Total No. of Questions :7]

SEAT No. :

P1804

[Total No. of Pages :2

[4975]-11

M.C.A. (Management Faculty)

IT-11 : COMPUTER ORGANIZATION AND ARCHITECTURE

(2008 Pattern) (Semester - I)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Q. 1 and Q.7 are compulsory.***
2) ***Solve any four questions from Q.2 to Q.6.***
3) ***Draw neat diagrams wherever necessary.***

Q1) a) Explain 32-bit (80486) Architecture in detail. **[10]**

b) Explain types of softwares. **[5]**

Q2) What is Interrupt? Explain types of interrupts with example. **[10]**

Q3) What is counter? Explain types of counters with example. **[10]**

Q4) Convert the following: **[5×2=10]**

a) $(1110.11)_2 = (?)_{10}$

b) $(5D.7E)_{16} = (?)_8$

c) $(34.52)_{10} = (?)_{16}$

d) $(110101.11)_2 = (?)_8$

e) $(1111010110)_2 = (?)_{16}$

Q5) What is pipelining? Explain instruction pipelining in detail. **[10]**

P.T.O.

Q6) Explain memory hierarchy wiht different types of memories. **[10]**

Q7) Write short notes on (Any 3): **[3×5=15]**

a) Performance of processors.

b) Addressing modes.

c) Multiplexer.

d) Logic gates.

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Total No. of Questions :7]

SEAT No. :

P1805

[Total No. of Pages :2

[4975]-12
M.C.A. (Management Faculty)
IT-12 : 'C' PROGRAMMING
(2008 Pattern) (Semester - I)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question1 is compulsory.***
2) ***Solve any five from 2 to 7.***
3) ***Assume suitable data whenever necessary.***
4) ***Figure in right hand indicate full marks.***

Q1) Find and explain output of the following: **[5×4=20]**

a)
```
void main ( ) {
int array [2] [2] [3] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11};
printf ("%d", array [1] [0] [2]);
}
```

b)
```
void main ( ) {
int i = 4, z = 12;
if (i ==5 | | z > 50)
printf ("hello");
else
printf ("bye");
}
```

c)
```
void main ( ) {
extern int a ;
printf ("%d\n",a);
}
int a = 20;
```

P.T.O.

d)
```
void main {
char c = '0' ;
printf ("%d%d", sizeof (c) sizeof (0));
}
```

e)
```
void main  {
char *  url = "c:\tc\bin \ rw.c";
printf ("%s", url);
}
```

Q2) a) Write a function which accepts a string and converts alternate characters in upper case and lower case. **[5]**

b) Differentiate between call by value and call by reference. **[5]**

Q3) a) Write a function which convert integer no. into binary no. using bitwise operator. **[5]**

b) Write a C program to find the sum of the first 100 natural numbers. (sum = 1 + 2 + 3 ..... + 100) **[5]**

Q4) Write a C program to copy the alternate word from first file into second file using command line argument. **[10]**

Q5) Define a structure for an employee having emp-id, name, address, phone number. Assume that "all Employees" is an array of employees in ascending order on the employee code. Write a function to display the details of an employee given its employee code. **[10]**

Q6) a) Explain initgraph an detectgraph function. **[5]**

b) What is a pre-processor? Which pre-processor is used to define a macro. **[5]**

Q7) a) Using recursion, write a C program to reverse a given number. **[5]**

b) Write a C program to compute the sum of first n term (n > 1) of the following series using for loop. 1 – 3 +5 – 7+ 9 ..... **[5**

EEE

Total No. of Questions : 6]

SEAT No. :

P2657

[Total No. of Pages : 1

[4975]-13

M.C.A. (Management Faculty)

BM - 11 : PRINCIPLES AND PRACTICES OF MANAGEMENT FUNCTION AND ORGANISATION BEHAVIOUR

(2008 Pattern) (Semester - I)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

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

Q1) a) "The manager elevates the status of the organisatoin". Elaborate with the help of essential skills and functions of manager. **[15]**

b) Describe Maslow's Need Hierarchy theory with its limitation. **[10]**

Q2) "Role of Decision Making in increasing organisation effectiveness". Explain. **[15]**

Q3) "Making right decision at right time is most significant for organisational effectiveness". Disucss. **[15]**

Q4) What is conflict management? How conflict be resolved in organisation. **[15]**

Q5) What is Motivation. Disucss the importance of motivation for the success of organisation. Discuss the contribution of Mc. Gregor in motivation theory. **[15]**

Q6) Write short notes on: (Any three) **[3 × 5 = 15]**

a) Team Building.
b) Line and staff organisation.
c) OB models
d) Johari window.
e) Span of control.

Total No. of Questions :7]

SEAT No. :

P1806

[Total No. of Pages :2

[4975]-14

M.C.A. (Management Faculty)

IT-13- 104 : OPERATING SYSTEM CONCEPTS

(2008 Pattern) (Semester - I)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Solve any five from Question 1 to Question 6.***
2) ***Question 7 is compulsory.***

Q1) a) How can deadlocks be prevented and avoided? **[10]**

b) Explain in detail segmentation in memory management with neat diagram.

Q2) a) Explain short term, long term and medium term scheduling. **[10]**

b) Explain critical section problem in IPC.

Q3) a) Write a brief note on swapping technique in memory management. **[10]**

b) Give different system calls in operating system.

Q4) Explain RAID structure in detail. **[10]**

Q5) Explain Scan and look algorithm for disk scheduling. How this effect to OS performance? **[10]**

P.T.O.

Q6) Consider following value. **[10]**

Process	Allocation			Max			Available		
	A	B	C	A	B	C	A	B	C
P1	1	1	2	4	3	3	2	1	0
P2	2	1	2	3	2	2			
P3	4	0	1	9	0	2			
P4	0	2	0	7	5	3			
P5	1	1	2	11	2	3			

From the above table determine Safe state or not and Justify

Q7) Write short notes (any four): **[20]**

a) Critical Section Problem.

b) Simulation.

c) Demand Paging.

d) File Protection.

e) Monitor.

EEE

Total No. of Questions : 4]

SEAT No. :

P1807

[Total No. of Pages : 3

[4975]-15
M.C.A. (Management Faculty)
MT-11 : DISCRETE MATHEMATICS
(2008 Pattern) (Semester - I)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question 1 is compulsory.***
2) ***Solve any two from Questions 2 to 4.***
3) ***Figures to the right indicate full marks.***
4) ***Scientific calculators are allowed.***

Q1) a) Show that $(\neg Q \wedge (P \rightarrow Q) \rightarrow \neg P$ is tautology. **[5]**

b) Let P: It rains

Q: The atmospheric humidity increases. **[5]**

Write the following statements in symbolic form:

i) Atmospheric humidity increases only if it rains.

ii) Sufficient condition for it to rain is that atmospheric humidity increases.

iii) Necessary condition for it to rain is that atmospheric humidity increases.

c) Determine whether the operation * defined on the following sets is the binary operation or not. **[5]**

i) $A = I_+$ where $a * b = a - b$.

ii) $A = I$ where $a * b = \min(a, b)$.

