (*b*)   Primary key and Unique key

    (*c*)   LTRIM and RTRIM

    (*d*)   Ceiling and Floor.

6. Write short notes on (any *four*) : [20]

    (*a*)   Set operator

    (*b*)   Views in oracle

    (*c*)   DML commands

    (*d*)   Aggregate functions

    (*e*)   Locks in oracle.

Total No. of Questions—7]　　　　　[Total No. of Printed Pages—2

Seat
No.

[5467]-204

MCM (Second Semester) EXAMINATION, 2018

204 : JAVA PROGRAMMING

(2012 PATTERN)

Time : Three Hours　　　　　　　　　**Maximum Marks : 70**

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

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

1. (A)　Answer the following :　　　　　　　　　　　[10]

　　　(*a*)　What is Grid Layout ?

　　　(*b*)　What is Garbage Collection ?

　　　(*c*)　List methods of RandomAccessFile class.

　　　(*d*)　What is Thread Priority ?

　　(B)　Differentiate between :　　　　　　　　　　　[10]

　　　(*a*)　Final and Static keyword

　　　(*b*)　Class and Interface.

2.　Write java application to define book class containing BookId, Title, author, rate, number of copies. Define parameterized constructor. Define method that will calculate cost of books. Accept details of five books in array of object from user display details along with cost of all books.　　　　　　　　　　　[10]

P.T.O.

3. Write Java Application to accept 10 float values in an array. Display sum and average of values. [10]

4. Write AWT application to display right scrolling banner. [10]

5. Why is java called object-oriented language ? Explain. [10]

6. Write program to accept file name in a text field. Take one Show button. Onclicking this Show button, file contents will be displayed in text area. Each word should be reversed. Eg. If file contents " This is a Test File" it should display in text area as

sihT sI a tseT eliF [10]

7. Write short notes on (any *two*) : [10]

(*a*) Exception Handling

(*b*) Access Modifiers

(*c*) Vector Class.

Total No. of Questions—**7**]　　　　　　[Total No. of Printed Pages—**2**

Seat
No.

[5467]-21

M.C.M. (IV Sem.) EXAMINATION, 2018
MULTIMEDIA AND WEB DESIGNING
(2012 PATTERN)

Time : 3 Hours　　　　　　　　　　　　**Maximum Marks : 70**

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

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

(*iii*)　Net diagrams carry marks.

1.　(A)　Write ASP code for accepting StudentID, Name, Feespaid from the user. On submit of the form check data entered with the following validation :　　　　　[10]

(*a*)　StudentID　–　Numeric and Not Null

(*b*)　Name　　　–　Not Null

(*c*)　Feespaid　–　Greater than 10,000.

Write date in database student.mdb.

(B)　Explain any *two* Multimedia Data Compression Techniques in detail.　　　　　　　　　[5]

2.　Explain various Operators and Control Structure used in JavaScript with suitable example.　　　　　[10]

3.　(A)　Explain Quantization and Transmission of Audio.　[5]

(B)　Explain Control Structures in VBScript with suitable example.[5]

4. Write XML Code to store information about Student (Roll_No., Name, Class, Batch), write HTML Code to display data in tabular format using DSO Object. [10]

5. (A) Explain Application and Session object. [5]

(B) Explain MIDI messages. [5]

6. (A) Create User Information Cookies with Keys. [5]

(B) Explain Error Handling in ASP. [5]

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

(*a*) Style Sheets

(*b*) Story Board

(*c*) XSLT

(*d*) Web Hosting

(*e*) Request and Response Objects in ASP.

Total No. of Questions—7]   [Total No. of Printed Pages—2

Seat
No.

[5467]-23

M.C.M. (Fourth Semester) EXAMINATION, 2018

408 : NETWORK TECHNOLOGY

(2008 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

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

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

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

1. (*a*) Write steps to configure Backup in Windows 2003 server. [10]

   (*b*) Explain Windows 2003 server installation steps.   [10]

2. Explain the steps for Linux installation in Graphical mode. [10]

3. Explain how we can configure X-Windows in Linux.   [10]

4. Explain installing and configuring packages in Linux.   [10]

5. Explain Network Topologies in detail.   [10]

6. Write the steps for configuring DHCP server in Windows server 2003. [10]

7. Write short notes on (any *four*) : [20]

    (*a*)   Process management commands in Linux

    (*b*)   VPN

    (*c*)   Hub, Switch and Router

    (*d*)   E-mail protocols

    (*e*)   Firewall.

