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[5267]-1

M.C.M. (First Semester) EXAMINATION, 2017

**# 'C' PROGRAMMING
(2008 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) What will be the Output ? Give explanation (Assume appropriate header files are included). [4×3=12]

(a) # define SQUARE (x) (x * x)

```
main ()
{
    int p = 5, q;
    q = SQUARE (p + 2);
    printf ("%d", q);
}
```

(b) main ()

```
{
    int arr [ ] = {0, 1, 2, 3, 4};
    int i, * p;
    for (p = arr, i = 0; p + i < = arr + 4;
        p++, i++)
        printf ("%d", * (p + i));
}
```

P.T.O.

```
(c) main ()
{
    int x = 5, y;
    y = x ++ +++ x;
    printf ("x = %d y = %d", x, y);
}
```

```
(d) main ()
{
    int a = 40;
    printf ("%d %d %d %d" a, a << 1 >> 3 a &
    100, a |10);
}
```

(B) Explain with examples : [4×2=8]

(a) Storage classes

(b) Switch-case.

2. (A) Print 8 lines of the following pattern : [5]

```

          9
        8 9
       7 8 9
      6 7 8 9
```

(B) Write a function which check whether an year is leap year
not int checkleap (int *) [5]

3. Accept a 3 × 3 matrix and calculate the sum of both its diagonals
separately. [10]

4. (A) Write a recursive function to find sum of digits of a
number. [5]

- (B) Write a program to count the total no. of vowels in a string. [5]
5. Write a program to accept a file name through command line and print the total no. of digits, lower case, upper case & special characters using library functions. [10]
6. Write a program to accept details of players who take part in commonwealth games like name, event, category and country in structure. Accept an event and category from user and display the list of participants. [10]
7. Write a program to accept a string and a character. Print all occurrences of the character in the string. [10]

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M.C.M. (Second Semester) EXAMINATION, 2017

201 : DATA STRUCTURES AND ALGORITHMS

(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.

1. (A) Evaluate the following postfix form : [8]

$ABC * + DEF / - +$

where $A = 4, B = 5, C = 6, D = 32, E = 9, F = 3$. Show contents of the stack at each step in a tabular form.

Or

Evaluate the following prefix form :

$+ - AB - / C + DEF$

where $A = 9, B = 5, C = 2, D = 4, E = 8, F = 1$. Show contents of the stack at each step in a tabular form.

P.T.O.

- (B) Write an ANSI 'C' code for inserting a node in a circular queue of integers, implemented as a linked list. [7]
2. (A) Consider a message : [6]
- DESCENDENT
- Draw Huffman tree for the message. What kind of tree is Huffman tree ?
- (B) Write ANSI 'C' codes for any *three* of the following : [9]
- (a) To count number of leaf nodes of a binary search tree.
 - (b) For left rotation of Binary Search Tree.
 - (c) For traversing a binary search tree of integers using postorder traversal.
 - (d) To find sum of data fields stored in the different nodes of a linear singly linked list of integers.
3. Answer any *three* of the following : [15]
- (a) Write ANSI 'C' function to add node in Doubly Linked List of integers.
 - (b) Write ANSI 'C' function to search an element in Singly Linked List of integers.
 - (c) Write a function for printing data stored in a Linear Doubly Linked List of integers in Reverse Order.
 - (d) Write a function to merge two linked lists.

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

(a) Consider declaration : `int arr [23] [40];`

Compute Row Major and Column Major address of an element `arr [12] [22]`, when base address of array is 1000.

(b) Construct AVL tree with the following :

India, Brazil, Austria, China, Japan, Russia, Zambia.

(c) Sort the following sequence of numbers using Heap Sort Method. Show all the steps in sorting :

15, 26, 18, 83, 12, 20, 54, 44.