P.T.O.

d) Given A = {1, 2, 3, 4, 5} and B = {1, 3, 5}. Let R be the relation from A → B defined by "*x* is less than *y*". Write relation R, its matrix and draw its graph. **[5]**

e) Show that the sum of degrees of all vertices in a graph is always even. **[5]**

f) If A = {1, 2, 3, 4} and B = {a, b, c, d}, determine if the following are one to one, onto or both. **[5]**

f = {<1, a>, <2, a>, <3, b>, <4, d>}

g = {<1, c>, <2, b>, <3, a>, <4, a>}

h = {<1, a>, <2, b>, <3, a>, <4, c>}

Q2) a) Let A be the set of positive factors of 36 and let ≤ be the relation divides; i.e., ≤ = {<x, y> | x, y ∈ A and x divides y}. Show that ≤ is partially ordered on A. Also draw the Hasse diagram. **[5]**

b) Use Warshall's algorithm to find the transitive closure of the relation

R = {<1, 2>, <2, 3>, <3, 4>, <2, 1>} on A = {1, 2, 3, 4}. **[5]**

c) Define Monoid, Group, permutation group. **[5]**

d) Determine the number of edges in a graph with 6 nodes, 2 of degree 4, and 4 of degree 2. Draw two such graphs? **[5]**

Q3) a) If A = {1, 2, 3, 4} and B = {a, b, c, d}, determine if the following functions are one to one, onto or both. **[5]**

i) f = {<1, a>, <2, a>, <3, b>, <4, d>}

ii) g = {<1, c>, <2, b>, <3, a>, <4, a>}

iii) h = {<1, a>, <2, b>, <3, a>, <4, c>}

b) Define: Bipartite Graph, Plannar Graph. **[5]**

c) Write the code words generated by H, where

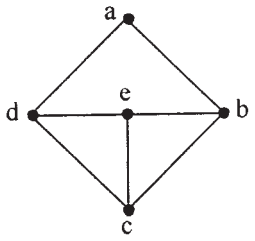
$$H = \begin{pmatrix} 1 & 0 & 1 & 1 & 1 & 0 & 0 \\ 1 & 1 & 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 & 0 & 0 & 1 \end{pmatrix}$$

What is the minimum weight of the non zero code word in above code words? **[5]**

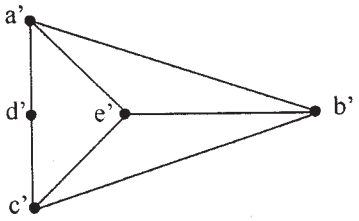
d) Let A = {1, 2, 3, 4, 5, 6, 7} and R = {<x, y> | x – y is divisible by 3}. Show that R is an equivalence relation. Draw the graph of R. **[5]**

Q4) a) Show that the Graphs G and H are isomorphic. **[8]**

G:

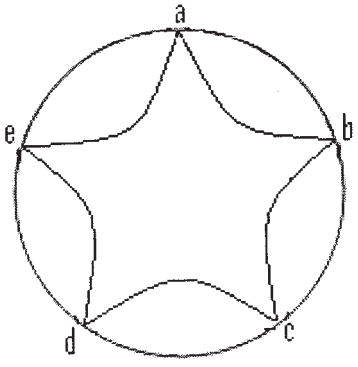


H:

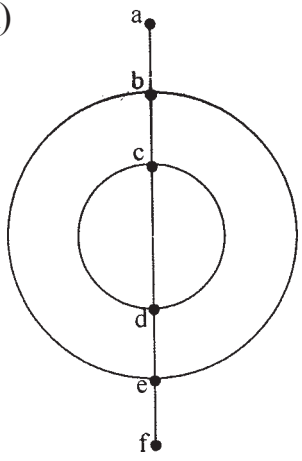


b) Count the number of vertices, number of edges and number of region of each of the following planar graphs: **[6]**

i)



ii)



c) Show that the maximum number edges in a simple graph with n vertices is n(n–1)/2. **[6]**

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Total No. of Questions : 6]

SEAT No. :

P1808

[Total No. of Pages : 2

[4975]-21

M.C.A. (Management Faculty)

IT-21:201 : DATA STRUCTURES USING "C"

(2008 Pattern) (Semester - II)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question 1 is compulsory.***
2) ***Solve any four from Q. 2 to Q. 6.***
3) ***Assume suitable data wherever necessary.***
4) ***Draw suitable diagram wherever necessary.***
5) ***Figures to right indicate full marks.***

Q1) Write short note on Any Two: **[10]**

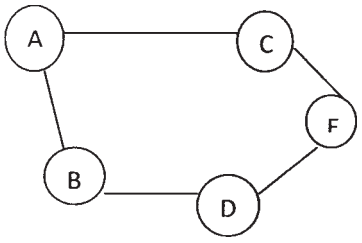
a) Sparse matrix.

b) Expression tree.

c) Abstract Data type.

Q2) a) int array is defined as int array1[200] [150] [50] [20] find the address of cell array 1[150] [50] [10] [5]. **[5]**

b) Consider the following graph: **[4]**



i) Generate the output of BFS algorithm considering 'E' as the starting vertex.

ii) Generate the output of DFS algorithm considering 'E' as the starting vertex.

iii) Write adjacency matrix.

iv) Write adjacency list.

c) Write a function to generate BFS output for a graph. **[6]**

P.T.O.

Q3) a) Write a program to implement priority queue using linked list. **[8]**

b) Write a program to evaluate postfix expression. **[7]**

Q4) a) Convert the following in fix expressing into its equivalent prefix form. Show contents of stack in table format.

(AB̃)C*D$E^F **[8]**

b) Write a program for insert and traverse (inorder) element in BST. **[7]**

Q5) a) Draw AVL Tree for the following: **[8]**

Vidyadhar, Arun, Sunil, Anil, Sachin, Mohan, Prakash, Kiran, Ashwini, Gopal, Sudhir.

b) Write a menu driven program for insertion and deletion in Doubly Linked List. **[7]**

Q6) a) Write a program for addition of two polynomials using array. **[8]**

b) Write a function for PUSH, POP operation in stack using linked list. **[7]**

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Total No. of Questions : 7]

SEAT No. :

P1809

[Total No. of Pages : 2

[4975]-22

M.C.A. (Management Faculty)

IT - 22 : 202 : DATABASE MANAGEMENT SYSTEM

(2008 Pattern) (Semester - II)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Q. No. 1 is compulsory.***
2) ***Solve any 5 from remaining questions.***
3) ***State assumptions wherever necessary.***

Q1) a)

Starline AC Suppliers

Quotation

To,

Customer: _____ Enquiry No.: _____

Address: _____ Enquiry Date: _____

_____ Quotation No.: _____

Quotation Date: _____

Sr. No.	Item No. & description	Qty	Rate	Amount

Terms & conditions:-

Prepared by:-

Draw ERD with Normalized file Layout. **[12]**

b) Differentiate between NDM and HDM. **[8]**

P.T.O.

Q2) Explain E.F. codd rules. **[10]**

Q3) a) Explain RAID.

b) Explain different storage devices.

[10]

Q4) What is lock? Explain different types of lock. **[10]**

Q5) Explain the need of database backup and describe different types backup and recovery techniques. **[10]**

Q6) Explain Generalization and Aggregation with proper example. **[10]**

Q7) Write short notes (Any Tour): **[10]**

a) Encryption.

b) Functional dependencies.

c) Data definition in SQL.

d) States of transaction.

