Total No. of Questions : 8]

SEAT No. : ____

P3875

[Total No. of Pages : 3

[5075]-12
M. C. A. (Management Faculty) (Semester - I)
IT - 12 : "C" PROGRAMMING
(2008 Pattern)

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

Instructions to the candidates:

1) ***Question 1 is compulsory.***
2) ***Solve any six questions from Q. 2 to Q. 8.***
3) ***Assume suitable data wherever necessary.***

Q1) Find and explain output of following. (any four) **[10]**

a)
```
int reverse (int);
void main ( ){
int no = 5;
reverse (no);
}
int reverse (int no) {
      if (no = = 0)
      return 0;
else
printf ("% d", no);
reverse (no--);
}
```

b)
```
void main ( ) {
int x= 4, y, z;
y = --x;
z = x--;
printf ("% d % d %d" x, y, z);
}
```

c)
```
# define square (x)    x * x.
void main ( ) {
int i;
i = 64 /square (4);
printf ("%d", i);
}
```

P.T.O.

d)
```
void main ( ) {
    int x = 3, z;
    z = x / + + x;
    printf (" x = %d  z = % d\n ", x, z);
}
```

e)
```
void main ( ) {
    printf ( " % c\n ", 5  ["V IBGYOR"]);
}
```

Q2) a) Write a C program to print following pattern for n number of lines. read n from user. **[5]**

If n= 4

A1
B2 C3
D4 E5 F6
G7 H8 I9 J10

b) Write a program to find the power of a given number using recursive function. **[5]**

Q3) a) Write a C program to read n × n matrix. and display addition of both diagonal elements. also display max element with its position. **[5]**

b) Write a C program to reverse a given string using pointers. **[5]**

Q4) Define array of structure to store employee details like employee no., employee name, and department. Write a program to read data of 100 employees and display list of all employees. Also display list of employees of sales department. **[10]**

Q5) Write a C program to read two file names from command line. and check whether two files are same. perform validations for input and file operations. **[10]**

Q6) Write a C program to display wheel in graphics. and move it from one side to other. **[10]**

Q7) a) Write a program using bitwise operators to count number of bits set to 1's in a given integer number. **[5]**

b) Write a C program to accept a string and character. Display number of occurances of a character in string. **[5]**

Q8) Write short note on **[10]**

a) Storage classes

b) Difference between structure and union.

▲ ▲ ▲

Total No. of Questions : 6]

SEAT No. :

P3876

[Total No. of Pages : 2

[5075]-13

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

BM - 11 PRINCIPLES & PRACTICES OF MANAGEMENT FUNCTION AND ORGATION BEHAVIOUR

(2008 Pattern)

Time : 3 Hours] *[Maximum 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) What is organisation? Define principles of organisation and classify different structure of organisation. **[15]**

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

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

Q3) Define OB. Explain the foundation of OB. Explain in details the various models of OB. **[15]**

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

Q5) Explain various management function in detail. **[15]**

P.T.O.

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

a) Team Building

b) Line and staff organisation

c) Leadership style

d) Transactional Analysis

e) Group Dynamics

▲ ▲ ▲

Total No. of Questions : 7]

SEAT No. :

P3877

[Total No. of Pages : 1

[5075]-14
M. C. A. (Management Faculty) (Semester - I)
IT-13 : OPERATING SYSTEM CONCEPTS
(2008 Pattern)

Time : 3 Hours] *[Maximum 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.
b) Explain in detail segmentation in memory management with neat diagram. **[10]**

Q2) Explain different type of CPU scheduling. **[10]**

Q3) a) Write a brief note on swapping technique in memory management.
b) Give different system calls in operating system. **[10]**

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

Q5) Explain implementation of file system using contiguous allocation. **[10]**

Q6) Consider following page reference string **[10]**
1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6
How many page faults would occurs in LRU, FIFO, and optimal page replacement algorithm. Assume frame size of 3

Q7) Write short notes (any four) **[20]**
a) Page Fault
b) NOS Architecture
c) Thrashing
d) Communication in client-server
e) Interrupts

▲ ▲ ▲

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

P3878 **[Total No. of Pages : 2**

[5075]-15
M. C. A. (Management Faculty) (Semester - I)
MT 11: 105 - DISCRETE MATHEMATICS
(New) (2008 Pattern)

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

Instructions to the candidates:

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

Q1) a) Rewrite the following propositions using the symbols $\exists$ and $\forall$ **[6]**

i) All elephants have trunks

ii) Every clever student is successful

b) Show that the maximum number edges in a simple graph with n vertices is $\frac{n(n-1)}{2}$ **[6]**

c) Let A = {1,2,3,4,5,6,7}. Determine a relation R on A by aRb iff 3 divides (a – b). **[6]**

Show that R is an equivalence relation. also, determine the partition generated by R.

d) Let (G, X_7) be a group where G = {1,2,3,4,5,6}. Determine whether G is a cyclic. **[6]**

e) Given A = {1,2,3,4,5} and B = {1,3,5}. Let R be the relation from A $\rightarrow$ B defined by "x is less than y". Write relation R, its matrix and draw its graph. **[6]**

Q2) a) Find the converse and inverse of the following statement: **[5]**
"if it is cold weather, then I wear sweater".

b) Obtain the principle disjunctive normal form (PDNF) of **[5]**
$\neg P \rightarrow (Q \leftrightarrow R)$

c) Let R ={<1, 2>, <3, 4>, <2, 2>} and S = {<4, 2>, <2, 5>, <3, 1>, <1, 3>}. **[5]**

Find S $\bullet$ (S $\bullet$ R) and (R $\bullet$ S) $\bullet$ R

P.T.O

d) Consider the following functions defined by **[5]**

$f : A \rightarrow B$ such that $f(x) = x + 1$

$g : B \rightarrow C$ such that $g(x) = 2x$

where A, B and C are set of integers, find i) gof ii) fog iii) fo (gof).