(d) Define the following terms :

(i) Deque

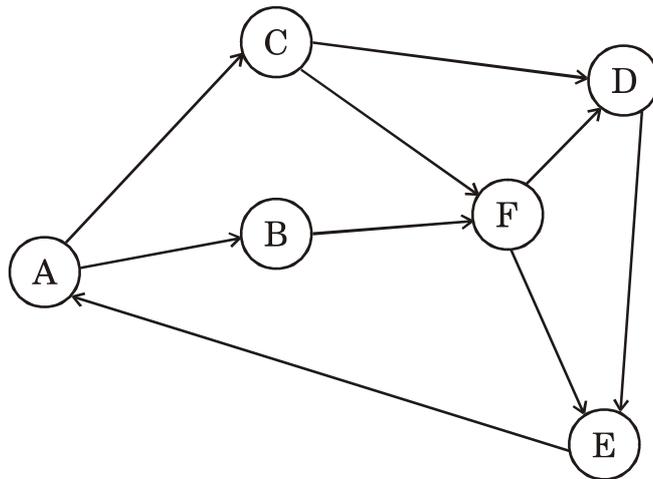
(ii) Abstract Data Type

(iii) Stack Overflow

(iv) Binary Tree

(v) Complete Binary Tree.

5. Answer using the following graph : [10]



- (a) Generate output of Breadth First Search (BFS) algorithm when starting vertex is F. Adjacent vertex should be picked up in alphabetical order.
- (b) Generate output of Depth First Search (DFS) algorithm when starting vertex is A. Adjacent vertex should be picked up in alphabetical order.
- (c) Its Adjacency matrix.
- (d) Its Adjacency List Representation.

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M.C.M (Semester-III) EXAMINATION, 2017

301 : # LINUX PROGRAMMING

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. No. 1 and 6 are compulsory.

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

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

Or

(b) Explain in detail Linux File system. [10]

2. Write MySQL commands for the following : [5×2=10]

(a) Creating index

(b) Creating Table

(c) Granting Permissions

(d) Create group

(e) Updating sorting Data in Table

3. Explain the following Linux Commands with example (any *five*) :

[5×2=10]

(a) Cut

(b) grep

(c) Fgrep

(d) Sort

(e) Wc

(f) chod.

P.T.O.

4. What is cookies? Give the significance of the cookies [10]
5. Explain different data types of variable in PHP. [10]
6. Write short notes on (any *four*) : [4×5=20]
- (a) Loops in PHP
 - (b) Types of process
 - (c) GET and POST
 - (d) Functions in Mysql
 - (e) Constructor in PHP.

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[5267]-3A

MCM (Second Semester) EXAMINATION, 2017

205 : # CORE RUBY

(2008 Pattern)

Time : Three Hours

Maximum Marks : 70

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

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

1. Find the output of the following. (Any 5)

[15]

(a) `x = []`

`x << "Ruby"`

`x << "Java"`

`x << "HTML"`

`puts x.pop`

`puts x.pop`

`puts x.length`

(b) `x = [5,6,7,8,9]`

`puts x.last[3].join["-"]`

(c) `x = {"a"=> 200, "b" = > 150, "c" = > 90}`

`x.delete_if {|key, value| value < 100}`

`puts x.inspect`

P.T.O.

(d) `x = 1`

```
while x < 100
```

```
    puts x
```

```
    x = x * 4
```

```
end
```

(e) `(1..10).each {|x| print x if x == 3 ... x>=3}`

(f) `x = y = 0`

```
1.upto(4) do |x,y|
```

```
    y = x + 1
```

```
    puts y * y
```

```
end
```

(g) `x = [1, 2, 3, 4, 5]`

```
sum = 0
```

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

```
puts sum
```

2. Write a program to print cubes of numbers from 1 to 15. [10]
3. Write a program that checks the entered string is palindrome or not. [10]
4. Design a class person with instance variables (Name, Address, Age and Annual_Salary). Write a method that print the details of the person whose annual salary is more than Rs. 1,00,000. [10]

5. Write a program that reads a file and prints total number of characters in the file. [10]
6. Accept an array of strings and sort them in ascending order.[10]
7. Write short notes on the following (Any 3) [15]
 - (a) OOPs in Ruby
 - (b) File Handling
 - (c) Blocks and Iterators
 - (d) Symbols.

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[5267]-4

M.C.M. (Third Semester) EXAMINATION, 2017

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 indicates full marks.

1. Draw and Explain .NET Framework architecture in detail. [15]

2. What do you mean by structured exception handling ? Explain with suitable example user defined exception handling in detail. [10]

3. Write a program which will count the number of lines, words, alphabets, numbers, and special symbols in a given file. Accept the file name using open file dialog box. Make use of file stream class. [10]

4. Create a Class Book :

Data Members:- BookID, Title, Author, Publisher, Price.

Write default constructor for initialization.

Methods :

- GetData() : Will read information from user.