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Total No. of Questions : 6]

SEAT No. :

P1810

[Total No. of Pages : 2

[4975]-23
M.C.A. (Management Faculty)
IT-23 : 203 : SOFTWARE ENGINEERING
(2008 Pattern) (Semester - II)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Q. 1 and Q. 6 are compulsory.***
2) ***Solve any 3 from remaining questions.***

Q1) The railway reservation system functions as follows:-

The passenger is required to fill in an online reservation form to provide the details of his journey. The system checks the availability of the seat as per the requirement. If it suits, then the user confirms the booking and proceeds for online payment procedure through credit or debit card. Once the payment is done, the ticket is generated. As a consultant prepare SRS for the above system. **[20]**

Q2) Design a GUI form for providing student feedback for teaching faculty and infrastructure facilities of the institute. **[10]**

Q3) 'Big Bazaar' announces 'Ganpati Discount Scheme' for their customers. For every purchase of Rs. 1,000/-, there is 5% cash discount. For the purchase between Rs. 1,001' and Rs. 2,000, there is 10% cash discount. For the purchase above Rs. 2,000, there is 15% cash discount. Apart from this, 4% extra discount for the regular customer who are having Big Bazaar card. Draw decision tree and decision table for the above case. **[10]**

Q4) STAR Scooter Ltd. has issued an advertisement inviting applications for various posts. After scrutinizing the applications, interviews are conducted and candidates are appointed as regular employees. Draw 1st level DFD. **[10]**

P.T.O.

Q5) Discuss similarities and differences between RAD and JAD models. **[10]**

Q6) Write short note on any four: **[4×5=20]**

a) Code Design.

b) Fact Finding Methods.

c) Software Maintenance Types.

d) Web Engineering.

e) Case Tools.

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Total No. of Questions : 8]

SEAT No. :

P1811

[Total No. of Pages : 2

[4975]-24
M.C.A. (Management Faculty)
BM-21 : SOFT SKILLS
(2008 Pattern) (Semester - II)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Q. 1 & Q. 8 are compulsory.***
2) ***Solve any four questions from Q. 2 to Q. 7.***
3) ***Figures to the right indicate full marks.***

Q1) What is the importance of soft skills in changing business world? Give examples of different soft skills. **[15]**

Q2) Discuss the barries to the effective communication. How and why communication barriers occur. **[10]**

Q3) Explain Do's and Dont's of process of Group Discussion in detail. **[10]**

Q4) Explain different electronic communications used in today's IT industry giving suitable examples. **[10]**

Q5) What type of analysis should preceed public speech making. **[10]**

Q6) Define body language. How it is used in service industry. **[10]**

Q7) What are the communication activities in educational organisation. **[10]**

P.T.O.

Q8) Write short notes on (Any Three): **[15]**

a) Reading skills.

b) Minutes of meeting.

c) Johari window.

d) Voice mail.

e) Business Ethics.

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Total No. of Questions : 6]

SEAT No. :

P1812

[Total No. of Pages : 3

[4975]-25

M.C.A. (Management Faculty)

MT-21 : 205 : PROBABILITY AND COMBINATORICS

(2008 Pattern) (New) (Semester - II)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question No. 1 and Question No. 4 are compulsory.***
2) ***Solve any one from Question Nos. 2 and 3. And solve any one from Question Nos. 5 and 6.***
3) ***Use of statistical table and non programmable calculator is allowed.***
4) ***Figures to the right indicate full marks.***

Q1) a) State and prove formula Derangement. **[5]**

b) The 'n' members of board of directors include the president and 2 vice presidents. Find the number of ways of sitting the board at round table so that the vice, president are on either side of president. **[5]**

c) Ten gentlemen check their coats at the gatekeeper while entering a hall. The gatekeeper mixes the tokens and returns the coats at random. In how many ways gentlemen will get their coats such that exactly Four of them get their correct coats. **[5]**

d) Find the coefficient of $x^4y^9z^3$ in the expansion of $(2x^2+3y^3-z)^8$. **[5]**

Q2) a) Using combinatorial argument prove the following binomial identities. **[8]**

i) $\binom{n+1}{r}=\binom{n}{r}+\binom{n}{r-1}$.

ii) $\binom{2n}{2}=2\binom{n}{2}+n^2$.

b) Find the number of integer valued solutions of the following equation.

$x_1+x_2+x_3=34 \quad x_1>4, x_2\geq 3, x_3\geq 2$. **[7]**

P.T.O.

Q3) a) Determine the Discrete Numeric Function corresponding to generating function $\frac{1}{5-6z+z^2}$. **[8]**

b) Solve the following Recurrence relation

$$a_n - 5a_{n-1} + 6a_{n-2} = 2.3^n .$$ **[7]**

Q4) a) Define the following terms: **[5]**

i) Probability Mass Function.

ii) Conditional probability.

iii) Moment Generating function.

iv) Conditional density function.

b) The following is the cumulative distribution function of a discrete random variable X. **[5]**

X	0	1	2	3	4	5
F(Xi)	0.1	0.25	0.6	0.75	0.9	1

i) Find probability distribution.

ii) Find P(x >4)

iii) Find P(x = 4 | x > 2)

c) Following table represent joint probability distribution function of (X, Y)

[5]

Y / X	1	2	3
1	k	2k	3k
2	2k	3k	4k
3	4k	5k	6k

Find:

i) k

ii) Marginal Distribution of X and Y,

iii) Conditional distribution of X given Y = 2

iv) Conditional distribution of Y given X = 1

d) Prove that poisson distribution is the limiting form of binomial distribution. **[5]**

Q5) a) Find MGF and CGF of binomial distribution. **[8]**

b) Calculate the standard deviation of continuous random variable x if the frequency function $f(x)$ has the form

$$f(x)=\begin{cases}\dfrac{3+2x}{18}, \text{for } 2\le x\le 4\\ 0, \text{ otherwise}\end{cases}$$ **[7]**

Q6) a) Suppose two dimensional continuous r.v(X, Y) has a joint P.D.F

$$f(x,y)=\begin{cases}6x^2y, \text{for } 0<x<1, 0<y<1\\ 0, \text{otherwise}\end{cases}$$ **[8]**

Find:

i) $P(0<x<3/4, 1/3<y<2)$.

ii) $P(x+y<1),\ p(x>y)$.

iii) $P(x<1 \mid y<2)$.

b) Assume the mean height of solders to be 68.22 inches with a variance of 10.8 inches. How many soldiers in a regiment of 1000 would you expect to be **[7]**

i) Over 6 feet tall.

ii) Below 5.5 feet.

