[4866]-1001

M.C.A. (Commerce Faculty) (Semester- I)
101: FUNDAMENTALS OF INFORMATION TECHNOLOGY
(2013 Pattern)

Time : 3 Hours]   *[Maximum Marks : 50*

Instructions to the candidates:
1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Assume suitable data if necessary.*

Q1) Define and explain in brief <u>any seven</u> of the following.   **[7×2=14]**

    a)   WAN

    b)   Types of software

    c)   Liquid Crystal Display.

    d)   Process

    e)   Hexadecimal Number System.

    f)   Assembler

    g)   Digital transmission

    h)   External storage devices.

Q2) Attempt any <u>three</u>   **[3×4=12]**

    a)   Explain different types of operating system.

    b)   List all Input devices and explain any one in detail.

    c)   Write a note on Linker.

    d)   Differentiate between high level and law level language.

Q3) Attempt any <u>three</u>   **[3×4=12]**

    a)   What is Topology? Explain Bus topology.

    b)   Explain Architecture of Microprocessor.

c) What is an algorithm? Explain characteristics of an algorithm.

d) Explain with example

i) Primary Key

ii) Foreign Key

Q4) Attempt any <u>three</u>   **[3×4=12]**

a) Convert the following

110011 to Decimal

AD 8 to Decimal

b) What is protocol? Explain communication protocol.

c) List types of printer. Explain any one in detail.

d) Explain Binary Number System in detail.

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[4866]-1002

M.C.A. (Commerce Faculty) (Semester - I)
102 : PROGRAMMING IN 'C'
(2013 Pattern) (Credit System)

Time :3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:
1)   *All questions are compulsory.*
2)   *Assume suitable data, if necessary.*

Q1) Attempt any seven.   **[7×2=14]**

   a)   Define

      i)   data type

      ii)   identifier

   b)   Give syntax and suitable example of printf () and getchar().

   c)   What is use of if-else decision control statement?

   d)   What is function? Which are the types of function?

   e)   What is an array? Which are the different types of array?

   f)   What is structure? Give proper example of it.

   g)   What is file? How to open file in 'C'?

   h)   Which are the categories of directives?

Q2) Attempt any three.   **[3×4=12]**

   a)   Explain in detail structure of 'C' program.

   b)   What is loop control structure? What is the difference between While loop and Do-While loop?

   c)   Write a note on Dynamic Memory Allocation.

d) Trace the output:

```c
# include <stdio.h>
int main ()
{
    char *names[]={"Suresh", "Siva", "Sona", "Baiju", "Ritu"};
    int i;
    char *t;
    t = names [3];
    names [3] = names [4];
    names [4] = t;
    for (i = 0 ; i <= 4; i++)
        printf ("%5," , names [i]);
    return 0;
}
```

Q3) Attempt any three.   **[3×4=12]**

a) Write a function using pointers to add two integer numbers and to return the result to the calling function.

b) Write a program in 'C' to calculate multiplication of array of n x n matrix.

c) Write a 'C' program that will receive a filename and a line of text as command line arguments and write the text to the file.

d) What will be the output of the program (myprog) given below if it is executed from command -line as

myprog   100 200 300

```c
/* myprog.C*/
# include <stdio.h>
int main (int argc, char *argv[])
{
    int i ;
    for (i = 0 ; i < argc; i ++)
        printf ("%5", argv [i]);
    pirntf ("\n");
    return 0;
}
```

Q4) Attempt any three.   [3×4=12]

a) What is string? Explain strcpy () and strlen () functions with proper syntax.

b) What is union ? Write differences between structure and union.

c) Explain any four standard file handling functions in detail.

d) Trace the output

```
# include < stdio.h)

int main ()

{
        int a = 300, b, c;
        if (a > = 400)
                b = 300;
                c = 200;
        print f ("%d%d%d \n", a,b,c);
        return 0;
}
```

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[4866]-1003

M.C.A. (Commerce) (Part - I) (Semester- I)
ELEMENTS OF STATISTICS
(2013 Pattern)

Time :3 Hours]   *[Maximum Marks : 50*

Instructions to the candidates:
  1) *All Questions are compulsory.*
  2) *Figures to the right side indicate full marks.*
  3) *Use of calculator is allowed.*
  4) *Assume Suitable data, if necessary.*