- PrintData() : Will display information on screen.

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

P.T.O.

5. Design a form and write code to perform Insert, Update, Delete, First, Next, Previous and Last operations on BookTable (BookID, Title, Author, Publisher, Price). Server Name: UOP, User Name: MCM, Password: MCM. [10]
6. Design a form and write code which will accept two numbers from user using two text boxes and display prime numbers between them in a list box. [10]
7. Explain the following controls : [10]
- (a) Tree View Control
 - (b) Combo Box Control
 - (c) Masked Text Box Control
 - (d) Image List Control.
8. Write short notes on following (any *three*) : [15]
- (a) ADO.Net object model
 - (b) Data types in vb.net
 - (c) Crystal reports
 - (d) Access Modifiers.

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M.C.M. (Third Semester) EXAMINATION, 2017

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 the remaining.

1. Explain factors considered while setting a computer center. [15]
2. Explain function point analysis in detail. [10]
3. Explain different techniques of cost estimation. [10]
4. Explain software implementation phase in detail. [10]
5. Explain and compare formal technical review and inspection. [10]
6. Explain different team structures used in software projects. [10]

P.T.O.

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

(a) Project charter

(b) Earned value analysis

(c) Benchmarking

(d) Risk monitoring, mitigation and management.

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[5267]-5A

M.C.M (Management. Faculty) (III Semester) EXAMINATION, 2017

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 Logger Class with all constraints. [10]
(b) Using Ruby Socket API, write a client that passes string to the server and server responds by sending length of the string to the client. [10]
2. Write migration for creating table 'Item' in database having item_no Name, price, stock as columns. [10]
3. Using MySQL Connection object, write a ruby script to display all Records from Item table. [10]
4. Write callback method in item model which will update stock of Item by quantity 10. [10]
5. Create a TK windows that has 2 checkboxes "FAST" and "SLOW" a label and a button "Select". The label should change its caption according to the selection. [10]
6. Write short notes on (any *four*) : [5×4=20]
 - (a) MVC Architecture
 - (b) SMTP Class
 - (c) Web Scaffolding
 - (d) Render Method
 - (e) Action Controller

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[5267]-6

M.C.M. (Fourth Semester) EXAMINATION, 2017

MULTIMEDIA AND WEB DESIGNING

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

(iii) Neat diagrams carry marks.

1. (A) Write ASP Code for accepting PlayerNo, PlayerName and BirthDate from the user. On submit of the form check data entered with the following validations: [10]

(a) PlayerNo – Numeric and Not Null

(b) PlayerName – Not Null

(c) BirthDate – Should not earlier than 1995-01-01

If data is correct write data in database player.mdb.

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

2. Explain use of functions in JavaScript. At least *five* functions are required. [10]

P.T.O.

3. Explain various types of Style Sheets in HTML. At least *five* types are required. [10]
4. Explain Colour Models in Image and Video. [10]
5. Explain string functions in VBScript. At least *five* functions required. [10]
6. Write XML Code to store information about ITEM (ITEMNO, ITEMNAME, UOM, RATE) and write HTML Code to display data in tabular format using DSO object. [10]
7. Write short notes (any *three*) : [15]
 - (a) Multimedia and Hypermedia
 - (b) Image File Data Types
 - (c) Request and Response Objects in ASP
 - (d) Operators in JavaScript
 - (e) Loop Statement in VBScript.

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M.C.M. (Fourth Semester) EXAMINATION, 2017

408 : # NETWORK TECHNOLOGY

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

(iii) Draw neat diagram wherever necessary.

1. (a) Explain steps for installation of Windows Server 2003. [10]
(b) Write the steps for configuring DHCP Server in Windows Server 2003. [10]
2. Explain how we can Configure X-Windows in Linux. [10]
3. Explain Network Management and File Management Commands in Linux. [10]
4. Explain Microsoft .NET Framework. [10]
5. Explain Web Server and Mail server. Enlist the various services provided by Web application services. [10]

P.T.O.

6. Explain installation and configuring packages in Linux. [10]
7. Write short notes (any *four*) : [20]
- (a) Ethernet
 - (b) Hub, Switch and Router
 - (c) Modems
 - (d) TCP/IP Protocol
 - (e) Default Directories in Linux.

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M.C.M. (Fourth Semester) EXAMINATION, 2017
QUALITY CONTROL AND SOFTWARE TESTING
(2008 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. No. 1 is compulsory.