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Total No. of Questions : 7]

SEAT No. :

P1813

[Total No. of Pages : 2

[4975]-31
M.C.A. (Management Faculty)
IT-31 : WEB SUPPORT TECHNOLOGIES
(2008 Pattern) (Semester - III)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

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

Q1) a) Design HTML form to accept conference registration details from participants. Assume (First name, Middle Name, Last name, Age, Gender, Contact No, Email-Id, DOB, Education, profession, etc) fields and validate any five fields using Java Script. **[10]**

b) Explain Error Handling in VB Script with examples. **[10]**

Q2) What is CSS? Explain different types of CSS with examples. **[10]**

Q3) a) Explain client and server side image mapping with example. **[5]**

b) Explain XML Namespace with example. **[5]**

Q4) a) Explain Event handling in JavaScript with examples. **[5]**

b) History and Location Object in DOM. **[5]**

Q5) a) Explain Global.asa with examples. **[5]**

b) Explain Request and Response Object with examples. **[5]**

P.T.O.

Q6) Write XML to maintain 'International Journal' details like volume, issue, ISSN, Title, Publisher, subscription-rate, etc and convert XML into HTML format with header and footer. **[10]**

Q7) Write short note on (any 2): **[10]**

a) String and Date Object in JavaScript.

b) DOM Parser.

c) SOAP.

●●●●●

Total No. of Questions : 8]

SEAT No. :

P1814

[Total No. of Pages : 2

[4975]-32

M.C.A. (Management Faculty)

IT-32 : DATA COMMUNICATION AND COMPUTER NETWORKS

(2008 Pattern) (Semester - III)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question 1 is compulsory.***
2) ***Attempt any five questions from remaining.***

Q1) a) Justify with true or false (not more than 60 words): **[10]**

i) SMTP is a pull protocol.

ii) A single IP address is used for multiple subnetworks in a organization.

iii) The failure of a single repeater in Ring topology disables the entire network.

iv) In virtual circuit packets may arrive out of sequence at the exit point.

v) A connection-oriented protocol provides fast, but unreliable service.

b) What are the options of DHCP and describe the purposes? Explain DHCP states and procedure. **[10]**

Q2) a) What is the correct subnet ID for the IP address 202.127.19.94 with a subnet mask of 255.255.255.248? **[5]**

b) What is the maximum number of hosts available on a class-B address with a subnet mask of 255.255.255.192? **[5]**

P.T.O.

Q3) What are the differences between "fully qualified" and "partially qualified" domain names? Describe the two types of DNS message formats. **[6+4]**

Q4) Define VPN. What are the functions of VPN Server and VPN gateway? What are the different protocol used to implement VPN? Explain any one. **[2+4+4]**

Q5) What is the purpose of HTTP? List and describe features of HTTP. How HTTP operates. Describe persistance and nonpersistent connection. **[2+3+3+2]**

Q6) a) What are advantages and disadvantages of Bus, Ring and Star topologies. **[6]**

b) List the advantages of UDP over TCP. **[4]**

Q7) Explain Message, Segment, Packet, Frame and bits at different layers of OSI model. **[10]**

Q8) Write short notes (Any Two): **[5+5]**

a) Vsat.

b) Router.

c) Wireless LAN.

d) MIME.

e) ATM Traffic Management.

●●●●●

Total No. of Questions : 8]

SEAT No. :

P1815

[Total No. of Pages : 3

[4975]-33

M.C.A. (Management Faculty)

IT-33 : OBJECT ORIENTED PROGRAMMING USING C++

(2008 Pattern) (Semester - III)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Q. 1 is compulsory.***
2) ***Solve any six from Q. 2 to Q. 8.***
3) ***Figures to right indicate full marks.***

Q1) Explain output of the following program- **[10]**

a)
```
# include <iostream·h>
# define square(x) x*x
        void main ( )
        {
            int a = 5, b = 4, c;
                c = square (a + b);
                Cout << endl << "c ⇒"<< c,
        }
```

b)
```
Void main ( )
{
    Char s[ ] = "STUDENT";
    int i;
    For(i = 0; s[i]; i++)
    Cout <<endl <<s[i++] <<*(s+i++) << * (i+s) << i[s];
}
```

P.T.O.

c) Void main ( )

```
{
    int x = 85;
    Float  F = 15.75;
    Cout <<endl<<hex<<x<<endl<<dec<<x;
    Cout<<endl<<setw(8)<<setfill ('*') <<F;
}
```

d) Void main ( )

```
{
    int a = 65;
    int *p = &a;
    Cout << Char (*p);
    (char *) p++;
    Cout << char (*p);
}
```

e) namespace abc

```
{
    int a = 10;
}
Void main ( )
{
    int a = 50;
    int b = 60;
    Cout << endl << "a⇒" << a;
    Using namespace abc;
    Cout << endl << "a⇒"<<a;
    Cout << endl << "b⇒" <<b;
}
```

Q2) a) Explain inline function with example. **[5]**

b) Explain with example-dynamic constructor. **[5]**

Q3) a) Write a program to overload >> operator. **[5]**

b) Explain how ambiguity is handled in multiple inheritance. **[5]**

Q4) a) What is virtual function. Explain with suitable example. **[5]**

b) Explain following functions. **[5]**

i) read ( ) ii) write ( )

Q5) Write a program using C++ that accept file name from command line and replace occurance of every vowel with '#' and store it in another file. Also display number of replacement made. **[10]**

Q6) Write a program using C++ that convert data from one class type to another class type. **[10]**

Q7) a) Write a function template large ( ) that find largest of three variables. **[5]**

b) What is exception. How exception is handled in C++. **[5]**

Q8) Write short note on the following (Any Two): **[10]**

a) Container in STL.

b) Nested Namespace.

c) New style cast.

●●●●●

Total No. of Questions : 8]

SEAT No. :

P1816

[Total No. of Pages : 1

[4975]-34

M.C.A. (Management Faculty)

IT-34 : ADVANCED DATABASE MANAGEMENT SYSTEMS

(2008 Pattern) (Semester - III)

Time : 3 Hours] *[Max. Marks :70*

Instructions to the candidates:

1) ***Question No. 8 is compulsory.***
2) ***Attempt any 6 from the remaining.***

Q1) Explain Intra-operational and Inter-operational parallelism. **[10]**

Q2) Differentiate between: OODBMS, ORDBMS, RDBMS. **[10]**

Q3) Explain Commit Protocols in distributed DBMS. **[10]**

Q4) What is data warehouse? Explain datawarehouse architecture. **[10]**

Q5) Discuss the Apriori Algorithm in detail. **[10]**

Q6) What is XML? Explain difference between XML & HTML. **[10]**

Q7) Discuss Machine learning in detail. **[10]**

Q8) Write short note (Any Two): **[2×5=10]**

a) Object & OID.

b) Mobile database.

c) Outlier Analysis.

d) OLAP.

●●●●●

Total No. of Questions : 7] **SEAT No. :**

P1817 **[Total No. of Pages : 1**

[4975]-35

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

BM- 31 : 305- MANAGEMENT SUPPORT SYSTEM & IS SECURITY

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Q.1 and Q.7 are compulsory.***
2) ***Attempt any 4 from Q. 2 to Q.6.***
3) ***Figures to right indicate full marks.***

Q1) Define DSS. Explain various components of DSS. **[10]**

Q2) What is HERBERT SIMON MODEL of decision making? Explain in detail. **[10]**

Q3) Define Expert System and explain it in detial with diagram. **[10]**

Q4) Define MIS and explain structure of MIS based o management function. **[10]**

Q5) 'Simulation is imitation of Reality' justfy. **[10]**

Q6) Explain in detail about the security aspects of information systems. **[10]**

Q7) Write short notes (on any four) : **[4 × 5 = 20]**

a) Static and Dynamic Models.
b) Characteristics of EIS.
c) EIS (Executive Information Systems).
d) IS Audting.
e) Value of Information.
f) Sensitivity Analysis.