Q3) a) Find the code word generated by the parity check matrix H where **[5]**

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

b) Show that $(G, +_5)$ is a group. **[5]**

c) Define Monoid, Sub-monoid, Group. **[5]**

d) Prove that every cyclic Group is abelian. **[5]**

Q4) a) An undirected graph has an even number of vertices of odd degree. **[5]**
Prove.

b) A connected planar graph has 9 vertices having degrees 2,2,2,3,3,3,4,4 and 5. Calculate the number of edges and faces in the graph. **[5]**

c) Explain the following terms with examples. **[5]**

i) Bipartite Graph

ii) Planar Graph

ii) Regular Graph

d) Draw all non isomorphic graphs on 2 and 3 vertices. **[5]**

▲ ▲ ▲

Total No. of Questions : 7]

SEAT No. :

P3879

[Total No. of Pages : 2

[5075]-21
M. C. A. (Management Faculty) (Semester - II)
IT - 21 : 201 DATA STRUCTURES USING "C"
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q 1 is compulsory.***

2) ***Solve any four from remaining.***

Q1) Write short notes on (any two): **[10]**

a) B Tree

b) Expression Tree

c) Sparse Matrix

d) Post order traversal

Q2) a) Write a function in C to print the position of a given data element for its first occurrence in a single linked list. **[7]**

b) Convert the given expressions in prefix and postfix. **[8]**

i) A * (B+C $D) –E $ F * (G /H)

ii) A + (((B–C) * (D –E) +F) / G) $ (H – J)

Q3) a) Show the stack contents for each step during conversion of given pretfix expression into infix : +–$ ABC * D ** EFG **[7]**

b) Write a function in C ++ for adding an element in dynamic circular queue. **[8]**

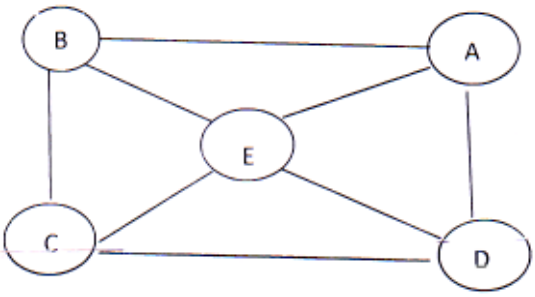
P.T.O

Q4) a) Show AVL tree construction for the given names: **[7]**

Jaya, Jeevan, Jagruti, Janhavi, Jyoti, Jyotsana, Jayawant, Kirti, Kumar, Kusum, Krishna, Karan.

b) Write a non recursive function in C for postorder traversal of Binary tree. **[8]**

Q5) a) Generate BFS, DFS for node E. write adjacency matrix and adjacency list for the following graph. **[7]**



b) Write a function in C++ to generate DFS output for a graph implemented using array. **[8]**

Q6) a) Write a function in C++ to delete a node in B Tree. **[7]**

b) Write a function in C to create a binary search tree. **[8]**

Q7) a) Write a program to add two polynomials. **[7]**

b) Draw a binary search tree for: **[8]**

10, 25, 86, 45, 73, 84, 24, 90, 82, 71, 29, 38, 18, 23, 55, 66, 32, 33

Write inorder, preorder and postorder traversal.

▲ ▲ ▲

Total No. of Questions : 7]

SEAT No. :

P3880

[Total No. of Pages : 2

[5075]-22
M.C. A. Faculty (Management) (Semester - II)
DATABASE MANAGEMENT SYSTEM
(2008 Pattern)

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

Instructions to the candidates:

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

Q1) a) Normalise the following layout up to 3 NF **[12]**

Service call report

Customer code: _____ customer name : ____

Customer address: _____

Date of call: _____ Time: _____

Sr.No.	Machine name	Problem	Spares used	Qty	Amt
				Total	

Service charge: _____ Grand total:_____

Customer Remarks: _____ Date:_____

Engineer code and name:_____

customer sign

b) Write in detail failure classification. **[8]**

Q2) Explain three tier architecture of DBMS; its advantages and disadvantages.**[10]**

P.T.O

Q3) Explain why do we go for specialization in E - R model? Explain an example. **[10]**

Q4) Define transaction. Explain with diagram how a transaction passes through various stages. **[10]**

Q5) Explain in detail two phase locking protocol, write appropriate example. **[10]**

Q6) Explain any basic five fundamental relational Algebra operators with example. **[10]**

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

a) Discretionary access control and mandatory access control

b) Codd's rules

c) Entity integrity constraints

▲ ▲ ▲

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

P3881 **[Total No. of Pages : 2**

[5075]-23
M. C. A. (Management Faculty) (Semester - I)
IT: 23 SOFTWARE ENGINEERING
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q 1 and Q 6 are compulsory.***

2) ***Solve any 3 from remaining questions.***

Q1) A software company develops multiple projects for the customers from various countries. the project may have multiple platforms and many languages for development. employees having multiple skill set with varied experience are employed for the project. some employees works in shift where as other are on bench. each employee fills the time sheet. As a consultant prepare SRS for the above project management system. **[20]**

Q2) Compare classical life cycle and spiral model. **[10]**

Q3) Design a web-based GUI form for registering for state level common entrance test of MCA. **[10]**

Q4) Flood relief fund is to be distributed through Government Administration. State is divided into various districts. within the districts, there are tahasils and which is further divided into Talukas. The fund will be distributed by block development officers in Taluka to various affected citizens in villages. The relief fund depends on occupation of citizen. Draw ER diagram for the same. **[10]**

Q5) CASE tool assist various phases of software development. Justify **[10]**

P.T.O.

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

a) Decision table

b) Input validation

c) Element of good design

d) Legacy system

e) Reverse Engineering

Total No. of Questions : 5]

SEAT No. :

P3882

[Total No. of Pages : 1

[5075]-24
M. C. A. (Management Faculty) (Semester - II)
BM: 21 SOFT SKILLS
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q. No one is compulsory.***

2) ***Attempt any three from the remaining questions.***

Q1) a) Define Body language. How is it important in the context of a job interview? **[15]**

b) Differentiate hearing and listening. Give suitable examples. **[10]**

Q2) Explain different electronic communications used in todays business. Give examples. **[15]**

Q3) Reports are one of the important tools of management.