Q1) Attempt any Two of the following:

  a)   Find median for the following frequency distribution: **[7]**

Marks	Below20	21-40	41-60	61-80	81-100
No. of students	1	9	32	16	7

   Also draw less than Ogive curve and verify median graphically.

  b)   Two samples are drawn from two normal populations. From the following data test whether the two samples have the same variance at 5% level of significance.   **[7]**

   Sample I: 60   65   71   74   76   82   85   87

   Sample II: 61   66   67   85   78   63   85   86   88   91

   [Given f table = 3.68]

  c)   Obtain correlation coefficient between sales (Y) and Number of sections (X) using following data: **[7]**

X	77	54	27	52	14	35	90	25	56	60
Y	35	58	60	40	50	40	35	56	34	42

Q2) Attempt any TWO of the following:

  a)   Explain the following terms: **[6]**

i) Hypothesis

ii) Critical Region

iii) Type I and Type II errors

b) A random variable X has following probability distribution: **[6]**

X	0	1	2	3
P(X=x)	2K	3K	13K	2K

Find

i) K

ii) Mean

iii) P(X >2.0)

c) The two lines of regression are X – 4Y= 5 and X – 16Y = 64. **[6]**
Find:

i) regression coefficient X on Y

ii) regression coefficient Y on X

iii) correlation coefficient

Q3) Attempt any THREE of the following:

a) Write the procedure of large sampling test of testing of equality of proportions. **[4]**

b) A group of 50 items have mean and standard deviation 61 and 8 respectively. Another group of 100 observations have mean and standard deviation 70 and 9 respectively. Find mean and standard deviation of the combined group. **[4]**

c) The following information is collected on two characters: **[4]**

	Cinegoers	Non-cinegoers
Literate	83	57
Illiterate	45	65

Based on this information can you conclude that there is no association between habit of watching cinema going and literacy? Use 5% L.O.S.

$$\left[\text{Given} \chi_1^{\ 2} = 3.81, \chi_2^{\ 2} = 5.99, \chi_3^{\ 2} = 7.81 \right]$$

d) A random sample of size $n_1 = 10$ from a normal population has standard deviation 8.56 and mean 32.3. A second random sample of size $n_2 = 10$ has standard deviation 10.09 and mean 44.1. Test the hypothesis that

$\mu_1 = \mu_2$ against $\mu_1 \neq \mu_2$

(Given t_{17}=2.110, t_{18}=2.101, t_{19}=2.093) **[4]**

e) Compute quartile deviation and coefficient of quartile deviation for the following frequency distribution. **[4]**

Class	35 - 40	40 - 45	45 - 50	50 - 55	55 - 60	60 - 65
Frequency	18	22	26	36	23	19

Q4) Attempt any THREE of the following:

a) A random variable X has following probability distribution: **[4]**

X	0	1	2	3	4	5	6
P(X=x)	0.18	0.28	0.25	0.18	0.06	0.04	0.01

Find mean of X and V(X).

b) If $X \rightarrow N(100,16)$. Calculate $P[90 \leq X \leq 110]$. **[4]**

c) The number of cars crossing a bridge during a certain interval has approximately a Poisson distribution with mean 4. Find the probability that during a randomly chosen interval of time. **[4]**

Find

i) no car will cross the bridge,

ii) at least 3 cars will cross the bridge. [Given $e^{-4} = 0.01831$]

d) Let X be a binomial random variable with parameters n and p. **[4]**

i) If E(X) = 4.0 and Var(X) = 2.4. Find n and p.

ii) If p = 0.4, E(X) = 2. Find n and Var(X).

e) According to the norms established for a mechanical aptitude test, persons who are 18 years old should average 73.2 with standard deviation of 8.6. If 45 randomly selected persons of that age averaged 76.7, test the null hypothesis $\mu = 73.2$ against $\mu \neq 73.2$ at 0.01 level of significance. **[4]**

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[4866]-1004

M.C.A. (Commerce) (Semester- I)
104 : FINANCIAL ACCOUNTING
(2013 Pattern) (Credit System)

Time :3 Hours]   [*Maximum Marks : 50*

Instructions to the candidates:
1) *Question No.1 is compulsory.*
2) *Solve any Three questions from the remaining.*

Q1) From the following Trial balance and additional information, you are required to prepare Trading a/c, Profit & Loss a/c and Balance Sheet of M/s Parekh as on 31/03/2015. **[14]**