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

(ii) Figures to the right show marks.

1. (a) Define Software testing. Explain need of software testing. [4]
(b) Write test cases for printer. [10]
2. What is black box testing ? Explain various techniques of black box testing. [14]
3. What is test plan. Explain test planning formats. [14]
4. (a) Define Software Quality. Explain quality factors. [7]
(b) State difference between Quality assurance and Quality control. [7]
5. What is test policy ? Explain different types of test policies. [14]

P.T.O.

6. Write short notes (any *two*) :

[14]

(a) Regression testing

(b) IEEE Standards

(c) Stress testing

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[5267]-11

**M.C.M. (First Semester) EXAMINATION, 2017
FUNDAMENTALS OF INFORMATION TECHNOLOGY
(2012 PATTERN)**

Time : Three Hours

Maximum Marks : 70

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

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

(iii) Figures to the right indicates full marks.

1. Define computer and discuss various computer generations in detail. [10]

2. (A) Solve : [8]
 - (i) $(202)_{10} = (?)_2$
 - (ii) $(1000101)_2 = (?)_{10}$
 - (iii) $(376)_{10} = (?)_8$
 - (iv) $(6BA)_{16} = (?)_2$(B) Explain process management function of operating system in detail. [7]

3. (A) Discuss the terms RAM, ROM, PROM and EPROM. [8]
(B) Explain different language converters. [7]

4. (A) Explain any *four* input devices. [8]
(B) Explain speciality processors in brief. [7]

P.T.O.

5. (A) Define operating system and explain various functions of operating system. [8]
(B) Explain OSI seven layer model in detail. [7]
6. (A) Explain Batch processing with an appropriate diagram. [8]
(B) Explain ASCII coding system in detail. [7]
7. (A) Explain various functions of computer with the help of block diagram. [8]
(B) Define computer network and give its benefits. [7]

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[5267]-12

**M.C.M. (First Semester) EXAMINATION, 2017
'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 remaining.
(iii) Figures to the right indicates full marks.

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

(a)

```
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);
}
```

(b)

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

P.T.O.

```

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

```

```

(d) Void main()
    {
        void swap (int, int);
        int a=5, b=7;
        swap (a, b);
        printf ("\n a = %d & b = %d", a, b);
    }
    void swap (int a, int b)
    {
        int c=a;
        a = b;
        b = c;
    }

```

(B) Explain the following (any *two*) :

[8]

- (a) Data storage classes
- (b) Stack
- (c) Linked list

2. Write a C program to print following pattern using nested loop. [10]

```
A   B   C   D   C   B   A
A   B   C           C   B   A
A   B                   B   A
A                               A
```

3. Write AC program to check whether the given string is palindrome string or not ? [10]
4. Write AC program to accept two filenames from the user and copy the content of first file at the end of another file. [10]
5. Write a program to accept bill no, customer code, name and ammount. Accept 100 bills using array of structure and print name and other details of customer whose amount is maximum. [10]
6. Write a program to accept 10 numbers with one more number n , and perform following : [10]
- (i) display how many numbers are equals to n .
 - (ii) display how many numbers are less than n .
 - (iii) display how many numbers are greater than n .
7. Write a program to accept any number from user and check whether that number is perfect or not. (use recursion) [If addition of factors of a given number is that number itself called as perfect no. Ex. : 6 : 1 + 2 + 3 = 6 factors] [10]

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[5267]-13

MCM (First Semester) EXAMINATION, 2017

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* questions from Q. 2 to Q. 5.

1. 'Gurukul International School' wants to computerize school admission system. Parents have to purchase admission forms from school office. Academic heads invites candidates for interview. Interview schedule is prepared. List of selected candidates will be displayed in school premises after the interviews. The candidate, if eligible will get admission. Bank challans will be given to selected candidates. Fees will be deposited to specific Bank. One copy of challan will be kept with parent and one copy of challan will be deposited in school office :

(a) Draw ER diagram. [10]

(b) Write Normalized file Layouts. [7]

(c) Draw any *two* screen Layouts. [8]

2. Describe Rational Unified Process in detail. [10]

P.T.O.