Total No. of Questions—**6**]　　　　　　　　[Total No. of Printed Pages—**2**

Seat
No.

[5467]-301

MCM (III Sem.) EXAMINATION, 2018

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* questions from the remaining.

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

1.　Solve any *two* cases :　　　　　　　　　　　　　[20]

　　Case 1

　　Key Power Software developer is a growing I.T company developing
　　different software products. The company wants to use original
　　programming code for the software development but the employee
　　used the readymade code from internet to complete development
　　task as security expert create security policy to protect coping code
　　and also suggest some security to protect unauthorized access of
　　data from external users.

　　Case 2

　　The institute wants to use biometric device for attendance and keeping
　　watch on movement of students. As a security manager suggest
　　proper biometric device for the purpose along with its merits and
　　demerits.

Case 3

Aryan Private Ltd. Company is Government Company developing missile. The production going on remote place which is far away from India. The plan and design for missile designed by group of people from India. This group shares the design of missile over the internet by sending the mail to each other as well as production department. As security expert find out threats for design exchange and also implement security.

2. SSE-CMM (Systems Security Engineering - Capability Maturity Model).   [10]

3. How does organization maintain security of wireless networks ? [10]

4. What is Firewall ? Explain with merits and demerits.   [10]

5. What is intellectual property concerns for information security professionals ?   [10]

6. Write short notes on (any *four*) :   [20]

    (*i*)   Role of the Internet in information exchange

    (*ii*)   Privacy issues in web services

    (*iii*) Database security

    (*iv*)   Disaster recovery planning

    (*v*)   Security of virtual private networks.

Total No. of Questions—7]　　　　　[Total No. of Printed Pages—1

Seat
No.

[5467]-302

M.C.M. (Third Semester) EXAMINATION, 2018
302-NT : BASICS OF NETWORK TECHNOLOGIES
(Specialization-I)
(2012 PATTERN)

Time : 3 Hours　　　　　　　　　**Maximum Marks : 70**

N.B. :— (*i*)　Solve any *five* from Q. Nos. **1** to **6**.
　　　　 (*ii*)　Question No. **7** is compulsory.

1.　Explain steps for installation of Linux server from CD.　　[10]

2.　Explain Bus, Star and Ring topologies.　　　　　　　　[10]

3.　Explain application protocols in detail.　　　　　　　　[10]

4.　Explain various network connectivity components.　　　　[10]

5.　Explain with example User Management Commands in Linux. [10]

6.　What is Internet Service Provider ? Explain various types of ISP.　　　　　　　　　　　　　　　　　　　　　　　[10]

7.　Write short notes on (any *two*) :　　　　　　　　　　[20]
　　(*a*)　Wi-Fi network
　　(*b*)　.NET framework
　　(*c*)　Partitions in Linux.

[5467]-302

Total No. of Questions—8]

[Total No. of Printed Pages—**2**

Seat
No.

[5467]-303

M.C.M. (III Semester) EXAMINATION, 2018

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 installing H/W devices. Also focus on the security policies in windows XP. [10]

2. Explain different sections of CPU with neat labelled diagram. [10]

3. What is Ethernet card ? Explain different sections and functions of Ethernet card with suitable diagram. [10]

4. Explain microprogrammed control units along with its operations and advantages. [10]

5. Explain printer installation in Windows 7 and Hardware installation in Windows XP. [10]

6. Explain the concepts : [10]

   (*a*)   BIOS

   (*b*)   CPU registers

7. Explain Hardware installation in Windows XP and printer installation in Windows 7. [10]

8. Explain the working of Laser Printer with schematic diagram. [10]

Total No. of Questions—**7**] [Total No. of Printed Pages—**2**

Seat
No.

[5467]-304

M.C.M. (III Sem.) EXAMINATION, 2018

304 NT : SYSTEM ADMINISTRATION AND SERVER INTEGRATION

(Specialization-III)

(2012 PATTERN)

Time : 3 Hours **Maximum Marks : 70**

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

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

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

(*iv*) Draw neat diagram wherever necessary.