PARTICULARS	DR.Rs.	CR.Rs.
Parekh capital		20000
Bank overdraft		5000
Machinery	13400	
Cash in hand	1000	
Fixtures	5500	
Opening stock	45000	
Bills payable		7000
Creditors		40000
Debtors	63000	
Bills receivable	5000	
Purchases	50000	
Sales		129000
Insurance	1000	
Discount Received		1100
Salaries	9000	
Wages	4000	
Building	9200	
Discount received		4000
	206100	206100

Additional information:

a)   Closing stock Rs. 52000.

b)   Depreciation on Machinery at 5%.

c)   Insurance prepaid Rs. 400/-

d)   Salary outstanding Rs. 1000/-

Q2) Journalize the following transactions in the books of Vijay Enterprises for the month of Jan. 2015 **[12]**

Date:

1   Started business with Cash Rs. 40000/- and Machinery Rs. 20000/-

4   Bought goods from Ajay Traders Rs.25000/- on credit.

6   Open account with Rs.5000/- with Bank of India.

9   Sold goods to Ramesh worth Rs. 15000/- by cash and Rs. 15000/- on credit.

15   Received Rs. 10000/- from Ramesh on account.

20   Cash withdrawn by the proprietor for personal use Rs. 2000/-.

25   Paid for travelling expenses Rs. 1500/- and Telephone bills Rs. 500/-.

30   Cash withdrawn from the State of India Rs. 2000/- for office expenses.

Q3) A Company purchased Machinery on 1.4.2013 at Rs. 180000/- and Installation charges Rs.20000/-. The estimated life of the machine is 5 years and scrap value is nil.

Show under Fixed Installment Method. Calculation of Depreciation per year and Machinery Account . Depreciation Account for 3 years. **[12]**

Q4) Define the concept "Management Accounting". Distinguish between Financial Accounting and Management Accounting. **[12]**

Q5) Explain in brief. Explain following Accounting concepts: **[12]**

    a)   Accrual Concept.

    b)   Money Measurement Concept.

    c)   Business Entity Concept.

    d)   Going concern Concept.

Q6) Write short notes on (Any Three) :   **[12]**

    a)   Objectives Accounting standards in India.

    b)   Enterprise Resource Planning: merits and demerits.

    c)   Role of computers in Financial Accounting.

    d)   Users of Financial Accounting.

    e)   Subsidiary Book.

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[4866]-1005

M.C.A. (Commerce) (Semester- I)
105 : Principles of Management
(2013 Pattern) (Credit System)

Time: 3 Hours]   *[Maximum Marks : 50*

Instructions to the candidates:
1) *Attempt any 6 from 1 to 6.*
2) *Prepaire chart and Diagram if Needed.*
3) *Short Note is Compulsory Choice is given.*

Q1) Explain the Nature and Functions of Management

OR

Explain Management as an art, science and profession.

Q2) What is the contribution of Henry fayol towards Management? Explain any 7 Principles of Management

OR

What is contingency theory of Management? What are its implications relevance.

Q3) Define Planning. Explain the process of planning.

OR

Define decision-making. Explain the techniques used for Management Decision-Making.

Q4) What is Motivation? Explain theory *x* and theory *y* of Motivation.

OR

Define control and describe the techniques of control?

P.T.O.

Q5) Define Strategic Management .How it is benefitial to organization.

<div align="center">OR</div>

Bring out the importance of co-ordination in business organization what are the methods of acheiving co-ordination?

Q6) Whether the campion of social responsibility is for development of society or branding of company comments

<div align="center">OR</div>

Define conflics Management. How it is useful for organization while implimentation.

Q7) Short Notes (Any Two)

   a)   T.Q.M.

   b)   Decentralization

   c)   Stress Management

   d)   Disaster Management

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[4866]-1006
M.C.A. (Commerce) (Semester- I)
BUSINESS COMMUNICATION
(2013 Pattern)

Time : 3 Hours]   *[Maximum Marks : 50*
Instructions to the candidates:
1) *Figures to the right indicate full marks.*
2) *All questions are compulsory.*

Q1) a) Define the term communication. Explain the principle of communication.
[14]

OR

b) What is verbal communication? Explain the methods of verbal communication.

Q2) a) What do you mean by listening skill? Explain the importance of listening skill. **[14]**

OR

b) Explain the layout of business letter.