Total No. of Questions : 8] **SEAT No. :**

P1818 **[Total No. of Pages : 2**

[4975]-41
M.C.A. (Management Faculty)
IT - 41 : JAVA PROGRAMMING (Semester - IV)
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Question No. 1 and Q. 8 are compulsory.***
2) ***Solve any five from the remaining.***

Q1) Answer the following questions : **[10]**

a) What is interface?

b) Explain checked and Unchecked exceptions.

c) Serializable Interface

d) What is URL?

e) What is Key Listener?

Q2) Write client socket program to send the encrypted file content to server along with key. Also write server socket program to decrypt content of file & display. **[10]**

Q3) Write JDBC application to display list of blood doners of a specific blood group. Accept blood group dynamically (assume suitable table structure)**[10]**

Q4) Write RMI application to display largest amongst three nos. Accept nos. from client. **[10]**

Q5) Design GUI based Java application to set foreground & background color of text based on selection of colors in the list. **[10]**

P.T.O.

Q6) Explain Thread file cycle with example. **[10]**

Q7) What is Random Access File? Explain with suitable example. **[10]**

Q8) Write short notes on : (any two) **[10]**

a) Event delegation model.

b) Garbage collector

c) Java beans.

Total No. of Questions : 6] **SEAT No. :**

P1819 **[Total No. of Pages : 2**

[4975]-42
M.C.A. (Semester - IV) (Management Faculty)
IT - 42 : SOFTWARE TESTING AND QUALITY ASSURANCE
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Question No. 1 and Q. 6 are compulsory.***
2) ***Solve any three from the remaining.***

Q1) Prepare detail test plan for Electricity Bill System having following features : **[20]**

a) Ensure that minimum amount criteria should be matched separately for rural and urban area.

b) Ensure charges per unit meet the criteria based on high and low consumption.

c) Ensure dates like bill period, bill generation and due date are as per the rule.

Q2) What is functional testing? How you can perform it using equivalence partitioning, BVA and cause - effect graphing? **[10]**

Q3) Differentiate between following : **[10]**

a) Stress Testing Vs. Load Testing.

b) Functional Testing Vs. Non Functional Testing.

Q4) Define need of Review and Explain types of review with an example. **[10]**

Q5) Describe levels of testing in detail with suitable example. **[10]**

P.T.O.

Q6) Write short notes on : (any Four) **[20]**

a) Six - Sigma

b) Clean Room Software Development

c) Cyclometric Complexity

d) CAST

e) Software Quality Metrics

Total No. of Questions : 7] **SEAT No. :**

P1820 **[Total No. of Pages : 2**

[4975]-43

M.C.A. (Semester - IV) (Management Faculty)

IT - 43 : 403 : OBJECT ORIENTED ANALYSIS AND DESIGN

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Q. 1 is compulsory.***
2) ***Solve any five from remaining.***
3) ***Mention assumptions made for solving case study.***

Q1) The Management has decided to develop on-line Banking System with following functionalities.

a) Opening of account.

b) Deposit / withdrawl

c) Fixed deposit Facility

d) Loan Sanctioning

Draw the following diagrams for above case :

i) Use case diagram **[10]**

ii) Class diagram **[10]**

Q2) Explain unified Approach with proper diagram. **[10]**

Q3) Draw the state chart diagram for fully automated washing machine. **[10]**

Q4) Explain object oriented Software Engineering by Ivar Jacobson. **[10]**

P.T.O.

Q5) Differentiate between OOAD and SSAD. **[10]**

Q6) What is design refinement? Explain extensibility and reusability in detail. **[10]**

Q7) Write short notes on : (any two) **[10]**

a) User Interface Layer

b) Types of patterns

c) Guidelines for test plan

d) Use case description document

Total No. of Questions : 4] **SEAT No. :**

P1821 **[Total No. of Pages : 4**

[4975]-44
M.C.A. (Management Faculty) (Semester - IV)
M T- 41 : OPTIMIZATION TECHNIQUES
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Question No. 1 is compulsory.***
2) ***Solve any two questions from question Nos. 2, 3 and 4.***
3) ***Use of Scientific calculator and statistical tables are allowed.***
4) ***Figures to the right indicate full marks.***

Q1) a) A small project is composed of 7activities whose estimated are listed as follows : **[9]**

Activity	Time Estimate (Weeks)		
	Optimistic	Likely	Pessimistic
1 - 2	1	1	7
1 - 3	1	4	7
1 - 4	2	2	8
2 - 5	1	1	1
3 - 5	2	5	14
4 - 6	2	5	8
5 - 6	3	6	15

Find :

i) Draw the project network
ii) Find the expected duration and variance
iii) If the project due date is 19 weeks, what is the probability of meeting the due date?

b) Find the optimum integer solution to the following linear programming problem using Gomory's cutting method **[9]**

$Z_{max} = 200x_1 + 300x_2$

Subjects to :

$2x_1 + 4x_2 \leq 17$

$3x_1 + 3x_2 \leq 15$

$x_1, x_2 \geq 0$

P.T.O.

c) A television repairman finds the time spent on his jobs has an exponential distribution with a mean of 20 minutes. If he repairs set in the order in which they came in and if the arrival of set follows a Poisson distribution approximately with an average rate of 10 per 8-hour day.

Find :

i) TV repairman's idle time each day.

ii) Expected waiting time for a TV in the shop. **[6]**

d) Solve the problem of job Assignment to minimize the cost : **[6]**

		Employees				
		E_1	**E_2**	**E_3**	**E_4**	**E_5**
Jobs	**J_1**	4	6	10	5	6
	J_2	7	4	8	5	4
	J_3	12	6	9	6	2
	J_4	9	3	7	2	3
	J_5	6	5	5	3	8

Q2) a) Solve the following transportation problem for maximization profit. **[9]**

		Warehouses				
		P	Q	R	S	Supply
Plants	A	12	18	6	25	200
	B	8	7	10	18	500
	C	14	3	11	20	300
Demand		180	320	100	400	

b) The fol1owing table gives the running costs per year and resale values of certain equipment whose purchase price is Rs. 65000. At what year is the replacement due optimal : **[5]**

Year	1	2	3	4	5	6	7	8
Running cost Rs.	14000	15000	17000	20000	24000	28000	33000	39000
Resale value Rs.	40000	30000	22000	17000	13000	10000	10000	10000

c) Define the following terms (any 3) : **[6]**

i) CPM

ii) EOQ

iii) SET UP COST

iv) Various Floats for Activities

Q3) a) Solve the following Linear Programming Problem by two phase method: **[9]**

Min : $Z = x_1 + x_2$

Subject to :

$$2x_1 + x_2 \geq 4$$

$$x_1 + 7x_2 \geq 7$$

$$x_1, x_2 \geq 0$$

And $x_1, x_2 \geq 0$

b) Explain Characteristics of a Queuing System in detail? **[6]**

c) The demand for a particular commodity 15,000 units per year, holding cost per year per unit is Rs. 1 .20 and cost of one procurement is Rs. 300. No shortages allowed and replacement is instantaneous.