What are the components of report. **[15]**

Q4) Explain various principles of communication. Give examples. **[15]**

Q5) Write short notes on any three of the following. **[15]**

a) Group discussion

b) Time management

c) Oral presentation

d) Notice, Agenda and minutes

▲ ▲ ▲

Total No. of Questions : 6]

SEAT No. :

P3883

[Total No. of Pages : 3

[5075]-25

M. C. A. Theory (Management Faculty) (Semester - II)

MT- 21: 205 PROBABILITY AND COMBINATORICS

(2008 Pattern)

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

Instructions to the candidates:

1) ***Question No. 1 and Question No. 4 are compulsory.***

2) ***Solve any one from questions 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 generalized inclusion and exclusion principle. **[5]**

b) 6 men are to be seated around a circular table. How many ways are there of achieving this? How many if A refuses to sit besides B? **[5]**

c) You have 6 balls of 6 different colours and for every ball you have a box of same colour. How many arrangements you have if exactly two balls goes in to box of same colour. **[5]**

d) Solve the following recurrence relation **[5]**

$a_r - 7a_{r-1} + 10a_{r-2} = 0$, given that $a_0 = 0$, $a_1 = 3$

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

i) $$\binom{m+n}{r} = \binom{m}{r}\binom{n}{0} + \binom{m}{r-1}\binom{n}{1} + \binom{m}{r-2}\binom{n}{2} + \ldots + \binom{m}{0}\binom{n}{r}$$

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

P.T.O.

b) Find the number of integer valued solutions of the following equation. **[7]**

$x_1 + x_2 + x_3 = 24 \qquad x_1 > 1, x_2 > 2, x_3 \geq 2$

Q3) a) Determine the discrete numeric function corresponding to generating fuction. $\frac{1}{4 - 4z + z^2}$ **[8]**

b) State multinomial theorem and hence find the coefficient of $x^4 y^6 z^6$ in the expansion of $\left(2x^2 + 3y^3 - z\right)^{10}$. Also find number of terms in the expansion. **[7]**

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

i) Joint P. M. F.

ii) Marginal distribution.

iii) Moment Generating function.

iv) Conditional density function.

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

X	–3	–1	0	1	2	3	5	8
F(x)	0.1	0.3	0.45	0.5	0.75	0.9	0.95	1.0

Find probability distribution of X ii) find P (x is even) iii) P(x = –3|x<0)

c) For the joint probability distribution of two random variables X & Y given below **[5]**

Y / X	1	2	3	4
1	4/36	3/36	2/36	1/36
2	1/36	3/36	3/36	2/36
3	5/36	1/36	1/36	1/36
4	1/36	2/36	1/36	5/36

Find marginal distributions of X and Y , conditoinal distribution of X given Y = 1 and conditional distribution of Y given X = 2 **[5]**

d) State and prove memory less property for geometric distribution.

Q5) a) Find MGF of exponential distribution and hence deduce its Expectation and variance. **[8]**

b) Suppose that the life in hrs of a certain part of radio tube is a continuous random variable with p.d.f. given by **[7]**

$$f(x) = \begin{cases} \dfrac{100}{x^2} & for\ x \geq 100 \\ 0, otherwise \end{cases}$$ What is the probability that all of three such

tubes in a given radio set will have to be raplaced during the first 150 hours of operation.

Q6) a) If X and Y are two random variables having joint density function. **[8]**

$$f(x, y) = \begin{cases} \dfrac{1}{8}(6 - x - y), \text{for } 0 \leq x < 2, 2 \leq y \leq 4 \\ 0, \text{otherwise} \end{cases}$$

find i) P (x < 1, y <3) ii) P (x <1|y < 3)

b) In a certain examination 10% of the students who appeared for the paper in P & C got less than 30 marks and 97% of the students got less than 62 marks. Assuming the distribution to be normal, find the mean and standard deviation. **[7]**

▲ ▲ ▲

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

P3884 **[Total No. of Pages : 2**

[5075]-31
M. C. A. - II (Management Faculty) (Semester - III)
IT-31- 301 : WEB TECHNOLOGIES
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q. 1 and Q. 8 are compulsory.***
2) ***Solve any 5 from remaining.***
3) ***Figures to the right indicate marks.***

Q1) Explain connection, recordset and command object in ASP with example. **[10]**

Q2) Explain different types of frames with example. **[10]**

Q3) Write DTD and XML-Schema for the following XML document. **[10]**

```
<?xml version ="1.0"?>
<note>
<to> Thomas </to>
<from> Jani </from>
<heading> Reminder</heading>
<body> Don't forget me this weekend! </body>
</note>
```

Q4) Write Javascript for displaying a running digital clock in following format. **[10]**

12:35:15

Q5) Explain document object model in VBScript. **[10]**

Q6) Write JavaScript code for designing and validating Railway reservation form. Validate any five fields. (assume suitable reservation form structure.) **[10]**

P.T.O

Q7) Explain session object and cookies in ASP. **[10]**

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

a) Web publishing

b) Types of CSS

c) Client side scripting

▲ ▲ ▲

Total No. of Questions : 8]

SEAT No. :

P3885

[Total No. of Pages : 2

[5075]-32
M. C. A. (Management) (Semester - III)
IT-32: DATA COMMUNICATION AND COMPUTER NETWORKS

(2008 Pattern)

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

Instructions to the candidates:

1) ***Q. 1 and Q. 8 are compulsory.***

2) ***Solve any 4 questions from remaining.***

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

i) Shared medium environment are collision domain.

ii) Routers operates at data link layer.

iii) A cable break in bus topology network does not affect network communication

iv) IP is a connection oriented protocol

v) E-mail is a synchronous mode of communication

b) Define topology. How does number of attached computers affect a bus topology network? Explain the operation of ring topology

[2 + 4 + 4 = 10]

Q2) What are the reasons the network designers creates subnetting? Explain reasons for using supernetting. Determine the network, subnetwork and host addresses if IP address is 42.56.29.13 and subnet mask is - 255.255.240.0

[4 + 3 + 3 = 10]

Q3) What are the purpose of ARP, RARP, ICMP, and IGMP of IP layer. Explain . **[10]**

P.T.O

Q4) a) What are advantages using virtual path in ATM? **[5]**

b) Describe the primary differences between BRI and PRI **[5]**

Q5) Define and explain public key and symmetric key signature. **[10]**

Q6) Define SMTP. Explain with Example functions of SMTP and POP. What are the advantages of IMAP Over POP? **[2 + 6 + 2 = 10]**

