

Total No. of Questions : 7]

SEAT No. :

P3840

[4875]-11

[Total No. of Pages : 1

M.C.A. (Mgmt. Faculty)

IT11 : COMPUTER ORGANIZATION & ARCHITECTURE (101)

(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 the remaining.*
- 3) *Draw neat diagrams whenever necessary.*

Q1) a) Compare 80286 with 80486 processor architecture with neat diagram. **[10]**
b) Explain parallel processing in detail. **[5]**

Q2) Convert the following: **[5 × 2 = 10]**

- a) $(101110)_2 = (?)_8$
- b) $(952)_{10} = (?)_8$
- c) $(11010011)_2 = (?)_{16}$
- d) $(ABC)_{16} = (?)_2$
- e) $(127.54)_8 = (?)_{10}$

Q3) What is Demultiplexer? Explain D latch working in detail. **[4 + 6 = 10]**

Q4) Explain processor bus characteristics in detail. **[10]**

Q5) Explain: **[10]**

- a) Full adder
- b) Interrupts

Q6) Explain DMA working in detail with neat diagram. **[10]**

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

- a) Software types.
- b) Parallel processing.
- c) Pipelining Hazards.
- d) Cache Memory.



Total No. of Questions : 7]

SEAT No. :

P3841

[4875]-12

[Total No. of Pages : 3

M.C.A. (Mgt. Faculty)

IT - 12 - 102 : C- PROGRAMMING

(2008 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question one is compulsory.*
- 2) *Solve any five questions from 2 to 7.*
- 3) *Assume suitable data whenever necessary.*
- 4) *Figure write hand indicates full marks.*
- 5) *Answer all parts of a question at one place.*
- 6) *Answer each part concisely.*

Q1) Explain and find output of the following programs.

[20]

- a) `#include<stdio.h>`
`int main(){`
`int a[3] [4] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12};`
`printf("%u, %u, %u\n", a[0]+1, *(a[0]+1), (*(a+0)+1));`
`return 0;`
`}`
- b) `#include>stdio.h>`
`int main(){`
`int arr[3] = {2, 3, 4};`
`char *p;`
`p = arr;`
`p = (char*)((int*)(p));`
`printf("%d, ", *p);`
`p = (int*)(p+1);`
`printf("%d", *p);`
`return 0;`
`}`

P.T.O.

c) `#include<stdio.h>`

```
int main(){
    char *str;
    str = "%d\n";
    str++;
    str++;
    printf(str-2, 300);
    return 0;
}
```

d) `#include<stdio.h>`

```
int main(){
    char str[] = "peace";
    char *s = str;
    printf("%s\n", s++ +3);
    return 0;
}
```

e) `#include<stdio.h>`

```
int main(){
    int arr[] = {12, 13, 14, 15, 16};
    printf("%d, %d, %d\n", sizeof(arr), sizeof(*arr), sizeof(arr[0]));
    return 0;
}
```

Q2) a) Write a recursive function to determine if an input number is Prime or not. To test your function also writes main function. **[5]**

b) Write a C program to find out the sum of series $n! - (n-1)! - \dots - 2! - 1!$. **[5]**

Q3) a) Write a C program to display minor diagonal elements of matrix. **[5]**

- b) Write a program to generate a following numbers triangle : (Where user entered number through keyboard, for example if num=5) [5]

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

- Q4)** Write a C program to copy alternate word from one file to another file. [10]

- Q5)** Write a C program to create employee structure having field EmpId, name, Basic Salary, House Rent Allowance, Dearness Allowance, Medical Allowance, Provident Fund, Insurance, Gross Salary, and Net Salary. Accept n records from user and calculate the gross salary and net salary and display all employees. (Note consider HRA, DA & MA in percent. Provident fund and Insurance must be consider in deduction). [10]

- Q6) a)** Write a graphics program display concentric triangles. [5]

- b) Write a C program which prints initial of any name. (e.g. Enter Name: Robert De Niro output is RDN). [5]

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

- Difference between structure and union.
- Function Pointers in C.
- Bit field operator.



Total No. of Questions : 6]

SEAT No. :

P3842

[4875]-13

[Total No. of Pages : 1

M.C.A.(Management Faculty)
BM-11-103:PRINCIPLES AND PRACTICES OF MANAGEMENT
AND ORGANIZATIONAL BEHAVIOR
(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 the remaining.*
- 3) *Figures to the right indicate full marks.*

- Q1)** a) What is management ? How management can be looked upon as science as well as Art ? **[15]**
b) An effective manager needs to be an effective leader as well !! Do you agree ? Discuss with reference to the Qualities of successful leader.**[10]**
- Q2)** What is delegation of authority ? what are the advantages and disadvantages of delegation ? **[15]**
- Q3)** “Making right decision at right time is most significant for organizational effectiveness”: discuss. **[15]**
- Q4)** What is motivation. discuss the importance of motivation for the success of organization. Discuss the contribution of Mc Gregor in the motivational theory. **[15]**
- Q5)** What is the contribution of theory of scientific management to the growth of industrialization in the world. where did this theory fail to attract the modern management thinkers ? **[15]**
- Q6)** Short Notes (Any Three) **[15]**
a) Transactional analysis.
b) Span of control.
c) Tall and flat organization.
d) Line and staff organization.
e) Centralisation Vs De centralization.