Q3) a) Enquire of your suppliers about the price and time of delivery of umbrellas, waterproof bags and jackets. **[7]**

OR

b) Explain the following with suitable examples.

i) Verb.

ii) Adverb.

iii) Preposition.

Q4) a)   Write a job application to Human Resource Manager of TATA Motors Limited, Pune for the post of system Manager.   **[7]**

<div align="center">OR</div>

b)   Explain the role of social media in communication.

Q5) Write short notes (Any two)   **[8]**

a)   Process of communication.

b)   Body language.

c)   Email etiquette

d)   Video conferencing.

<div align="center">▰▰▰</div>

[4866]-2001

M.C.A. (Commerce) (Part - I) (Semester- II)
201 :DATA STRUCTURE USING - C
(2013 Pattern) (Credit System)

Time : 3 Hours]   *[Maximum Marks : 50*

Instructions to the candidates:
1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*

Q1) Solve

     A)   Attempt any Three   **[12]**

         i)   Explain adjacency list representation of graph with suitable example.

         ii)   Write an algorithm for insertion sort.

         iii)   Define

            a)   Sparse matrix

            b)   Min Heap

            c)   Hashing

            d)   Balance factor.

         iv)   Write 'C' function to delete node from singly link list.

     B)   Attempt any one   **[2]**

         i)   State applications of stack

         ii)   State applications of Tree

Q2) Attempt any Three   **[12]**

     a)   Write an algorithm to convert infix expression to postfix expression.

     b)   Write note on priority queue.

     c)   Define Binary tree. Explain different operations performed on Binary tree.

     d)   Write an algorithm for quick sort.

Q3) Attempt any three [12]

    a)   Write a 'C' function for binary search of integers.

    b)   Write a 'C' function to insert integer data in circular queue and check whether circular queue is full or not.

    c)   Write note on circular doubly link list.

    d)   Define

        i)   Space complexity

        ii)   Omega Notations

        iii)   Hash function

        iv)   Abstract data type

Q4) Attempt any Three [12]

    a)   Write note on doubly link list.

    b)   Write an algorithm to shortest path using Dijkstra's

    c)   Explain representation of an array.

    d)   Write an iterative algorithm for preorder traversal of a tree

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[4866]-2002

M.C.A. (Commerce) (Semester- II)
202 : OOP'S USING C++
(Credit System)

Time : 3 Hours]   *[Maximum Marks : 50*

Instructions to the candidates:
  1)   *All questions are compulsory.*
  2)   *Figures to the right indicate full marks.*

Q1) Attempt Any Two: **[2×7=14]**

   a)   Write a C++ program using operator overloading to override the << and >> operators for class DATE whose data members are dd, mm, yy.

   b)   Write a C++ program to copy the content of one text file into another.

   c)   Write a C++ program to accept records of 'n' players and store it in an array. Consider class player with player_id, player_name, total_score as data members.

   Write member functions for

   i)   Accepting data of n players

   ii)   Display Records

   iii) Search player record with total_score >1000

Q2) Attempt any THREE: **[3×4=12]**

   a)   What is the output of this program?

   ```
   # include <iostream>

   using namespace std;

   int main ( )

   {

        char str [ ] = "Steve jobs";

        int val = 65;

        char ch = 'A'
   ```

```
        cout. width (5);

        cout << right;

        cout << val << endl;

        return 0;

    }
```

b) What is the output of this program?

```
    # include < iostream>

    using namespace std;

    void print (char *a)

    {

        cout << a << endl;

    }

    int main ( )

    {

        const char * a = "Hello world";

        print (const _ cast < char*> (a));

        return 0;

    }
```

c) What is the output of this program?

```
    # include < iostream>

    using namespace std;

    int main( )

    {

        int a=5, b=10, c=15;

        int * arr[ ] = {&a, &b, &c};

        cout << arr [1];

        return 0;

    }
```

d) What is the output of this program?

```cpp
# include <iostream>
using namespace std;
int main ( )
{
    int arr[ ] = {4, 5, 6, 7};
    int *p = (arr +1)
    cout << * arr +g;
    return 0;
}
```

Q3) Attempt any THREE: **[3×4=12]**

a) Elaborate the Friend Function with suitable example.

b) What is an inheritance? Explain multiple and hierarchical inheritance with example.

c) Elaborate the concept of runtime polymorphism with suitable example.

d) Explain static class members with suitable example .