Q7) a) What are the advantages and disadvantages of wireless LAN? **[4]**

b) Describe the meaning and purpose of DNS. Explain name resolution and Inverse resolution with example. **[6]**

Q8) Write short note (any two) **[2 × 5 = 10]**

a) MIME

b) Proxy server

c) X. 25

d) Problems in SNMP

e) HTTP

f) DHCP

▲ ▲ ▲

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

P3886 **[Total No. of Pages : 4**

[5075]-33
M. C. A. (Management)
IT - 33 : OBJECT ORIENTED PROGRAMMING USING C++
(2008 Pattern)

Time : 3 Hours] ***[Maximum 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 hand indicates full marks.***
4) ***Make suitable assumption wherever necessary.***

Q1) Explain output of the following program. **[5 × 2 = 10]**

a)
```
#include<iostream.h>
namespace mynamespace
{ int m = 10;
}
namespace
{     int m = 100;
}
void main( )
{
      cout <<"m = "<< m<< endl;
}
```

b)
```
#include<iostream.h>
void main( )
{
      const int PI = 3.142;
      PI = 10;
      cout << PI;
}
```

P.T.O

c)
```
#include<iostream.h>
class sample
{
        public:
        sample (int a)
        {
        cout <<" a = " << a;
        }
};
void main( )
{
sample S1(10);
sample S2 = 20;
}
```

d)
```
#include<iostream.h>
class test
{
        static int i;
        int j;
};
int test :: i ;
int main ( )
{
        cout <<size of (test);
        return 0;
}
```

e)
```
# include<stdio.h>
void main( )
{
FILE *pfile;
pfile = fopen ("example.txt","wb");
fputs (" this is an apple", pfile);
fseek (pfile, –9, SEEK _CUR);
fclose (pfile)
}
```

What is content of example.txt?

Q2) Answer any five **[5 × 2 = 10]**

a) What is mechanism in C++ to catch all types of exceptions?

b) What are different ways of achieving polymorphism in C++?

c) What are advantages of inline function over normal function?

d) What is use of friend class?

e) What is use of static data member?

f) What is difference in the syntax of overloading prefix and postfix increment or decrement operator.

Q3) Design a class mystring having array of characters as a data member. The class should have member functions to do the following. **[10]**

a) Overload + operator to concatenate the two strings.

b) Overload subscript [ ] operator to return i^{th} character.

Q4) Write a program to implement STACK using template class. **[10]**

Q5) Define employee class having data members empid, name, designation, salary. Write an interactive program to maintain employee database using file handling. The program should support following operations. **[10]**

a) Add employee

b) Display all employee

c) Search a particular employee

Q6) a) What is difference between public, private, protected inheritance? **[5]**

b) Explain need of virtual base class, while building class hierarchy, with example. **[5]**

Q7) a) What is STL? What are three components of STL? explain each component in short. **[5]**

b) Explain terminate ( ) and unexpected ( ) functions. **[5]**

Q8) Explain dynamic_cast, const _cast, static_cast and reinterpret_cast with example. **[10]**

▲ ▲ ▲

Total No. of Questions : 7]

SEAT No. :

P3887

[Total No. of Pages : 1

[5075]-34

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

IT-34: 304: ADVANCED DATABASE MANAGEMENT SYSTEMS

(2008 Pattern)

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

Instructions to the candidates:

1) ***Question No. 7 is compulsory.***
2) ***Solve any 5 Questions from 1 to 6.***
3) ***Figures at the right indicate marks.***

Q1) Define I/O parallelism? What do you mean by Intra-operational parallelism? Explain with example. **[10]**

Q2) Explain Commit Protocol? define 2 PC protocol with example. **[10]**

Q3) Explain Multimedia Database Architecture. **[10]**

Q4) What is OLAP? What are 3 types of OLAP servers? **[10]**

Q5) Explain DTD with example. What are various XML parsers? **[10]**

Q6) Describe k means algorithm with example? **[10]**

Q7) Write short notes (any 4) **[20]**

a) Data Cube

b) KBS

c) ORDBMS

d) Data mining

e) OID

▲ ▲ ▲

Total No. of Questions : 7]

SEAT No. :

P3888

[Total No. of Pages : 1

[5075]-35
M. C. A. (Mgmt. Faculty) (Semester - III)
BM - 31: MANAGEMENT SUPPORT SYSTEM & IS
(2008 Pattern)

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

Instructions to the candidates:

1) ***Question No 1 & 7 are compulsory.***
2) ***Solve any four from the remaining.***

Q1) Explain with a neat diagram negative feedback control? Explain with example application of negative feedback control? **[10]**

Q2) Define MIS? Explain MIS structure based on Organizational functions?**[10]**

Q3) Give a short view of DSS and diagrammatically depict the components of DSS? **[10]**

Q4) What do you mean by information overloading? Explain Newell Simon model of Human information Processing? **[10]**

Q5) Explain functions of financial information system as per system approach?**[10]**

Q6) Explain Executive information system with an example and enumerate EIS characteristics and capabilities? **[10]**

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

a) Types of information
b) Need of information security
c) Herbert Simon Model
d) Advantages of expert system
e) Simulation

▲ ▲ ▲

Total No. of Questions : 8]

SEAT No. :

P3889

[Total No. of Pages : 2

[5075]-41
M. C. A. (Management Faculty) (Semester - IV)
IT- 41: JAVA PROGRAMMING
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q 1 and Q 8 are compulsory.***

2) ***Solve any five from Q. 2 to Q. 7.***

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

a) Differentiate: Applet and application

b) String buffer (Explain any 4 methods)

c) Thread priorities

d) URL

e) What is Grid layout?