3. Draw activity diagram for receiving PAN card through on Line PAN card application system. [10]
4. Differentiate between RAD Model & Spiral Model. [10]
5. 'Perfect Fitness' provides online admission facility. Member has to register on website by providing personal information. Member then can select one option among 3 viz, Gym, Cardio & Gym plus cardio. In addition to this, member can avail personal training by consulting with Gym authorities. Nominal formal health checkup is carried out by gym authorities. Admission is confirmed after scrutiny of health checkup report. Fixed number of free Diet sessions are availed by members. Payments are done through either by credit card or by Internet Banking. Draw use case diagram for above case. [10]
6. Write short notes on (any *three*) : [15]
 - (a) Software Requirement Specifications (SRS)
 - (b) Decision Table
 - (c) State transition diagram
 - (d) Association and Generalization in class diagram.

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[5267]-14

M.C.M (I Semester) EXAMINATION, 2017
(104) : DATABASE MANAGEMENT SYSTEM
(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) Study the following and normalize the database upto 3NF :[12]

The warehouse database stores inventory information. A warehouse has one manager who has an employee number (unique) and a name. A warehouse is identified by its warehouse name (unique) and its address. Every part in the warehouse has a part number (unique), inventory date, quantity-on-hand, supplier name (one), and the delivery number, data, and quantity. One delivery could deliver several parts. The database is shown below :

WAREHOUSE (manager-id, manager-name, warehouse-name, warehouse-address, part-no, inventory-date, qty-on-hand, supplier-name, delivery-no, delivery-date, delivery-qty)

(b) Differentiate between HDB and NDB [8]

2. Explain Architecture of DBMS. [10]

3. What is Deadlock ? Discuss Timestamp based deadlock prevention with suitable example. [10]

P.T.O.

4. Discuss how ERD is helpful in table design. [10]
5. What is Data warehouse ? Explain three-tier Data warehousing architecture. [10]
6. Explain DCL commands with example. [10]
7. Write short notes on (any *two*) : [10]
 - (a) Mapping cardinalities
 - (b) Data Mining
 - (c) Generalization and Specialization.

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[5267]-21

**M.C.M. (Second Semester) EXAMINATION, 2017
201 : BUSINESS APPLICATION AND ERP TOOLS
(2012 PATTERN)**

Time : Three Hours

Maximum Marks : 70

N.B. :- (i) Question Nos. 1 and 6 are compulsory.
(ii) Attempt any *three* from the remaining.

1. Explain the process of employee salary calculation and reporting in Payroll. Draw format of PaySlip. [20]
2. Explain BOM Processing with product configuration. [10]
3. What is the purpose of Trial Balance ? Draw format of Trial Balance. [10]
4. How is sales analysis done ? Explain with the help of two reports. [10]
5. What is ERP ? Explain the need and advantages of ERP. [10]
6. Write short notes on (any *four*) : [4×5=20]
 - (a) WIP
 - (b) Pending Customer Orders
 - (c) Expense Analysis
 - (d) Employee Leave Accounting
 - (e) End User Training in ERP
 - (f) EBQ.

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[5267]-22

M.C.M. (Second Semester) EXAMINATION, 2017

202 : PRINCIPLES AND PRACTICES OF MANAGEMENT

AND ORGANIZATIONAL BEHAVIOUR

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

(iii) Figures to the right indicate full marks.

1. (A) Discuss theory *x*, *y* and *z* with its relevance to the Information Technology Industry. [15]
(B) Explain managerial grid. [10]
2. Define and distinguish between groups and teams and discuss the process of effective team building. [15]
3. Explain the strategies that would help to conflict management. [15]
4. Motivation of employees is the most critical need of the industry today. Explain with reference to IT industry. Discuss Maslow's need hierarchy theory. [15]

P.T.O.

5. Define organization. Explain the process of organization. [15]
6. Write short notes on (any *three*) : [15]
- (a) Team Building
 - (b) Johari Window
 - (c) Need of organization
 - (d) Line and staff organization
 - (e) Ego states.

Total No. of Questions—6]

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[5267]-23

M.C.M. (Second Semester) EXAMINATION, 2017

ADVANCED RDBMS USING ORACLE

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

(iii) Write your assumptions.

(iv) Figures to the right indicate full marks.

(v) Draw neat diagrams wherever necessary.

1. Consider the following tables to solve any *ten SQL* queries given below : [20]

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

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

Branch (Branch_id, branch_name, branch_addr)

(i) Create "Account" table with constraints.