Q4) Write short notes on (Any Three):   **[3×4=12]**

a) Virtual Function

b) Destructor

c) Template class

d) Access specifiers

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[4866]-3003

M.C.A. (Commerce) (Semester - III)

(303) OBJECT ORIENTED SOFTWARE ENGINEERING
(2013 Pattern)

Time : 3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:

1)   All questions are compulsory.

2)   Figures to the right indicate full marks.

3)   Neat diagrams must be drawn wherever necessary.

Q1) Attempt any seven of the following: **[7 × 2 = 14]**

   a)   What do you mean by OOSE?

   b)   What is use of object diagram?

   c)   Which symbol is used to show realization?

   d)   What is Package?

   e)   Define interaction diagram.

   f)   What is Inception?

   g)   Define Alpha Testing.

   h)   What is reverse engineering?

Q2) Attempt any four of the following: **[4 × 3 = 12]**

   a)   Explain extensibility mechanism in UML.

   b)   What is Inheritance? Explain its types in details.

   c)   Draw Collaboration diagram for student admission system.

   d)   Write a short note on understanding requirements.

   e)   Explain object design process.

Q3) Attempt any three of the following: **[3 × 4 = 12]**

   a)   What is an extends relationship? Explain it with an example.

   b)   What is testing? Explain object oriented testing strategies.

   c)   Explain Booch method with an example.

   d)   Explain architecture of UML in details.

Q4) Attempt the following: **[2 × 6 = 12]**

   a)   A simple flight simulator to built / developed using a bit mapped display, present a perspective view from the cock pit of small airplane, periodically updated to reflect the motion of the plain. The world in which flights take place includes mountains, rivers, lakes, roads, bridges, radio tower, runways, control inputs are from two joysticks. The left joystick operates the radar and engine. The right one controls ailerons and elevator.

       Consider above situation and draw the following diagram:

       i)   Class Diagram

       ii)   Activity Diagram

<div align="center">OR</div>

       Draw Use Case diagram and Sequence diagram for Bus Reservation System.

   b)   Write a short note on the following:

       i)   SDLC

       ii)   Unit Testing and Regration Testing

       iii) Concurrency and Sub System Allocation

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[4866] - 4006

M.C.A. (Commerce Faculty) (Semester - IV)
407 : CYBER LAW AND INFORMATION SECURITY
(2013 Pattern) (Credit System)

Time : 3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:
1) *All questions are compulsory.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*

Q1) Define and explain in brief of following (Any 7):   **[7 x 2 = 14]**

a)   Literary work.

b)   Cryptology.

c)   Copyright Infringement.

d)   Secure Electronic records.

e)   Characteristics of Information.

f)   Attribution of electronic records.

g)   Trademark Act.

h)   Security Policy.

Q2) Discuss any of the following (Any Three):   **[3 x 4 = 12]**

a)   Infringement of patent and remedies.

b)   Explain playfair Cipher Technique of Encryption with example.

c)   Basic Principle of Information Security.

d)   Explain SSL handshake protocol.

Q3) Discuss the following (Any Three): **[3 × 4 = 12]**

   a) Explain Caesar Cipher technique.

   b) What are the various terms about acknowledgment and dispatch of electronics records listed under the IT act.

   c) Explain IP Security Architecture.

   d) Discuss Simple Columnar Transposition Technique with example.

Q4) Discuss of the following (Any Three): **[3 × 4 = 12]**

   a) Explain Brute Force search technique.

   b) Explain Steganography in Classical Encryption Technique.

   c) Briefly explain IPR.

   d) Principle of public key Cryptosystem.

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[4866] - 4007

M.C.A. (Commerce Faculty) (Semester - IV)
CS - 408 : Advanced Networking
(2013 Pattern) (Credit System)

Time : 3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:
1) *Attempt any Five questions.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right side indicate full marks.*

Q1) Answer the following:

a)   Write a short note on CSMA/CD.   **[4]**

b)   How is a circuit gateway different from an application gateway?   **[4]**

c)   Define symmetric key cryptography?   **[2]**

Q2) Answer the following:

a)   What is the idea behind Man-in-the-middle attack?   **[4]**

b)   Explain Bluetooth Architecture.   **[4]**

c)   The value of HLEN in an IP datagram is 7. How many option bytes are present?   **[2]**

Q3) Answer the following:

a)   Explain any one way authentication mechanism with its advantages and drawbacks.   **[4]**

b) Write a short note on VPN. **[4]**

c) Find the netid and the hostid of the following IP addresses. **[2]**

    i) 114.34.2.8.

    ii) 208.34.54.12.