Q2) Write a client server socket program. Client program reads a file name from user and sends it to server. If file does not exists, server sends "file doesn't exists" message. If file exists server reads a file and removes all white spaces and special characters from it & sends to client. Client displays contents sent by server to user. **[10]**

Q3) Write a JDBC application for displaying list of scholarship holders categorywise. **[10]**

Q4) Write RMI application for encryption and decryption of string. Accept string from client and sent it to server. Server will return encrypted string back to client. **[10]**

Q5) Write a Java application to change the case (upper case to lower & lower case to upper) of every alphabate in a file. **[10]**

Q6) Describe thread synchronization with suitable example. **[10]**

Q7) Describe Key Listener with suitable example **[10]**

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

a) Differentiate between AWT and swing

b) Container in java

c) EJB architecture

▲ ▲ ▲

Total No. of Questions : 6]

SEAT No. :

P3890

[Total No. of Pages : 1

[5075]-42
M. C. A. (Management Faculty) (Semester - IV)
IT - 42: SOFTWARE TESTING AND QUALITY ASSURANCE
(2008 Pattern)

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

Instructions to the candidates:

1) ***Q. 1 and Q. 6 are compulsory.***
2) ***Solve any three from the remaining.***

Q1) University Ph D entrance exam provides facilities for candidate registration, applying for paper-1 and paper-2, reviewing the result (as per various streams), payment, canditates cleared with both papers need to apply for interview process.
Write a detailed test plan for above case with desired test documents, test cases and test strategies. **[20]**

Q2) What is Verification and Validation? Draw and explain V & V life cycle in detail. **[10]**

Q3) Explain 11 steps of testing process life cycle. **[10]**

Q4) Explain regression testing and installation testing with suitable example. **[10]**

Q5) Write test cases for performing Customers registration, which accepts customer name, user-name, password, re-passwod, address, Mobile no., email-id, date of birth fields, None of the fields can be NULL. **[10]**

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

a) Integration
b) Formal Technical Review
c) Quality factors
d) Cyclomatic complexity
e) Static testing

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SEAT No. :

Total No. of Questions : 7] [Toyal No.of Pages : 2

P3891

[5075] - 43

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

IT43 : 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 questions.***

Q1) 'Newtons' Academy is conducting certificate and Diploma level courses. The students need to register online along with the fees for the desired course. The student can select one subject for certificate course and 3 subjects to get diploma. The teachers need to register online with their subject specialization. And experience. One teacher would be selected as a course co-ordination for each course. One teacher can teach more than one subject and one subject can be taught by More than one teacher. The student need to submit the assignments online, which are uploaded by the subject teacher. The student need to pass the Online test for the subject (s) to get the certificate. Every student will get atmost 3 chances to pass the test.

a) Draw use case diagram. **[10]**

b) Draw class diagram. **[10]**

Q2) Explain RUP in detail. **[10]**

Q3) a) Draw sequence diagram for online purchase of various items through flipcart. **[5]**

b) Draw collaboration diagram for IPL ticket booking. **[5]**

Q4) Explain Test plan with example . **[10]**

P.T.O.

Q5) Draw Activity diagram for Adhar Card Process. **[10]**

Q6) Draw state Transition Diagram for Television programme Recording unit having following details. **[10]**

a) The desired programme can be recorded by selecting the record button.

b) The programme which is recorded can be played, Rewinded or Forwarded by selecting appropriate button.

c) The recorded programme can also be 'deleted' or 'Protected' (from deletion) by selecting the appropriate button.

Q7) Write Short Notes on (any two) : **[10]**

a) Categories of Pattern

b) Jacobson methodology

c) Multitiered Architecture

▽▽▽▽

SEAT No. :

Total No. of Questions : 4] [Total No.of Pages : 4

P3892

[5075] - 44

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

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 Q no2, 3 & 4.***
3) ***Use of electronics calculator & statistical table is allowed.***

Q1) a) The data for the project is **[9]**

Activity	Preceding activity	Time (in weeks) normal	Crash time (in weeks)	Normal cost (Rs.)	Crash cost (Rs.)
A	--	3	2	18,000	19,000
B	--	8	6	600	1,000
C	B	6	4	10,000	12,000
D	B	5	2	4,000	10,000
E	A	13	10	3,000	9,000
F	A	4	4	15,000	15,000
G	F	2	1	1,200	1,400
H	C,E,G	6	4	3,500	4,500
I	F	2	1	7,000	8,000

i) Draw the PERT network & find the critical path.

ii) If a deadline of 17 weeks is imposed for the completion of the Project, what activities will be crashed? What will be additional cost?

P.T.O.

b) Describe different replacement models. **[6]**

c) Solve the following I.P.P. **[9]**

Maximize $Z=X_1+X_2$

Subject to $3X_1+2X_2 \leq 20$

$6X_1+5X_2 \leq 25$

$X_1+3X_2 \leq 10$

$X_2 \leq 20$

X_1, X_2 are non negative integers

d) Solve the following assignment problem to find the optimal solution. The following table gives the profit of assignment in rupees for all the jobs to all machines. **[6]**

	Jobs				
	J1	J2	J3	J4	J5
M1	50	60	40	30	45
M2	35	55	45	55	40
M3	40	45	50	35	35
M4	60	40	55	40	30
M5	45	35	45	50	55

Q2) a) Give an economic interpretation of dual of an L.P.P. **[6]**

b) A company has 3 factories with capacities 700, 400, 600 & four depots with the requirement 400, 450, 350, 500 respectively with the following cost matrix. Find an optimal solution to transportation problem. **[7]**

Depot	D1	D2	D3	D4
Factory				
F1	4	6	8	6
F2	3	5	2	5
F3	3	9	6	5

c) A computer contains 10,000 resistors, when any resistor fails it is replaced. The cost of replacing a resistor individually is Rs. 1. But if all the resistors are replaced at the same time the cost per resistor is Rs. 0.35. The % of surviving at the end of ith month is given below.

Month (i)	0	1	2	3	4	5	6
% of surviving at the end of month	100	97	90	70	30	15	0

Determine the optimum replacement policy? **[7]**

Q3) a) Clean well company of India has introduced a new detergent 'SUPERCLEAN' of which it can produce 20,000 packs per month of 20 working days. The annual demand for this detergent is forecasted to be 1,92,000 packs at a uniform rate. The set up cost for production of 'SUPERCLEAN' run is Rs. 1,080/- while the monthly cost of Holding a pack in inventory is Rs. 0.30. **[6]**

Determine

i) Optimum lot size

ii) Total variable cost per year associated with the lot size.

iii) Optimum number of production runs

iv) Time interval between successive production runs

b) The rate of arrival of customer at a public telephone booth follows poisson dist. With an average time of 10 minutes between one customer and the next. The duration of the phone call is assumed to follow Exponential dist. with an mean time of 3 minutes. Calculate **[7]**

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

ii) What is the average length of non-empty queues that form from time to time.