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Total No. of Questions : 7]

SEAT No. :

P3843

[4875]-14

[Total No. of Pages : 2

M.C.A. (Management Faculty)

IT - 13 : OPERATING SYSTEM CONCEPTS (104)

(2008 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question 1 & 7 are compulsory.*
- 2) *Answer any Four questions from remaining (Q.2-Q.6).*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*

Q1) What is distributed operating system? Write advantages and disadvantages of DOS. **[10]**

Q2) Explain preemptive and non-preemptive scheduling. Explain in detail example of each type of Scheduling. **[10]**

Q3) a) What is system call? Give different system calls in operating system. **[5]**
b) What is deadlock? Explain the necessary and sufficient conditions for the deadlock. **[5]**

Q4) Consider the following snapshot of system has 5 processes A through E and four resources type R1 through R4. Total available resources are (R1, R2, R3, R4) = (6, 3, 4, 2).

Process	Allocation				Max			
	R1	R2	R3	R4	R1	R2	R3	R4
A	3	0	1	1	4	1	1	1
B	0	1	0	0	0	2	1	2
C	1	1	1	0	4	2	1	0
D	1	1	0	1	1	1	1	1
E	0	0	0	0	2	1	1	0

Answer the following question using banker's algorithm

- a) What are the contents of matrix need. **[5]**
- b) Is the system in an safe states. **[5]**

P.T.O.

- Q5)** a) Explain the concept of virtual memory.
b) Consider the following segment table.

Segment	Base	Length
0	363	500
1	1272	20
2	1675	1500
3	986	240
4	211	130

What are the physical addresses for the following logical addresses?

- i) (0,425) ii) (2,500) iii) (1,150) iv) (3,285)
v) (4,125) [10]

Q6) Explain the different directory structures and their implementations. [10]

Q7) Write short notes on (any two): [20]

- a) Demand Paging.
- b) Thrashing.
- c) Process operations.
- d) Communication in client-server.
- e) Interrupts.



Total No. of Questions : 04]

SEAT No. :

P3844

[4875] -15

[Total No. of Pages : 2

M.C.A.(Management Faculty)
MT-11-106: DISCRETE MATHEMATICS
(2008 Pattern) (Semester-I)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No. 1 is compulsory.*
- 2) *Attempt any two questions from Q. No. 2,3 and 4.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Use of Scientific Calculator is allowed.*

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

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

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

d) Prove that: $(\exists x)(P(x) \wedge Q(x)) \Rightarrow (\exists x)P(x) \wedge (\exists x)Q(x)$ **[5]**

e) Define one-to-one, onto, Into, functions with example. **[5]**

f) 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 $a * b = \min(a, b)$

Q2) a) Show that the following set of premises is inconsistent. **[5]**

$$P \rightarrow Q, P \rightarrow R, Q \rightarrow \neg R, P$$

b) Use Warshall's algorithm to find the transitive closure of the relation **[7]**

$$R = \{ \langle 1,1 \rangle, \langle 2,1 \rangle, \langle 2,3 \rangle, \langle 3,4 \rangle, \langle 3,5 \rangle, \langle 4,1 \rangle, \langle 5,2 \rangle, \}$$

on $A = \{1,2,3,4,5\}$

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

ii) Let $A = \{1,2,3,4,5,6\}$ such that $f = \{(1,2), (2,3), (2,4), (3,4), (5,4)\}$
 $g = \{(2,5), (3,1), (4,6), (6,5)\}$. **[4]**

Then find i) fog ii) gof iii) go(fog)

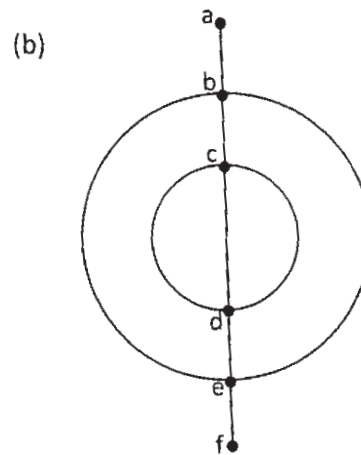
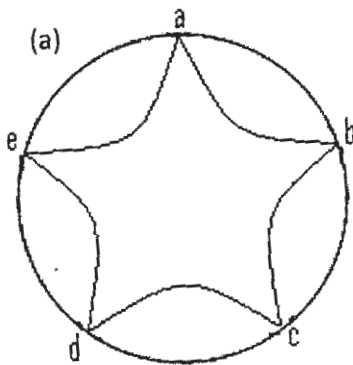
P.T.O.