Find : **[5]**

i) EOQ

ii) Order Interval

iii) Total Cost

Q4) a) A small project has seven activities. The relevant data is given below : **[9]**

Activity	Normal		Crash	
	Time	**Cost**	**Time**	**Cost**
1 - 2	3	300	2	450
2 - 3	3	75	3	75
2 - 4	5	200	3	300
2 - 5	4	120	4	120
3 - 4	4	100	1	190
4 - 6	3	90	2	130
5 - 6	3	60	1	110

Indirect cost for the project Rs. 300 per day.

Find :

i) Draw the network.

ii) Calculate normal duration of the project and normal cost.

iii) Find optimal duration with minimal cost.

b) Write down the dual of the following primal LP problem : **[6]**

Max : $Z = 3x_1 + 5x_2 + 7x_3$

Subject to :

$$x_1 + x_2 + 3x_3 \leq 10$$

$$4x_1 - x_2 + 2x_3 \geq 15$$

Where $x_1, x_2 \geq 0$, x_3 is unresricted to sign

c) Express the following transportation problem as LPP : **[5]**

	Warehouse				
Factory	W1	W2	W3	W4	**Availability**
F1	21	16	25	13	11
F2	17	18	14	23	13
F3	32	27	18	41	19
Requirement	6	10	12	15	

Total No. of Questions : 7] **SEAT No. :**

P1822 **[Total No. of Pages : 2**

[4975]-45
M.C.A. (Management Faculty)
BME - 1 : MIS FRAMEWORK & IMPLEMENTATION
(Elective - 411) (2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Q.1 and Q.7 are compulsory.***
2) ***Attempt any 4 from remaining questions.***
3) ***Figures to right indicate full marks.***

Q1) With suitable example, elaborate the importance of socio-economic environment on IT based applications. **[15]**

Q2) "Contents and format of information varies depending upon the hierarchy of end users." - Comment. **[10]**

Q3) What are critical success factors for successful implementation of MIS? Explain the role of top management in the above context. **[10]**

Q4) Explain “IT is no more in support role but it has taken steering position in global business scenario”. Explain this statement with reference to marketing function. **[10]**

Q5) Explain DSS architecture with appropriate diagram and its role in the organization. **[10]**

Q6) Elaborate with suitable examples, how information technology is improving the way customer relationship are maintained. **[10]**

P.T.O.

Q7) Write short notes on (any 3) **[15]**

a) Expert systems

b) GDSS

c) IT policy

d) Cost-benefit analysis of IT assets.

Total No. of Questions : 4] **SEAT No. :**

P1823 **[Total No. of Pages : 3**

[4975]-46
M.C.A. (Management Faculty) (Semester - IV)
FOUNDATION OF DECISION PROCESSES
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Q.No. 1 is compulsory.***
2) ***Solve any two questions from remaining.***
3) ***Figures to the right indicate full marks.***
4) ***Use of electronic calculator is allowed.***

Q1) a) A newspaper boy is thinking of selling a special onetime edition of sports magazine to his regular newspaper customers. He believes that he can sell between 9 to 12 copies. The magazine can be purchased at Rs.8 each and can be sold for Rs. 12. Magazine that not sold can be return to the publisher for a refund at 50%. Determine the best strategy for the following method. **[10]**

i) Maximax criteria

ii) Maximin criteria

iii) Laplace criteria

iv) Hurwicz criteria with coefficient of optimality is 0.6

b) Explain the elementary queuing system in detail. **[10]**

c) A trader of boat has estimated the following distribution of demand for a particular kind of a boat : **[10]**

No. of demand	0	1	2	3	4
Probability	0.05	0.20	0.35	0.25	0.15

Each boat costs him Rs. 7000 and he sells them for Rs. 10000 each. Boats that are left unsold at the end of the season must be disposed of at Rs. 6000 each. How many boats should be stocked so as to maximize his expected profit?

P.T.O.

Q2) a) Explain the characteristics of Markov Chain. Also describe the applications of Markov Analysis in several areas. **[10]**

b) The rate of arrival of customers at a Public telephone booth follows a Poisson distribution with an average time of 10 minutes between one customer and the next. The duration of a phone call is assumed to follow exponential distribution with a mean time of 3 minutes. **[10]**

i) What is the probability that a person arriving at the booth will have to wait?

ii) What is the average length of the queue.

iii) The MTNL will install another booth when it is convinced that the customer would have to wait for at least 3 minutes for their turn to make a call. How much should be the flow of the customers in order to justify a 2^{nd} booth.

Q3) a) Two organizations are competing for business under the conditions so that one firm's gain is another firm's loss. The pay-off matrix is given below : **[10]**

		Org B		
		Nil Advertising	Moderate Advertising	Heavy Advertising
Org A	Nil Advertising	10	5	–2
	Moderate Advertising	13	12	15
	Heavy Advertising	16	14	10

Suggest the optimum strategies for the two organizations.

b) Suppose that new Razor blades were introduced in the market by three companies at the same time. When they introduced, each company had equal share of the number, but during the first year some changes took place which are shown by the following transition matrix. **[10]**

	A	**B**	**C**
A	0.9	0.03	0.07
B	0.1	0.7	0.2
C	0.1	0.1	0.8

Assume that no changes in the buying habits of the customer occur,

i) What is the market share of three the companies at the end of first year and second year?

ii) What are the long run market shares of the companies?

Q4) a) The company manufactures around 30 items per day. The sale of these items depends upon the demand which has following probability distribution. **[10]**

Sales	27	28	29	30	31	32
Probability	0.10	0.15	0.20	0.35	0.15	0.05

The production cost and selling prices of each unit are Rs.40 and Rs.50 respectively. Any unsold product is to be disposed at a loss of Rs.15 per unit. There is a penalty of Rs.5 per unit if the demand is not meet. Using the following random numbers estimate total profit or loss for a company for next 10 days.

Random Nos.	10	99	65	75	95	1	79	11	16	20

If company decides to produce 29 items per day, what is the advantage / disadvantage to the Company?

b) Explain axioms of utility in detail. **[10]**

Total No. of Questions : 6] **SEAT No. :**

P1824 **[Total No. of Pages : 1**

[4975]-47

M.C.A. (Management Faculty) (Semester - IV)

BME - 3 : INFORMATION SYSTEM AUDIT AND GOVERNANCE

(2008 Pattern) (Elective) (New)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Question No. 1 and Q. 6 are compulsory.***
2) ***Solve any three from Q.2 to Q. 5.***

Q1) As being an external auditor, perform the auditing of an outsourcing firm XYZ, involved in outsourcing hardware and software services to clients situated in distant locations. Prepare an audit report covering the auditing objective along with the procurement of hardware, software and controls related to the logical and physical security. List down major evidences with their relevancy to the auditing objective. **[20]**

Q2) What is BCP? Explain the process of BCP along with BCP architecture in detail. **[10]**

Q3) Explain ISACA standards. **[10]**

Q4) Describe in detail the various steps involved in IS Auditing. **[10]**

Q5) What is the need of evidences? Explain any two evidence collection techniques in detail. **[10]**

Q6) Write short notes on (any four) : **[4 × 5 = 20]**

a) Validation controls

b) Auditing the long term and short term plan

c) IT Crimes

d) Audit Charter

e) Network Controls

Total No. of Questions : 7] **SEAT No. :**

P1825 **[Total No. of Pages : 2**

[4975]-48

M.C.A. (Management Faculty) (Semester - IV)

BM E - 4 : COLLABORATIVE MANAGEMENT (Elective)

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Attempt any five questions.***
2) ***Support your answers with relevant examples.***
3) ***All the questions carry equal marks.***

Q1) a) Describe BCG matrix.

b) Explain GE Nine Cell model. What is the advantage of GE Nine Cell over BCG matrix?