iii) Estimate the fraction of a day that the phone will be in use.

iv) What is the probability that it will take him more than 10 minutes altogether to wait for phone & complete the call.

c) Solve with two phase simplex method **[7]**

Maximize $Z=4X_1+5X_2$

Subject to $2X_1+4X_2 \leq 8$

$X_1+3X_2 \geq 9$

$X_1, X_2 \geq 0$

Q4) a) Write a note on floats & slack in network diagram. **[6]**

b) Given the following information regarding a project. **[7]**

Activity	Time estimates (in days)		
	Optimistic	Most likely	Pessimistic
1 - 2	4	6	8
2 - 3	5	7	15
2 - 4	4	8	12
3 - 5	10	18	26
3 - 6	15	20	25
4 - 6	8	9	16
5 - 7	4	8	12
6 - 7	1	2	3
7 - 8	6	7	8

i) Construct the network diagram

ii) Determine the critical path & compute the project completion time.

iii) Determine the probability of completing the project in 55 days.

c) Construct the dual to the primal problem & solve the dual. **[7]**

Minimize $Z = 20X_1+16X_2$

Subject to $X_1 + X_2 \geq 12$

$2X_1 + X_2 \geq 17$

$2X_1 \geq 5$

$X_2 \geq 6$

$X_1, X_2 \geq 0$

▽▽▽▽

SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3893

[5075] - 45

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

BM - E1 : MIS FRAMEWORK AND IMPLEMENTATION

(2008 Pattern)

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

Instructions to the candidates:

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

Q1) Explain the architecture of DSS with help of diagram and discuss its role in an organizational decision making. **[10]**

Q2) Discuss the impact of information technology on functions of marketing. **[10]**

Q3) Describe the various techniques used for evaluating investments on information technology. **[10]**

Q4) Define MIS. Discuss MIS as an instrument for organizational change. **[10]**

Q5) What are critical success factors? Explain the same with reference to e-Governance application. **[10]**

Q6) Explain the importance of information system to handle global challenges. **[10]**

P.T.O.

Q7) Write short note on any FOUR **[20]**

a) IT policy

b) Expert system

c) GDSS

d) Attributes of good information

e) Threats to IT infrastructure

f) Users of Information systems

▽▽▽▽

SEAT No. :

Total No. of Questions : 4] [Total No.of Pages : 3

P3894

[5075] - 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) ***Question No.1 is compulsory.***
2) ***Solve any two questions from remaining.***
3) ***Figures to the right indicate full marks.***
4) ***Use of electronics calculator is allowed.***

Q.1) a) The Stifee Zone Private Limited is one of the leading manufacturing companies in India. Depending upon the availability of raw material the company manufactures around 200 mopeds in a day. The daily production varies from 196 mopeds to 204 mopeds. The probability distribution of daily production is given below: **[10]**

Production per day	196	197	198	199	200	201	202	203	204
Probability	0.05	0.09	0.12	0.14	0.20	0.15	0.11	0.08	0.06

The finished mopeds are transported in a specially arranged Lorry that can accommodate only 200 mopeds. Using the following random numbers 82,89,78,24,53,61,18,45,4,23,50,77,27,54,10.

Simulate the process to findout :

i) Average number of mopeds waiting in the factory.

ii) Average number of empty space in the Lorry.

b) Describe the steps involved in the process of decision making. **[10]**

c) In a petrol pump handled by single attendant, customers arrive in Poisson manner at an average every 3 minutes. The attendant is expected to offer his services in exponential pattern and takes 1.5 minutes to serve a single customer. Calculate: **[10]**

P.T.O.

i) Probability that there will be no customers.
ii) Expected number of customers in the petrol pump.
iii) Expected number of customers in the petrol pump waiting for their turn.
iv) Average waiting time for a customer in the petrol pump.
v) Utilization factor of the system.

Q.2) a) The buying habits of customers were studied are as follows: Those buying brand X today 60% continue with brand X, 30% shift to brand Y and 10% shift to brand Z in the next year. Those buying brand Y today 50% continue with brand Y, 40% shift to brand X and 10% shift to brand Z in the next year. Those buying brand Z today 70% continue with brand Z, 20% shift to brand X and 10% shift to brand Y in the next year. The market shares of brands X, Y, and Z are 20%. 50% and 30% today. What is the market share of the three companies at the end of second year? **[10]**

b) Solve the following game. **[10]**

		Player B			
		B_1	B_2	B_3	B_4
Player A	A_1	3	2	4	0
	A_2	3	4	2	4
	A_3	4	2	4	0
	A_4	0	4	0	8

Q.3) a) The research director of Aaradhya Pharmaceutical Laboratory has to decide one of the three influenza vaccines (P_1, P_2, P_3) which should be funded for the mass production. **[10]**

The pay-off depends upon the type of influenza outbreaks (S_1, S_2, S_3, S_4) The Pay-off matrix in millions of rupees is given as follows.

		Strategies		
		P_1	P_2	P_3
Outcomes	S_1	10	8	-15
	S_2	4	12	12
	S_3	0	-5	8
	S_4	-2	-10	8

The probability distribution of corresponding outcomes is as follows

Outcome	S_1	S_2	S_3	S_4
Probability	0.2	0.2	0.5	0.1

Determine the optimal strategy using EMV criteria and also calculate EVPI and VPI.

b) Explain the Queuing Models in detail. **[10]**

Q4) a) For a single channel queuing model the data about the inter-arrival time of the workers at a tool-crib for collecting the tools and the service time required by the attendant at the tool-crib is as follows: **[10]**

Inter arrival time		Service time	
Time (minutes)	Frequency	Time (minutes)	Frequency
2	10	1	4
4	6	2	12
6	2	3	10
8	2	4	8
		5	6

Simulate the queue for next five arrivals and compute the following

i) Total time the attendant is idle.

ii) Average waiting time for the workers at the tool crib.

Use the following random numbers:

Inter arrival time	10	21	56	74	47
Service time	65	59	02	71	26

Assume that service starts at 9:00 am.

b) Write a short note on (any two) **[10]**

i) Decision Tree

ii) Axioms of Utility

iii) Pure strategy and Mixed strategy games.