Q4) Answer the following:

a) Explain TCP/IP protocol model in brief. **[4]**

b) What is routing? Explain any two routing algorithms. **[4]**

c) What is denial of service attack? **[2]**

Q5) Answer the following:

a) What is Attack? Explain different types of attack. **[4]**

b) Write a short note on Electronic money. **[4]**

c) What is DNS Spoofing? **[2]**

Q6) Answer the following:

a) Compare and Contrast TCP with RTP. Are both doing the same thing. **[4]**

b) Give two prime numbers p = 17 and q = 29, Find out N,E and D in an RSA encryption process. **[4]**

c) Define point-to-point WANS. **[2]**

Q7) Answer the following:

a) An IP datagram has arrived with the following information in the header (in hexadecimal). **[5]**

45 00 00 54 00 03 00 00 20 06 00 00 7C 4E 03 02 B4 0E 0F 02

i) Are there any options?

ii) Is the packet fragmented?

iii) What is the size of the data?

iv) Is the packet is corrupted?

v) What is the type of service?

b) What is distance vector routing? Explain with example. **[5]**

Q8) Answer the following:

a) Plain Text HOW ARE YOU **[5]**

One Time Pad NCBTZQARX

Convert cipher text using Vernam Cipher.

b) Describe how cross - certification is useful. **[5]**

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[4866] -5001

M.C.A. (Commerce)
501: ADVANCED WEB PROGRAMMING
(2013 Pattern) (Semester-V) (Credit System)

Time : 3 Hours]   *[Max. Marks : 50*
Instructions to the candidates:
   1)   Attempt any 5 questions.
   2)   Figures to right indicate full marks.

Q1) a)   What are delegates? Explain with suitable example.   **[4]**

   b)   Explain interfaces in C# with suitable example.   **[4]**

   c)   What is the role of CLR?   **[2]**

Q2) a)   Explain page life cycle of web forms in ASP. Net.   **[4]**

   b)   What is web. config file in ASP. Net? Explain its use.   **[4]**

   c)   What are cookies? What are its types.   **[2]**

Q3) a)   Explain any 2 validation controls used in ASP. Net.   **[4]**

   b)   State the difference between Server Transfer and Response Redirect
        Methods.   **[4]**

   c)   What are Master pages?   **[2]**

Q4) a)   Write the steps to access database in ADD. Net using SqlDataAdapter
        object.   **[4]**

   b)   Write a web application in ASP. Net using C# to insert a record into
        Employee (Eid, Ename, Basic) table. Accept the details from the user on
        a web form.   **[4]**

   c)   What are properties in C#?   **[2]**

Q5) a)   What are web services? Explain its advantages.   **[4]**

b)   Write a program in C# to overload '+' operator that adds two complex (int real, int imaginary) numbers.   **[4]**

c)   What is WSDL? Explain.   **[2]**

Q6) a)   What are the technologies behind AJAX? Explain in detail.   **[4]**

b)   Write a web application in ASP. Net using C# to move text from left to right (using AJAX Timer control)   **[4]**

c)   Comment on JSON versus XML.   **[2]**

Q7) a)   Explain the components of ADD.Net in detail.   **[5]**

b)   Write a web application in ASP. Net to create a webform that accepts number through a TextBox. The number is added to List Box1 by clicking on "Add" Button. When user clicks on "ODD" Button, all the odd numbers from ListBox1 should get added into List Box2.   **[5]**

Q8) a)   Explain the steps to create Crystal Report without using wizard.   **[5]**

b)   Explain object oriented concepts in C#.   **[5]**

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[4866] - 5002

M.C.A. (Commerce) (Semester - V)

(CA-502) : DATA CENTER TECHNOLOGIES

(2013 Pattern) (Credit System)

Time :3 Hours]   *[Max. Marks :50*

Instructions to the candidates:

1)   Out of 8 questions attempt any 5 questions.

2)   Draw neat labeled diagram where needed.