Q2) Leadership style, corporate culture, values and ethics play a crucial role in effective implementation strategy. Comment.

Q3) Explain the Venture Capital in brief.

Q4) Explain Corporate Planning and Budgeting in brief.

Q5) A value chain is a chain of activities for a firm operating in a specific industry. Explain the concept and discuss its competitive advantages.

Q6) Elaborate Porter's five forces framework with the help of suitable examples.

P.T.O.

Q7) Write short notes on any two :

a) GAP analysis.

b) Mckinsey's 7S frame work.

c) Joint Ventures.

d) Managerial competencies.

e) Outsourcing

Total No. of Questions : 7] **SEAT No. :**

P1826 **[Total No. of Pages : 2**

[4975]-49

M.C.A. (Management Faculty) (Semester - IV)

DECISION SUPPORT SYSTEM

(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 70***

Instructions to the candidates:-

1) ***Q.1 and Q.7 are compulsory.***
2) ***Solve any four questions out of remaining.***

Q1) Give the schematic views of DSS and explain each of the Components of DSS in brief. **[10]**

Q2) What are the major benefits of integrating EIS and DSS? What problem Can occur? **[10]**

Q3) What are the technology levels and tools used in DSS development. **[10]**

Q4) Explain importance of Artificial Intelligence and expert system in DSS. **[10]**

Q5) Explain the traditional system development life cycle. Why is prototyping is considered to be a suitable process for the development of DSS? **[10]**

Q6) What is GIS? Explain its role in Banks or with any other real time example.**[10]**

P.T.O.

Q7) Write short notes on any Four : **[20]**

a) Data visualization

b) Knowledge Based expert system.

c) GIS and virtual reality.

d) Intelligence DSS.

e) Data warehousing

f) EIS

Total No. of Questions : 6]

SEAT No. :

P1827

[Total No. of Pages : 2

[4975]-50

M.C.A. (Management Faculty) (Semester - IV)

BME - 6 : ENTERPRISE RESOURCE MANAGEMENT

(Elective - 416) (2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Q.No. 1 & Q.No. 6 is compulsory.***
2) ***Attempt any THREE from Q.No. 2 to Q.No. 5.***
3) ***Figures to right indicate full marks.***

Q1) As per Govt. Of India Aadhar card is compulsory for every citizen of India for performing banks transaction, gas cylinder booking, passport, etc. as it serves the address proof & unique number of identity. For getting Aadhar card everyone has to register their name in to the Aadhar centers in coming six months. In such small time span & few aadhar card centers the candidates are find difficulty to register their name for Aadhar card also it take more time to deliver Aadhar card to individuals so government of India has decide to implement ERP to integrate process of registration, Printing & its delivery of cards. So discuss the modules & sub-modules suitable for Aadhar card registration & delivery. Discuss the process of ERP implementation. **[20]**

Q2) What is ERP? Explain need of ERP in an organization. **[10]**

Q3) Is it mandatory for an organization to purchase an ERP package which is available in market? Discuss in brief when company can go purchase readymade ERP package or make their own ERP modules suitable for their organization. **[10]**

Q4) List & explain various stages involved in ERP implementation. **[10]**

P.T.O.

Q5) Explain post- implementation & evaluation of ERP. **[10]**

Q6) Write short notes on (any four) : **[20]**

a) DSS

b) Benefits of integration

c) Data warehousing

d) Going live

e) ERP vendors

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Total No. of Questions : 7]

SEAT No. :

P1828

[Total No. of Pages : 2

[4975]-51

M.C.A. (Management Faculty) (Semester - V)

IT - 51 : HUMAN COMPUTER INTERFACE

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Question No. 1 is compulsory.***
2) ***Answer any five from the Remaining.***
3) ***Figure to right hand indicate full marks.***

Q1) Answer any four : **[4 × 5 = 20]**

a) Explain the different stages of LUCID.

b) Explain the concept of Image Browsing.

c) Explain OAI model for website design.

d) List and explain the guidelines for data entry & data display.

e) What is information vizuatization, how it is different from scientific information.

Q2) State & explain the various Advance filtering techniques. **[10]**

Q3) Explain Normans seven stages of action Models. Also explain keystroke model. **[10]**

Q4) List & Explain the various forms of synchronous and asynchronous interaction. **[10]**

P.T.O.

Q5) Explain rules that govern use of color for effective interface design. Also list & explain different error message guidelines in detail. **[10]**

Q6) Explain in details the display technologies. Also the different types of display technologies. **[10]**

Q7) Write short Notes on any two of the following : **[10]**

a) System Engineering

b) Non anthromorphic design

c) Types of keyboards

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Total No. of Questions : 7]

SEAT No. :

P1829

[Total No. of Pages : 2

[4975]-52

M.C.A. (Management Faculty) (Semester - V)

IT - 52 : SOFTWARE IT PROJECT MANAGEMENT

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Questions No. 1 is compulsory.***
2) ***Solve any five questions from remaining.***
3) ***Wherever necessary, state assumptions give examples and draw diagrams.***

Q1) a) What are different Software project Cost Estimation methods used by software industry? Explain any two methods in detail. **[10]**

b) Draw a network diagram from the given information. **[10]**

i) Find start Time, End time and Critical Path.

ii) If activity 4-5 crashed by 2 weeks, draw network diagram and find out critical path & shortest path.

iii) Calculate value of Total, Free & Independent float

Activity	Duration in Weeks
1-2	4
1-3	2
2-3	3
2-4	5
2-5	4
3-4	3
3-6	1
4-5	5
4-6	2
5-7	5
6-7	3

P.T.O.

Q2) What is risk management? Explain the different stages involved in risk management. **[10]**

Q3) What is SPM ? Explain in detail various phases of PMLC. **[10]**

Q4) Describe role of user in project management. **[10]**

Q5) Explain Software Team structure and Discuss about the team communication. **[10]**

Q6) What is software configuration management? Explain in detail the various stages of configuration management. **[10]**

Q7) Write Short Notes on the following (Any Two) : **[10]**

a) WBS

b) Version Control

c) Configuration Management Tools

d) Ms-Project

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Total No. of Questions : 7]

SEAT No. :

P1830

[Total No. of Pages : 2

[4975]-53

M.C.A. (Management Faculty) (Semester - V)

IT - 53 : EMERGING TRENDS IN INFORMATION TECHNOLOGY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Question 1 and Question 7 are compulsory.***
2) ***Attempt any four questions from remaining.***

Q1) Government of Maharashtra wants to launch E-Learning Course on Office Automation. The course duration will be two months. Course contents will be taught through Video Conferencing. As a Learning content management system steering committee head, suggest a suitable LCMS system implementation Strategy. **[15]**

Q2) What is BPO? Explain different BPO models along with types of services provided by BPO industry. **[10]**

Q3) What is E-Banking? Explain various security techniques in E-Banking. **[10]**

Q4) What is E-Learning? Explain various models of e-learning. **[10]**

Q5) What is E-Governance? Explain various strategies and tactics for implementation of E-Governance. **[10]**

Q6) Explain Knowledge Management and Knowledge Management System Architecture. **[10]**

P.T.O.