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SEAT No. :

Total No. of Questions : 6] [Total No.of Pages : 2

P3895

[5075] - 47

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

BME - 3 : Elective : INFORMATION SYSTEM AUDIT AND GOVERNANCE

(2008 Pattern)

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

Instructions to the candidates:

1) ***Q.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 purchase department of an IT firm. Your audit report should cover auditing objective along with the procurement of hardware, software and controls related to the logical and physical security of the said department under auditing. List down major evidences with their relevancy to the auditing objective. **[20]**

Q2) a) Explain the role of DA and DBA in auditing. **[5]**

b) Explain auditor role & responsibilities while auditing the long term & short term plans. **[5]**

Q3) What are control objectives? Explain the processing validation checks & data input validation checks in detail? **[10]**

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

Q5) Explain various Network controls for a web based railway reservation system. **[10]**

P.T.O.

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

a) Code of professional ethics

b) Performance Measurement Tools

c) Digital Signature

d) Audit Charter

e) Application Controls.

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3896

[5075] - 48

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

BME - 414 : Elective - COLLABORATIVE MANAGEMENT

(2008 Pattern)

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

Instructions to the candidates:

1) ***Attempt any five questions.***
2) ***Figures to the right indicate full marks.***

Q1) a) Describe BCG matrix. **[5]**

b) Explain GE Nine cell model. Differentiate between GE Nine Cell and BCG matrix. **[9]**

Q2) "Collaborative management is used to describe various management techniques that promote a sense of unity and teamwork among managers and supervisors within a business organization". Discuss. **[14]**

Q3) What do you understand by Mergers and Acquisitions? What are various types of mergers? What are the issues in implementing 'merger strategy' successfully? Explain with the help of suitable examples. **[14]**

Q4) Explain Porter's five forces framework with the help of suitables examples.**[14]**

Q5) Ellaborate the role of Social Responsibility in today's corporate scenario.**[14]**

P.T.O.

Q6) a) Define strategy and strategic management. **[14]**

b) Explain the following terms :

i) Vision

ii) Mission

iii) Objectives

iv) Purpose and Goals

Q7) Write short Note (Any Two) : **[14]**

a) SWOT Analysis.

b) Mckinsey's 7s frame work

c) Core competencies

d) Synergy and Dysergy

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3897

[5075] - 49

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

BME - 5 : Elective : 415 : DECISION SUPPORT SYSTEM

(2008 Pattern)

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

Instructions to the candidates:

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

Q1) Define DSS integrated tools (generators) and discuss their objectives. **[10]**

Q2) Compare and contrast value chain and supply chain. Also give the Major problems that cloud develop along the supply chain. **[10]**

Q3) Review the major characteristics and capabilities of DSS. Compare an Individual DSS to a group DSS. **[10]**

Q4) Explain Traditional System Development life cycle and state alternative Development methodologies. **[10]**

Q5) Explain MSS in detail and Generic models of MSS. **[10]**

Q6) What is GIS. Explain its role in Banks or with any other real time. **[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) OLAP

f) Frontline DSS

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SEAT No. :

Total No. of Questions : 6] [Total No.of Pages : 2

P3898

[5075] - 50

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

BME - 6 : (Elective) : ENTERPRISE RESOURCE MANAGEMENT

(2008 Pattern)

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

Instructions to the candidates:

1) *Q.1& Q.6 are compulsory.*
2) *Solve any three questions from 2 to 5.*
3) *Figures to right indicate full marks.*

Q1) Write detailed report on following integration of various business modules by using ERP system. Also explain functional and technical modules & sub-modules any two. **[20]**

a) Purchase system.

b) Human resources management.

c) Inventory system.

Q2) a) Explain critical success factors for ERP implementation. **[5]**

b) Explain the factors to be considered while selecting ERP package. **[5]**

Q3) a) What is BPR ? Discuss the concept of BPR in brief. **[5]**

b) List and explain various factors for vendor selection. **[5]**

Q4) a) What is data warehousing? Explain various advantages of data warehousing. **[5]**

b) Explain the MIS & its applications. **[5]**

P.T.O.

Q5) a) What is SCM ? Discuss the modules of SCM . **[5]**

b) What is Gap Analysis ? Explain in brief. **[5]**

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

a) OLAP

b) Data Mining

c) DSS

d) ERP Market

e) ERP Training.

▽▽▽▽

SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3899

[5075] - 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 remaining.***
3) ***Assume suitable data whenever necessary.***
4) ***Figures at right hand indicates full marks.***

Q1) Answer any four : **[20]**

a) Explain synchronous Vs Asynchronous interaction styles.

b) Compare & Contrast Online help with offline help.

c) Explain individual window design, multiple window design from implementation point of view.

d) Explain any two specification methods in detail.

e) Give five benefits & problems of direct manipulation.

Q2) Explain 8 Golden rules of Interface design. **[10]**

Q3) Explain Advanced Filtering techniques, also describe the hypermedia & hypertest. **[10]**

Q4) Propose and discuss some ways the web may be made more accessible to the handicapped, either through browser design or web page design. **[10]**

Q5) Describe different types of menus & state the guidelines to design the menu. **[10]**

P.T.O.

Q6) What five methods might be used as Part of an expert review? Describe any 3 methods in detail. **[10]**

Q7) Write Short Notes (any 2) **[10]**

a) Information Visualization

b) Human factors in design.

c) Usability Testing.

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3900

[5075] - 52

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

IT 52 : SOFTWARE IT PROJECT MANAGEMENT

(2008 Pattern)

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

Instructions to the candidates:

1) ***Question nos. 1 and 7 are compulsory.***
2) ***Solve any four from remaining.***

Q1) a) Explain role of Project manager in IT Project management. **[8]**

b) Explain factors affecting team size & team organization. **[7]**

Q2) Explain various steps of managing the risk. **[10]**

Q3) Explain & differenciate between ISO & CMM. **[10]**

Q4) Explain project scheduling in detail. **[10]**

Q5) Explain & differenciate between Network diagram & Gantt chart. **[10]**

Q6) Explain need & procedure of configuration management. **[10]**

P.T.O.

Q7) Write short note on any three. **[15]**

a) Earned value analysis

b) Agile team

c) COCOMO

d) Project charter.