(ii) Insert one record in "Account" Table.

P.T.O.

- (iii) Add one column "email_Id" in "Account" table.
- (iv) Display the list of account holders who are having "saving" account.
- (v) List account holder's details whose name starts with 'a'.
- (vi) Display account details whose opening date is before '01-01-13'
- (vii) List account holder's details who does not have cheque book.
- (viii) List account holder's details who belongs to either 'Pune' or 'Nagar'.
- (ix) List account holder's details whose account was opened in 'November'.
- (x) Display account holder's details with branch name.
- (xi) Display the list of account holders whose branch is "ANagar_Main_Branch".

2. Explain Oracle Architecture in detail. [10]

3. Solve the following : [10]

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

4. Solve the following : [10]
- (a) Write a PL/SQL program to accept *two* numbers and print the numbers between those two numbers.
 - (b) Write a trigger will not allow user to delete the records "EMP" table after 5 pm Table : **EMP** (Eno, Ename, Dno)
5. Write a **Package Body** and **Package Specification** which will have the following functions and procedure : [10]
- (a) Function **Emp_insert**
 - It will accept Emp details (Emp_no, Emp_name, Dept_no) and insert the record in EMP table
 - (b) Procedure **P_Upper**
 - It will accept a string & print that string in uppercase.
- Also write how you will call this function and procedure in a PL/SQL program.
6. Write short notes on (any *five*) : [20]
- (a) Data types in Oracle
 - (b) Numeric Functions
 - (c) Set Operators
 - (d) Stages of database startup and database shutdown options
 - (e) Types of backup and steps to take backup without shutting database
 - (f) PL/SQL features

Total No. of Questions—8]

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[5267]-24

M.C.M. (Second Semester) EXAMINATION, 2017

JAVA PROGRAMMING

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. Nos. 1 and 8 are compulsory.

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

(iii) *All* questions carry equal marks.

1. Solve the following :

(a) Differentiate between Abstract Class and Interface.

(b) Access Specifiers in Java.

(c) Differentiate between Thread Class and Runnable Interface.

(d) What are the component and container classes ?

(e) What is serialization and de-serialization ?

2. Write application that will accept age from user and find whether it is greater than 18 or not. If it is less than 18 fire user defined exception "Not Eligible for Voting".

3. Write application that will accept two file names from user. "Append" first file to second. Do all possible validations. (Use character streams)

P.T.O.

4. Write an application to create the following threads :
 - (a) To generate terms of Fibonacci Series.
 - (b) To print mathematical table upto 20
[Tables of 5 to 20]

5. Write an interface to define method to calculate compound Interest (i), which takes three arguments, First– amount, second– no. of years & three–rate of interest. Implement this interface to demonstrate the functionality.

6. Create class passenger. Accept details '10' passengers in an array of objects and display the accepted details [assume suitable attribute fields].

7. Explain event handling in applet with suitable example.

8. Write notes on (any *two*) :
 - (a) Dynamic method dispatch
 - (b) Throw, throws and finally
 - (c) StringBuffer Class.

Total No. of Questions—8]

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[5267]-31

MCM (Third Semester) EXAMINATION, 2017

INFORMATION SECURITY AND AUDIT

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

1. Explain the importance of physical security. Explain different biometric controls for protecting information systems assets. [10]
2. Explain the 15 Auditing Steps. [10]
3. Define 'Evidence'. Discuss Evidence-Evaluating Process. [10]
4. What is an IDS (Intrusion Detection System) ? Explain the need for having an IDS in place. [10]
5. Explain how electronic mails can pose security threats to organisation information systems. [10]
6. What is the difference between DRP (Disaster Recovery Plan) and BCP (Business Continuity Plan) ? [10]

P.T.O.

7. Why are computer ethics and moral values important for security professionals ? [10]
8. Write short notes on (*any two*) : [10]
- (a) SAS 70
 - (b) ISO 27001
 - (c) Firewalls.

Total No. of Questions—7]

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[5267]-32

M.C.M. (Management Faculty) (Semester-III)

EXAMINATION, 2017

302-NT : BASICS OF NETWORK TECHNOLOGIES

(302-A : Specialization—I)

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

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

1. (a) Explain steps for configuring DHCP server on Linux. [10]
(b) Explain steps for implementing IIS on Windows 2003. [10]
2. Explain various Tunnelling Protocols. [10]
3. Explain various cables used for networking. [10]
4. Explain Bus and Star Topologies with advantages and disadvantages.
5. Explain steps for configuring Terminal server on Windows 2003 server. [10]
6. Explain any *five* network management commands in Linux.