Q7) Write Short notes on (Any Three) : **[15]**

a) SCM

b) GPS

c) DNA

d) Palm Devices

e) Crop Management

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Total No. of Questions : 7]

SEAT No. :

P1831

[Total No. of Pages : 2

[4975]-54

M.C.A. (Management Faculty) (Semester - V)

IT - 55 : ADVANCED INTERNET TECHNOLOGY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Questions 1 and 7 are compulsory.***
2) ***Attempt any four questions from remaining.***

Q1) Explain with example need of security for E-Commerce. What are steps involved in digital signature? Also explain Encryption with suitable example. **[15]**

Q2) Write Servlet program to accept online registration details for beauty context (assume suitable table structure). **[10]**

Q3) Write JSP code to generate companywise selected student list for placement cell of a college. Display the report in proper format. **[10]**

Q4) Explain file handling in perl with suitable example. **[10]**

Q5) Write a PHP code for online shopping of laptop accessories using sessions to display list of items added in shopping cart. **[10]**

Q6) Explain following functions : **[10]**

a) Mysgl_Connect ( )
b) Mysgl_Query ( )
c) Mysgl_Close ( )
d) Mysgl_Select_db ( )
e) Mysgl_fetch_array ( )

P.T.O.

Q7) Write a short notes (any three) : **[15]**

a) JSP default objects

b) Cerl Architecture

c) Email sending in PHP

d) Arrays in perl

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Total No. of Questions : 6]

SEAT No. :

P1832

[Total No. of Pages : 1

[4975]-55

M.C.A. (Management Faculty) (Semester - V)

ITE - 1 Elective : CYBER LAW AND IT SECURITY

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Q. No. 1 and Q.6 are compulsory.***
2) ***Solve any Three from remaining.***

Q1) a) Explain cryptography in detail. Explain role of public key and private key in cryptography. **[10]**

b) Explain provisions in IT Act 2000. **[10]**

Q2) Explain legal recognition of electronic record and digital signature. **[10]**

Q3) What is E-Governance? Explain applications of E-Governance. **[10]**

Q4) Explain jurisdiction in Trademark Disputes. **[10]**

Q5) What are the powers of adjudicating officer to impose penalty? **[10]**

Q6) Write short notes (any Four) **[4 × 5 = 20]**

a) RSA Algorithm

b) Powers of controllers

c) Domain names

d) Framing

e) Spamming

f) Appellate Tribunal

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Total No. of Questions : 7]

SEAT No. :

P1833

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[4975]-56

M.C.A. (Management Faculty) (Semester - V)

(Elective - ITE - 1) : PROGRAMMING LANGUAGE PARADIGMS

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Q. 7 is compulsory.***
2) ***Attempt any five from remaining.***

Q1) Explain layers of virtual computer? **[10]**

Q2) Explain with suitable construct the subprogram call and return structure? **[10]**

Q3) Write in detail about syntactic element of language? **[10]**

Q4) Discuss the process of program interpretation of execution? **[10]**

Q5) Describe in detail static and heap storage management? **[10]**

Q6) Explain attributes of good language? **[10]**

Q7) Short Notes (any four) : **[20]**

a) Binding Time classes

b) Conditional & Iterative statements

c) Firmware Computer

d) parsing Algorithm.

e) Features of CPP programming

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Total No. of Questions : 7]

SEAT No. :

P1834

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[4975]-57

M.C.A. (Management Faculty) (Semester - V)

ITE - 3 : ADVANCED UNIX (Elective)

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Question 1 and Question 7 are compulsory.***
2) ***Solve any four from remaining.***
3) ***Draw Diagrams wherever necessary.***

Q1) Explain the following system caus : **[5 × 2 = 10]**

a) dup( )

b) link( )

c) chdir ( )

d) alarm ( )

e) stat ( )

Q2) What is process? Explain different ways in which a process can be terminated. **[10]**

Q3) What are signals? How are they generated? Explain signal Handing in detail. **[10]**

Q4) Explain pipes. Write a program to create pipe from parent to child process and send data throught the pipe. **[10]**

P.T.O.

Q5) What is race condition? How can it be avided. **[10]**

Q6) Explain wait() and waitpid() function in detail. **[10]**

Q7) Write short notes on (any four) **[4 × 5 = 20]**

a) Record locking

b) Session and process groups

c) File types

d) Buffering

e) Environment variable

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Total No. of Questions : 7]

SEAT No. :

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[4975]-58

M.C.A. (Management Faculty) (Semester - V)

ITE - 4 : MOBILE WIRELESS COMPUTING (Elective)

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Questions 1 and Question 7 are compulsory.***
2) ***Attempt any four from remaining.***

Q1) a) Define following terms and write their functions (any Four) : **[10]**

i) VLR ii) IMEI

iii) BSS iv) MSRN

v) WTP vi) SPIN

b) Explain functions of each layer in WAP Architecture. **[10]**

Q2) What is handoff? How do you perform handoff during roaming? **[10]**

Q3) What is snooping? Why it is used in TCP? **[10]**

Q4) Explain Framing and Logical Channels in GSM. **[10]**

Q5) Explain mobile IP addressing in detail. **[10]**

Q6) Explain databases and their functions in GSM Network. **[10]**

P.T.O.

Q7) Write Short Notes (any FOUR) : **[4 × 5 = 20]**

a) Mobile Agents

b) DHCP

c) SIP

d) RTS-CTS

e) MAC

f) Frequency Hopping

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Total No. of Questions : 7]

SEAT No. :

P1836

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[4975]-59

M.C.A. (Management Faculty) (Semester - V)

ITE - 5 : DISTRIBUTED DATABASE MANAGEMENT SYSTEM

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates :

1) ***Q. 7 is compulsory. Solve any 5 from remaining.***
2) ***Figures to the right indicate full marks.***
3) ***Give suitable examples if required.***
4) ***Whenever necessary state assumptions.***

Q1) Discuss the detection and resolution strategies for inconsistencies in DDBMS. **[10]**

Q2) What are the different types of fragmentation? Explain with suitable examples. **[10]**

Q3) Explain Characterization of query processors in distributed databases. **[10]**

Q4) Discuss in detail the problem areas in DDBMS environment. **[10]**

Q5) Explain various distribution design issues. **[10]**

Q6) Explain in detail locking protocols in distributed database management systems. **[10]**

P.T.O.

Q7) Write short notes on any four : **[4 × 5 = 20]**

a) Deadlock in DDBMS

b) Distributed Data Administrator

c) Object base transaction models

d) Log for database recovery

e) DOM Architectures

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