▽▽▽▽

SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3901

[5075] - 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) University of Pune wants to launch E-Learning Course on. Net and Networking for 4th Semester MCA students. The course duration will be one month. 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) Explain Embedded System. What are the various types of Embedded System? **[10]**

Q3) What is GIS? Explain any two Applications of GIS **[10]**

Q4) What is Knowledge Management? Explain various tools of Knowledge Management. **[10]**

Q5) What is E-Governance? Explain Maturity models of E-Governance. **[10]**

P.T.O.

Q6) Define Biometrics and what are the Advantages and disadvantages of Biometrics? **[10]**

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

a) BPR

b) ECS

c) Crop Management

d) Warehouse Management.

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3902

[5075] - 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) ***Question 1 and 7 are compulsory.***
2) ***Attwmpt any four form remaining.***

Q.1) a) Explain various steps of implementing digital signature. **[5]**

b) Explain architecture of SET protocol. **[5]**

Q.2) Write JSP code to accept student information for seminar enrollment. Store information in database. [use suitable table structure]. **[10]**

Q.3) Write a Perl program to accept two file names. Read alternate lines from both files and copy them in third file. **[10]**

Q4) a) Write Servlet that counts number of times a client has accessed web page. **[5]**

b) Explain usebean standard Action is JSP. **[5]**

Q.5) Explain Servlet life cycle with suitable diagram. **[10]**

P.T.O.

Q6) Write PHP code to accept department name from user and display employee details working in that department and having salary more than Rs. 10,000/-. [Assume employee table and Department table.] **[10]**

Q7) Write Short note on any four **[20]**

a) Cookies in PHP.

b) Default objects in JSP

c) Pattern matching in Perl

d) Transaction through e- cash

e) CGI architecture.

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3903

[5075] - 55

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

IT - E1 : CYBER LAW AND IT SECURITY (Elective)

(2008 Pattern)

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

Instructions to the candidates:

1) ***Question 1 and Question 7 are compulsory.***
2) ***Solve any three from the remaining questions.***

Q.1) a) Explain object and scope of the IT Act **[10]**

b) Explain the encryption techniques. **[10]**

Q.2) What is the power of adjudicating officer to award compensation? **[10]**

Q.3) Explain establishment and composition of appellate tribunal. **[10]**

Q4) Explain need of certifying authorities and its power. **[10]**

Q.5) Explain the concept of domain name with reference to cyber law. **[10]**

Q.6) Differentiate between symmetric and asymmetric cryptography. **[10]**

P.T.O.

Q7) Write Short notes on (Any Four) **[20]**

a) Types of certificate

b) Digital signature

c) Spamming

d) Hacking with computer system

e) IT Act 2000

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3904

[5075] - 56

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

ITE - 2 Elective : PROGRAMMING LANGUAGES PARADIGMS

(2008 Pattern)

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

Instructions to the candidates:

1) ***Q.7 is compulsory.***
2) ***Solve any FOUR from remaining.***

Q1) Explain the role of compiler, interpreter and assembler. **[14]**

Q2) Explain General syntactic criteria. **[14]**

Q3) Explain different paradigms of programming languages. **[14]**

Q4) Explain Heap Storage management. **[14]**

Q5) Explain the main features of C++ programming Language. **[14]**

Q6) Explain the synthesis of object program with suitable diagram. **[14]**

P.T.O.

Q7) Write Short note on (Any Two) **[14]**

a) Recursive function call

b) Composite Data Type.

c) Type checking and Type Conversion

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SEAT No. :

Total No. of Questions : 7] [Total No.of Pages : 2

P3905

[5075] - 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(one) and 7 (seven) are compulsory.***
2) ***Solve any 4 from remaining.***
3) ***Draw suitable diagrams wherever necessary.***

Q1) Explain the following System calls/functions with examples and syntax (Any FIVE) : **[5×2=10]**

a) alarm ( )

b) dup2 ( )

c) fcntl ( )

d) abort ( )

e) exec ( )

f) ulink ( )

Q2) Explain the File I/O related system calls in detail with appropriate examples of each. **[10]**

Q3) What are Environment Variables? Explain the following system calls used to access and manipulate them with example. **[10]**

Q4) What is Inter-Process Communication? What are the various ways to achieve lnter-Process Communication in UNIX? **[4 + 6 = 10]**

P.T.O.

Q5) What is a semaphore? Describe system calls related to semaphores. How can you create a semaphore? **[2+8=10]**

Q6) Describe the ways and system calls used to terminate a process. **[10]**

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

a) wait ( ) Vs. waitpid ( )

b) Race Condition

c) Orphan Process

d) malloc ( )

e) Buffering in UNIX

f) Symbolic links

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Total No. of Questions : 7]

SEAT No. :

P3906

[Total No. of Pages : 1

[5075]-58

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

ITE - 1 : MOBILE WIRELESS COMPUTING (Elective)

(2008 Pattern)

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

Instructions to the candidates :

1) ***Q.1 and Q.7 are compulsory.***
2) ***Attempt any THREE from remaining.***

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

i) BSC ii) SIM
iii) BSS iv) WTP
v) IMEI vi) GPRS

b) Explain functions of WAP Gateway. **[10]**

Q2) Explain case-of-address mechanism used in Mobile IP. **[10]**

Q3) Explain indirect TCP and its advantages. **[10]**

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

Q5) State advantages and disadvantages of Wireless Networks. **[10]**

Q6) Explain problems faced in 802.11 MAC Design. **[10]**

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

a) Bluetooth
b) Location Management
c) AdHoc Networks
d) RTS-CTS
e) HYPER LAN
f) Push-Pull Protocol

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Total No. of Questions : 7]

SEAT No. :

P3907

[Total No. of Pages : 1

[5075]-59
M.C.A. (Management Faculty) (Semester - V)
IT - E - 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) ***Draw suitable diagram when needed.***
3) ***Give suitable examples if required.***
4) ***Figures to the right indicate full marks.***

Q1) Explain the architecture of DDBMS in detail. **[10]**

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

Q3) Explain how data is recovered in case of node and link failure. **[10]**

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

Q5) Explain Reliability issues in DDBs **[10]**

Q6) Explain client-server reference architecture in detail. **[10]**

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

a) Cold Restart
b) Query Decomposition
c) Transaction Management
d) Distributed Object Management
e) Directory Systems

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