Q1) Attempt all

a)   Explain briefly the Commercial Cluster Management Software.   **[4]**

b)   What is a Benchmark? Explain in detail.   **[4]**

c)   What is TPC benchmark?   **[2]**

Q2) Attempt all

a)   Explain briefly the causes of Downtime.   **[4]**

b)   State the objectives of HVAC Systems.   **[4]**

c)   What do you understand by Capacity Planning?   **[2]**

Q3) Attempt all

a)   Explain in brief Symmetric Two-Node Clusters.   **[4]**

b)   Explain briefly Distribution of Power in a Data Centre.   **[4]**

c)   What is HVAC?   **[2]**

Q4) Attempt all

a)   Explain briefly Data Centre Prerequisites.   **[4]**

b)   State the Causes of Planned and Unplanned Downtime.   **[4]**

c)   What is Co-location Data Center?   **[2]**

Q5) Attempt all

    a)   What do you mean by Network Operations Centre?   **[4]**

    b)   Explain briefly characteristics and role played by SNMP.   **[4]**

    c)   What do you understand by out - band monitoring?   **[2]**

Q6) Attempt all

    a)   Explain Network infrastructure needed in Data Center.   **[4]**

    b)   What is load balancing? Explain different terms used in load balancing.**[4]**

    c)   What is Plenum?   **[2]**

Q7) Attempt all

    a)   Explain Designer Dresses case study and give the Data Center Design for it.   **[5]**

    b)   What is system administration? Explain various duties of system administrator.   **[5]**

Q8) Attempt all

    a)   Enlist various high availability metrics. Explain each in detail.   **[5]**

    b)   What is server sizing? Why server sizing and capacity planning are difficult and produces inaccuracies?   **[5]**

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[4866]-5003

M.C.A. (Commerce Faculty)
503 : INFORMATION SYSTEM AUDIT
(2013 Pattern) (Semester-V) (Credit system)

Time : 3 Hours]   *[Max. Marks : 50*
Instructions to the candidates:
   1)   *All questions are compulsory.*
   2)   *Figures to the right indicate full marks.*

Q1) a)   Answer the following: (Any one)   **[1 × 4 =4]**

       i)   Explain Governance & its key objectives.

       ii)   What is information ? What are the characteristics of effective and useful information?

   b)   Read the following case study and answer the questions below XYZ technical university, a newly formed university ,decided to launch a web based knowledge portal to facilitate their students of distance education for different courses. It proposed to upload the course materials, e-lectures and e-reference books. It is expected to provide various resources easily on anytime and anywhere basis. Therefore , an initial study or investigation under all dimensions was done. As a part of this , the management of the university invited various technical experts for a capable and good solution as per the requirements and guidelines of the university. Also the university decided to encourage people to collaborate and share information online through social networks.

      Answer the following: **[2 × 5= 10]**

       i)   What are the important backup options that should be considered by security administrators?

       ii)   What Auditing procedure of this web based knowledge portal will be done?

Q2) Answer the following: (Any 3)   **[3 × 4 =12]**

    a)   Why information security is important? Discuss in detail .

    b)   Explain the components of security policy.

    c)   Explain different IS controls based on nature of controls.

    d)   Describe the following general controls:

        i)   Organization controls.

        ii)   Financial controls.

Q3) Answer the following: (Any 3)   **[3 × 4 = 12]**

    a)   Why a business continuity plan is important for an organization?

    b)   Describe the audit of BCP/DRP.

    c)   What activities are parts of System Development Life cycle (SDLC) ? Explain Briefly.

    d)   Explain Auditor's role in SDLC.

Q4) Answer the following:(Any 3)   **[3 × 4 = 12]**

    a)   What are the objectives of Information Technology Amendment Act, 2008?

    b)   What is digital signature? How it is used for the Authentication of Electronic Record?

    c)   What is the difference between cloud computing and Grid computing?

    d)   Explain mobile computing and its benefits.

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[4866] - 5004

M.C.A. (Commerce)
504 : CONTENT MANAGEMENT SYSTEM
(2013 Pattern) (Semester - V) (Credit System)

Time : 3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:

1)   All questions are compulsory.

2)   Figures to the right indicate full marks.

Q1) Attempt the following: **[14]**

   a)   What is data?

   b)   What is structure?

   c)   What is collection services?

   d)   Define Content Management.

   e)   What is Authoring?

   f)   What is workflow system?

   g)   What is storage format?

Q2) Attempt the following: (Any 3)   **[12]**

   a)   What is Monolythic Vs Mix-and-Match functionality?

   b)   Explain - How to gauge complexity by knowing the no. of publication.

   c)   Explain - content is not data.

   d)   How to create the template in Joomla.