P.T.O.

[10]

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

[4×5=20]

- (a) Wireless Network
- (b) Ethernet Card
- (c) Common Language Runtime
- (d) Configuring printer in Windows
- (e) Apache Web Server
- (f) RADIUS server.

Total No. of Questions—7]

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[5267]-33

M.C.M. (Third Semester) EXAMINATION, 2017
303-NT : SERVER AND DESKTOP TECHNOLOGIES
(303-A : Specialization-II)
(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. No. 1 and Q. No. 7 are compulsory.
(ii) Solve any *three* from remaining.

1. (A) Explain Super Scalar Architecture in Pentium. [10]
(B) Explain steps for network installation in Windows. [10]
2. Explain Instruction Pipelining with example. [10]
3. Explain steps for installing Windows XP Professional. [10]
4. Explain features and specifications of wireless devices. [10]
5. State steps for hardware and driver installation in Windows 7. [10]
6. Explain various addressing modes with example. [10]
7. Write short notes on (any *four*) : [4×5=20]
 - (a) SMPS
 - (b) Micro Program Control
 - (c) Security Policies in Windows XP
 - (d) Removable Drives
 - (e) Fault Finding Devices.

Total No. of Questions—7]

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[5267]-34

M.C.M (III Semester) EXAMINATION, 2017

304 NT : SYSTEM ADMINISTRATION AND SERVER INTEGRATION

(304-A : Specialization—III)

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

- N.B. :—**
- (i) Question Nos. 1 & 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 Installation steps for Fedora core Operating system in Graphical mode. [20]
2. Explain group management and user management commands in Windows server 2003. [10]
3. Explain the different Windows server 2003 role. [10]
4. What are installation steps of Windows 2003 server ? [10]
5. What is Active Directory ? Explain steps to implement active directory and domain controller in Windows server 2003. [10]
6. Explain services in Linux. How services are selected for startup in Linux ? [10]
7. Write short notes on (any *four*) : [20]
 - (a) Advantages of distributed O.S.
 - (b) Role of DNS server
 - (c) Firewall
 - (d) RPM package
 - (e) Windows .Net frame.

Total No. of Questions—8]

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[5267]-35

M.C.M. (Semester-III) (Mgt. Faculty) EXAMINATION, 2017

302-ST : SOFTWARE QUALITY ASSURANCE

(302-B : Specialization—I)

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

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

(ii) *All* questions carry equal marks.

1. Explain Software Project Life Cycle in detail [10]
2. Differentiate between Software Quality Assurance and Software Quality Control. [10]
3. Discuss Inspections and Walkthrough. [10]
4. Explain SEI CMM Model. [10]
5. Explain McCall's Quality Model. [10]
6. Explain Risk Management in detail. [10]
7. Discuss Verification and Validation. [10]
8. Write short notes on (any *two*) : [10]
 - (a) ISO 9001 and ISO 9003
 - (b) Impact of CASE Tools
 - (c) Documentation control.

Total No. of Questions—6]

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[5267]-36

M.C.M. (Third Semester) EXAMINATION, 2017
303-ST : SOFTWARE TESTING PROCESSES AND
DOCUMENTATION
(Software Testing Specialization—II)
(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. Nos. 1 and 6 are compulsory.
(ii) Solve any *three* from the remaining.

1. What is Verification and Validation ? Draw and explain V & 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. Discuss COTS Software Test Process in detail. [14]
4. Explain Tester's Workbench. Explain various test tools required during complete test work process. [14]
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) Testing Wireless Technologies
 - (c) Incremental Testing

Total No. of Questions—8]

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[5267]-37

M.C.M (III Semester)(Mgt. Faculty) EXAMINATION, 2017
ST 304 : SOFTWARE TEST PLANNING AND DOCUMENTATION
(304-B : Specialization-III)
(2012 PATTERN)

Time : Three 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. Discuss in detail various risks associated with software development. [10]
3. Explain functional and Structural test cases. [10]
4. Discuss the role of various tools in testing. [10]
5. Explain test plan standards [10]
6. Explain User Acceptance testing. [10]
7. Discuss various tools used to prepare test report. [10]
8. Write short notes on (any 2) : [10]
 - (a) Test Matrix
 - (b) System Testing
 - (c) Test plan standards.