1. Explain steps in Installing Windows 2003 Server. How Post-Installation configuration is done ? Explain. [20]

2. Explain services in Linux. How are services selected for start up in Linux ? [10]

3. What are features of Window Server 2008 ? [10]

4. Explain group management and user management command in Linux. [10]

5. Explain configuration steps of DNS of Windows Server 2003. [10]

P.T.O.

6. Explain default directories structure in Linux with examples. [10]

7. Write short notes on (any *four*) :   [20]

    (*a*)   Types of distributed operating system

    (*b*)   DHCP Server

    (*c*)   Package Management in Linux

    (*d*)   AD-DS domain Controller

    (*e*)   Windows 2003 Server Role.

Seat
No.

M.C.M. (Third Semester) EXAMINATION, 2018

302-ST : SOFTWARE QUALITY ASSURANCE

(Specialization-I)

(2012 PATTERN)

Time : 3 Hours　　　　　　　　　　　　　**Maximum Marks : 70**

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

　　　　(*ii*)　*All* questions carry equal marks.

1.　Explain Software Project Life Cycle in detail.　　　　[10]

2.　What is SQA ? Explain Software Quality Plan.　　　　[10]

3.　Discuss Inspections and Walkthrough.　　　　[10]

4.　Explain software configuration management with all its components.

　　　　　　　　　　　　　　　　　　　　　　[10]

5.　Explain in detail important features of SEI-CMM.　　　　[10]

6.　Explain Risk Management in detail.　　　　[10]

7. Discuss ISO 9001 & ISO 9003. [10]

8. Write short notes on (any *two*) : [10]

   (*a*)   Verification and Validation

   (*b*)   Contract Review

   (*c*)   Impact of CASE Tools.

Seat No.	

[5467]-306

M.C.M. (III Semester) EXAMINATION, 2018
303 ST : SOFTWARE TESTING PROCESSES AND DOCUMENTATION
(Software Testing Specialization-II)
(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.

1. Define Software Testing ? Explain Software Testing Life Cycle in detail with neat diagram. [14]

2. (*a*) Differentiate Structural and Functional testing. [7]

　　(*b*) Explain White Box *Vs* Black Box Testing. [7]

3. Explain Static and Dynamic Testing in detail. [14]

4. Discuss COTS Software process in detail. [14]

5. Write a detailed test plan for testing an e-Commerce application. (Make necessary assumptions) [14]

6. Write short notes on (any *two*) : [2×7=14]

　　(*a*) Internal Control Models

　　(*b*) Tester's workbench

　　(*c*) Penetration point matrix

Seat
No.

[5467]-307

M.C.M. (III Semester) EXAMINATION, 2018

304 ST : SOFTWARE TEST PLANNING AND DOCUMENTATION

(Specialization-III)

(2012 PATTERN)

Time : 3 Hours　　　　　　　　　　　**Maximum Marks : 70**

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

　　　　　(*ii*)　*All* questions carry equal marks.

1. Explain use cases. Write down use cases for android based MCM Examination Result system. 　[10]

2. Explain functional and structural test cases with on example. [10]

3. Discuss the role of various tools in testing. 　[10]

4. Discuss in detail various risks associated with software development with an example. 　[10]

5. What is test plan ? Explain Test Plan standards. 　[10]

6. Explain Defect Management. [10]

7. How is test report prepared with the help of various testing tools ?

8. Write short notes on (any *two*) : [10]
   (*a*) Test Matrix
   (*b*) System Testing
   (*c*) Test cases.

Total No. of Questions—7]

[Total No. of Printed Pages—2

Seat
No.

[5467]-308

M.C.M. (Third Semester) EXAMINATION, 2018

302-SD : PROGRAM AND DESIGN WITH ASP.NET

(Specialization-I)

(2012 PATTERN)

Time : 3 Hours   **Maximum Marks : 70**

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

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

1. Draw and explain .Net framework architecture in detail.   [10]

2. Design a form and write code to :   [15]
    (*a*) Add new record
    (*b*) Delete record
    (*c*) Edit record
    Table Name : Employee (eid, ename, esalary, eDOB).