Q3) Attempt the following: (Any 3)   **[12]**

   a)   Explain formatting by scope.

   b)   Explain Converting from collection system with diagram.

   c)   Explain dynamic website with diagram.

   d)   What is Content Administration of Joomla? Explain.

Q4) Attempt the following: (Any 3)   [12]

    a)   Explain - CM is distributing business value.

    b)   Explain Joomla features.

    c)   What are the other publications in publication system.

    d)   Content is named information - Explain.

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[4866] -5005

M.C.A. (Commerce Faculty)
506: MOBILE COMMUNICATION
(2013 Pattern) (Semester-V) (Credit System)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

1) Neat diagram must be drawn wherever necessary.
2) All questions are compulsary.
3) Figures to right side indicate full marks.

Q1) Attempt any 7:   **[7×2=14]**

    a)   Define user mobility and device portability.

    b)   Give the advantages of spread spectrum.

    c)   What is Encapsulation?

    d)   Compare CO-COA and FA-COA.

    e)   Give any 2 requirements of mobile IP

    f)   Give different versions of ANDROID

    g)   How mobile communication is useful in vehicles?

    h)   Why guard spaces are required in multiplexing?

Q2) Attempt any 3:   **[3×4=12]**

    a)   Explain Architecture of GSM system.

    b)   Explain Agent Discovery mechanism of mobile IP.

    c)   What is snooping? Explain working of snooping with TCP.

    d)   List the features of ANDROID.

Q3) Attempt any 3: **[3×4=12]**

   a)   Discuss various applications of mobile communication.

   b)   Compare between TDMA and FDMA

   c)   Explain working of M-TCP

   d)   Explain ANDROID Architecture.

Q4) Attempt any 3: **[3×4=12]**

   a)   Define spread spectrum. Discuss Direct Sequence Spread spectrum [DSSS]

   b)   Give reasons for a handover in GSM. What types of handover can occur [Scenerio]?

   c)   What is reverse tunneling? Why it is needed?

   d)   What is advantage of configuring following parameters for TCP in wireless environment.

      i)   Large Window

      ii)   Explicit Congestion Notification.

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[4866]-5006

M.C.A. (Commerce)

507 : SYSTEM SIMULATION AND MODELING

(2013 Pattern) (Credit System) (Semester - V)

Time : 3 Hours]   *[Max. Marks : 50*

Instructions to the candidates:

1) *Attempt all the questions.*

2) *Figures to the right indicate full marks.*

Q1) Attempt any two :   **[7 × 2 = 14]**

a)   Explain the steps used in simulation study with a neat flow diagram.

b)   What is system? Explain different types of systems.

c)   Describe how to simulate a continuous and deterministic system by considering example of each.

Q2) Attempt any two :   **[2 × 6 = 12]**

a)   Explain the concept of Discrete - Event simulation.

b)   What are the techniques for verification of simulation model.

c)   Describe in detail the three step approach for model validation.

Q3) Attempt any two :   **[2 × 6 = 12]**

a)   What are the types of simulation with respect to output analysis.

b)   Explain the steps involved in the development of an input model.

c)   Explain Inverse Transform Technique.

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Q4) Attempt any two :   **[2 × 6 = 12]**

    a)   Explain need of simulation.

    b)   What are the principles used in modeling.

    c)   Why random numbers are required? What are the important characteristics of random numbers routines.

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[4866] - 5007

M.C.A. (Commerce) (Semester - V)

508 : BUSINESS AND PROFESSIONAL SKILLS

(2013 Pattern) (Credit System)

Time :3 Hours]   *[Max. Marks :50*

Instructions to the candidates:

   1)   *All questions are compulsory.*

   2)   *Figures to the right side indicate full marks.*

Q1) What is Business letter? Explain in detail the layout of Business letters. **[10]**

OR

Distinguish between verbal and non-verbal Communication.

Q2) What is formal communication within an organization? **[10]**

OR

Communication follows a process. Explain.

Q3) Give the guidelines for conducting a formal meeting. **[10]**

OR

Give five reasons for failure of meetings.

Q4) Explain the content and the role of both the Agenda and minutes of the meeting in details. **[10]**

OR

What is listening? Explain in detail types of listening.

Q5) What are the essentials of non-verbal Communication? **[10]**

OR

Explain the different types of Managerial speeches.

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