Total No. of Questions—8]

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[5267]-38

MCM (Semester-III) EXAMINATION, 2017

302-SD : PROGRAM AND DESIGN WITH ASP.NET

(302-C : Specialization—I)

(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. No. 8 is compulsory.

(ii) Solve any *four* from Q. No. 1 to Q. No. 7.

1. Design GUI and write code for the following : [15]

(a) Add New Record

(b) Delete Record

(c) Edit Record

Use Connected Architecture

Display the records in gridview control for selection.

Table Name-Book (BookNo, Bname, Bprice, No_of_pages, Bsize)

SQL Server - Library

Server Name - BCL

2. Explain the following with example (any *three*) : [15]

(1) Overloading

(2) Overriding

(3) Encapsulation-Access Qualifiers

(4) Abstract Class and Sealed Class.

P.T.O.

- 3.** Explain the following controls (any *three*) : [15]
- (a) Calendar Control
 - (b) Listbox Control
 - (c) Dropdown List Control
 - (d) Adrotator.
- 4.** Explain Validator Controls with example. [15]
- 5.** Explain various Client side State Management techniques in ASP. Net. [15]
- 6.** Write short notes (any *one*) : [15]
- (a) Imagemap Control
 - (b) Web Services
 - (c) Exception Handling.
- 7.** Explain the following array types with examples : [15]
- (a) Single Dimension
 - (b) Multiple Dimension
 - (c) Jagged Array.
- 8.** Explain with example use of LINQ in asp.net [10]

Or

Explain ADO.NET Object Model in detail.

Total No. of Questions—7]

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[5267]-39

M.C.M. (Third Semester) EXAMINATION, 2017
303-SD : MOBILE PROGRAMMING USING ANDROID
(303-C : Specialization-II)
(2012 PATTERN)

Time : Three Hours

Maximum Marks : 70

N.B. :— (i) Q. Nos. 1 and 7 are compulsory.
(ii) Attempt any *three* from the remaining.

1. (a) Explain building blocks of Android. [10]
(b) Explain use of SQLite database in Android with example. [10]
2. Write sample code to generate view and layout. [10]
3. Explain basic graphics generation in android with example. [10]
4. Explain use of content provider for SQLite in android application. [10]
5. Explain Service Life Cycle in android. [10]
6. Explain in detail Java Classes and Objects with suitable example. [10]
7. Write short notes on (any *four*) : [4×5=20]
 - (a) Interfaces in Java
 - (b) Android Development Tool
 - (c) Cursors in SQLite
 - (d) Types of Preferences
 - (e) Raw Audio Manipulation.

Total No. of Questions—6]

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[5267]-40

MCM (Third Semester) EXAMINATION, 2017

304 5D : ADVANCED JAVA

(304 C : SPECIALIZATION-III)

(2012 PATTERN)

Time : 3 Hours

Maximum Marks : 70

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

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

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data wherever necessary.

1. Explain in detail Hibernate architecture. [10]

Or

Explain in detail Model View and Controller Architecture.

2. Write a socket program where a client sent a string to the server. Server returns the length of the string to the client. [15]

3. Write JDBC Code to display students which passed with first class from the Student marks table. [15]

4. (a) Explain in detail Servlet lifecycle. [8]

(b) What is the role of the stub-skeleton in RMI ? Explain with

P.T.O.

example.

[7]

- 5.** Write a JSP code to search a student placement details from the placement database by student. Id. (Assume suitable table structure). [15]
- 6.** Write a Servlet program to accept online registration details of users for Dancing Competition. Assume suitable table structure. [15]

Total No. of Questions—7]

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[5267]-41

M.C.M. (IV Semester) EXAMINATION, 2017

401 : CURRENT TRENDS IN IT

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 70

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

(ii) Answer 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 network 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. What are the different e-Learning tools and technologies ? [15]
3. Explain various electronic payment methods. How are transactions performed in E-banking ? [15]
4. What is cloud computing ? Explain the cloud architecture in brief. [15]

P.T.O.

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. [15]
7. Write short notes on (any *two*) : [10]
- (i) Digital Signature
 - (ii) Virtual School Systems
 - (iii) Point of Sales System (POS)
 - (iv) m-wallet.