3. Explain server side statemanagement techniques in detail.   [15]

4. Explain validation controls in detail.   [15]

5. Explain object oriented concepts in detail.   [15]

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

    (*a*)   Label control

    (*b*)   Check box control

    (*c*)   List box control

    (*d*)   Ad rotator control.

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

    (*a*)   Web services

    (*b*)   LINQ

    (*c*)   Exception handling

    (*d*)   Data types in .Net

Total No. of Questions—8]   [Total No. of Printed Pages—2

Seat
No.

[5467]-309

M.C.M. (Third Semester) EXAMINATION, 2018

303-SD : MOBILE PROGRAMMING USING ANDROID

(Software Development Specialization-II)

(2012 PATTERN)

Time : Three Hours   **Maximum Marks : 70**

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

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

1.   Design an activity to display video from SD-Card.   [10]

2.   What is activity ? Explain activity life-cycle.   [10]

3.   Explain use of theme in android.   [10]

4.   Explain difference between abstract class and interface with
     example.   [10]

5.   What is cursor ? Demonstrate cursors by taking Item-Master Database
     for saving and retrieving data.   [10]

6.   Explain architecture of android with diagram.   [10]

7.   Explain method for creating new view with example.   [10]

8. Write short notes on (any *four*) :　　　　　　　　　　　　　[20]

　　(*a*)　Content provider

　　(*b*)　Service life-cycle

　　(*c*)　Constructor overloading

　　(*d*)　Types of preferences in android

　　(*e*)　Linear layout and Relative layout.

Total No. of Questions—7]　　　　　[Total No. of Printed Pages—2

Seat
No.

[5467]-310

M.C.M. (III Semester) EXAMINATION, 2018

304-SD : ADVANCED JAVA

(Specialization—III)

(2012 PATTERN)

Time : Three Hours　　　　　**Maximum Marks : 70**

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

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

1. Answer the following (any *five*) :　　　　　[15]

　(*a*)　List out JSP implicit objects.

　(*b*)　Explain URL class in networking.

　(*c*)　What is Servlet API ?

　(*d*)　Methods of statement object.

　(*e*)　Write statements to create and read a cookie for the field Lastname.

　(*f*)　Differentiate between <JSP:include> and <JSP:forward>.

2. Write a program to accept a file name at the client count for the occurrence of 'S' character in the file and print out the client side.　　　　　[10]

3. Write a JDBC code to display employees working in the 'Logistic' department.　　　　　[10]

P.T.O.

4. Write a servlet application to insert a record into patient table and display record in a tabular format. Assume suitable table structure. [10]

5. Write a JSP program to accept rollno from HTML page and delete the record. If not found, give an error message. [10]

6. Write an Employee bean containing empno, name, basic-salary, incentives, deductions as attributes and calculate total method. Write JSP application to use this employee bean. Accept details from HTML page, set the values for employee bean and display calculated total salary in the client's browser. [10]

7. Write short notes on (any *three*) : [15]
   (*a*)   Types of statement
   (*b*)   Servlet life cycle
   (*c*)   Java beans
   (*d*)   JSP custom tags
   (*e*)   RMI architecture.

Seat No.

[5467]-401

M.C.M. (IV Semester) EXAMINATION, 2018

401 : CURRENT TRENDS IN IT

(2012 PATTERN)

Time : *Two* Hours

Maximum Marks : 70

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

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

(*iii*) Support your answers with relevant examples and diagram.

(*iv*) Figures to the right indicate full marks.

1. An autonomous management institute has started distance learning Executive MBA programme for working management professional. Institute is interested in conducting online admission process, virtual teaching and exam. As an IT consultant suggest various models of e-learning and justify your suggestion. [15]

2. E-Learning Tools and Technologies are the core elements for virtual learning. Explain it with appropriate example. [15]

3. Explain various electronic payment gateways. How are transactions performed in E-banking ? [15]

4. What is cloud computing ? Explain the cloud Architecture in brief.[15]

5. Social Networking sites are the need of recent era. Discuss the various security issues of social networking sites with example.[15]

6. What is m-Commerce ? Discuss the various applications of m-Commerce. [10]

7. Write short notes on (any *two*) : [10]
   (*i*) Digital Signature
   (*ii*) Online Shopping
   (*iii*) Point Of Sales System (POS).
   (*iv*) Citrus.