- Q3) a)** Show that: $(\exists x)M(x)$ logically follows from the premises $(x)(H(x) \rightarrow M(x))$ and $(\exists x)H(x)$ [5]
- b) Write the code words generated by H, where [7]

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

What is the minimum weight of the non zero code word in above code words?

- c) i) Count the number of vertices, number of edges and number of region of each of the following planar graphs: [4]



- ii) Show that the set of integers, positive, negative and zero is denumerable. [4]

- Q4) a)** Let $A = \{1, 2, 3, 4, 5, 6, 7\}$ and $R = \{ \langle x, y \rangle \mid x - y \text{ is divisible by } 3 \}$. Show that R is an equivalence relation. Draw the graph of R. [5]
- b) Obtain the PCNF of $(\sim P \rightarrow R) \wedge (P \Leftrightarrow Q)$ [7]
- c) i) Define Monoid, Group, Permutation Group. [4]
- ii) Show that the maximum number edges in a simple graph with n vertices is $n(n-1)/2$ [4]



Total No. of Questions : 8]

SEAT No. :

P3845

[4875]-21

[Total No. of Pages : 2

M.C.A. (Management)

IT - 21 - 201 : DATA STRUCTURES USING “C”

(2008 Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No. 1 and 8 are compulsory.*
- 2) *Solve any four from Q.2 to Q.7.*
- 3) *Figures to right indicate full marks.*
- 4) *Assume suitable data wherever necessary.*
- 5) *Draw suitable diagrams wherever necessary.*

Q1) a) Convert the following infix expression to postfix. Show the contents of stack at each step in tabular form. **[10]**

$((A + B) / C) * (D + (E - F) / 9).$

b) Write a C code for linked list implementation of stack with PUSH, POP and DISPLAY functions. **[10]**

Q2) Write a program for addition of two polynomial expressions using array. **[10]**

Q3) Construct AVL Tree with the following PASCAL, FORTRAN, C, COBOL, BASIC, PROLOG. **[10]**

Q4) Write code for the following: **[10]**

- a) Function for the Inorder Traversal of a Binary Search Tree of Integers.
- b) Function for the preorder Traversal of a Binary search Tree of Integers.

Q5) Evaluate the following prefix form: **[10]**

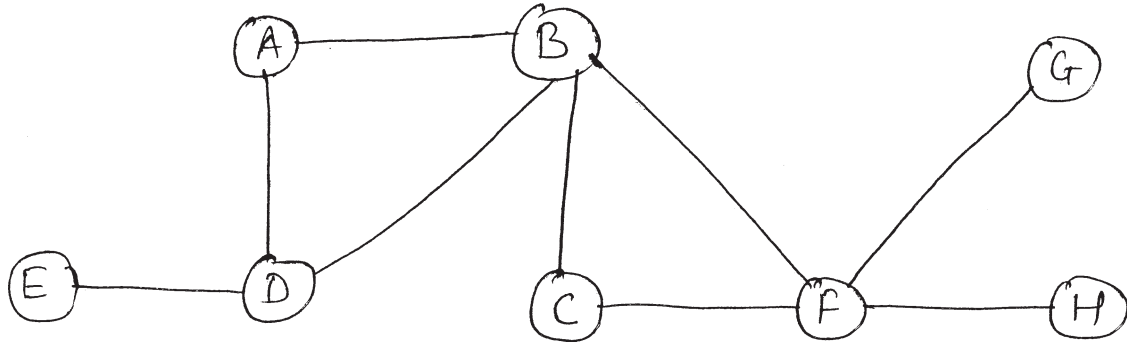
$- / * A + B C D G$

Where $A = 2, B = 1, C = 3, D = 3, G = 1.$

P.T.O.

Q6) Write an algorithm and program to insert and delete an element from a Queue. **[10]**

Q7) Generate BFS, DFS for node A adjacency matrix adjacency list for following graph. **[10]**



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

- a) Sparse Matrix.
- b) Expression Tree.
- c) DEQUEUE.



Total No. of Questions :7]

SEAT No. :

P3846

[4875]-22

[Total No. of Pages : 2

M.C.A. (Management Faculty)

IT-22:202:DATABASE MANAGEMENT SYSTEM

(2008Pattern) (Semester - II)

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Question No.1 is compulsory.*
- 2) *Solve any five questions from remaining.*
- 3) *State assumptions wherever necessary.*

Q1) Indian venue management company is going to develop their new online booking system for entertainment events such as social gathering and concerts. The process of the system involves events based on customers enquiry for the name of the event type of event, venue and date of the event. The event details providing information about the availability of tickets and price according to the category. Booking of the tickets for the event can be done online or offline. The administrator provides the venue list, rates and availability of venue to the customers for the event registration. Administrator can add a new venue. Customer can cancel the venue, based on the cancellation of the venue the charges will be deducted.

Normalize the case upto 3NF and draw an E R diagram for the same. **[20]**

Q2) What are constraints? Explain different types of constraints with proper examples. **[10]**

Q3) Differentiate between NDM and HDM. **[10]**

Q4) Explain with proper examples views and queries in SQL. **[10]**

Q5) What is the need for DBMS? Give its characteristics. **[10]**

P.T.O.

Q6) Explain the different locking techniques in detail.

[10]

Q7) Write short notes on (any two)

[10]

- a) Data base Recovery.
- b) Knowledge based Systems.
- c) Data models.
- d) Generalization and aggregation.

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Total No. of Questions :6]

SEAT No. :

P3847

[4875]-23

[Total No. of Pages :2

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

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

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

Q1) A Library Management System (LMS) needs to be developed to manage library efficiently. The main objective of the LMS is to provide timely information to the users (members). The system should keep track of the following. **[20]**

- a) Issuing / returning of books,
- b) Purchase and recording of the books in accession register,
- c) Collection of late return fine. As a consultant prepare SRS for the above system.

Q2) Draw a suitable data entry screen to enter daily attendance of MCA class for different subjects with proper GUI based validation controls. **[10]**

Q3) Compare agile process with the conventional one. **[10]**

Q4) The purchase order system functions as follows: Purchase department receives the requisition from stores department. It makes the enquiries to various suppliers and receives quotation from them. After scrutinizing all the quotations, the purchase order (PO) is generated against the best quotation. The PO is sent to the supplier, who sends the invoice along with the material. Draw ER diagram. **[10]**

P.T.O.

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

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

- a) Decision Tree.
- b) Physical and logical DFD.
- c) Software maintenance.
- d) Reverse Engineering.
- e) Case Tools.

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Total No. of Questions : 8]

SEAT No :

P3848

[4875]-24

[Total No. of Pages : 2

M.C.A.

(Management Faculty)

BM-21:204: SOFT SKILLS

(2008 Pattern) (Semester -II)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q. 1 and Q. 8 are compulsory.*
- 2) *Solve any 4 questions from Q. 2 to Q. 7*
- 3) *Figures to the right indicate full marks.*

Q1) Define communication. Explain any four principles of communication. **[15]**

Q2) What are the steps a report writer should identify to write an effective report?
[10]

Q3) Define kinesics. How does kinesics help in comprehension of a message?
[10]

Q4) Explain Do's and Don'ts of Group Discussion in detail. **[10]**

Q5) "Listen to what is meant and what is said". Discuss. **[10]**

Q6) You are Mr. Rahul Sharma, collection manager at ABC Ltd., Lucknow, Write a complaint letter to your client, Mr. Javeri of xyz ltd. Delhi, for paying you a sum of Rs. 1,12,500/- you have already sent him two reminders. This is the final letter. **[10]**

P.T.O.

Q7) What is the importance of job application? Discuss the qualities of a well drafted written application. **[10]**

Q8) Write short notes (any three): **[15]**

- a) Agenda.
- b) Tele-conferencing.
- c) Time management.
- d) Presentation Techniques.
- e) Business Ethics.



Total No. of Questions : 6]

SEAT No. :

P3849

[4875] -25

[Total No. of Pages : 3

M.C.A. (Management Faculty)
MT-21:205: PROBABILITY & COMBINATORICS
(2008 Pattern) (Semester-II)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No. 1 & 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 generalized Inclusion and Exclusion and derive formula derangement. **[5]**

b) How many words, with or without meaning, can be formed out of the letters of the word 'CORRESPONDENCE'? How many if two R's should be together? **[5]**

c) How many integers between 1 to 1000 (both inclusive) are divisible by either 3 or 5 or 7? **[5]**

d) Find homogeneous solution of the following Recurrence relation: **[5]**

$$a_n - 9a_{n-1} + 20a_{n-2} = 2 \cdot (5)^n \quad \text{where } a_0 = 1 \text{ and } a_1 = 4$$

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

i)
$$\binom{n}{r} = \binom{n}{n-r}$$

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

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

$$x_1 + x_2 + x_3 = 35 \quad x_1, x_2, x_3 \leq 21$$

P.T.O.

- Q3) a)** Determine the Discrete Numeric Function corresponding to generating function. **[8]**

$$\frac{2+3z-6z^2}{1-2z}$$

- b) State multinomial theorem and hence find the coefficient of $x^2y^4z^8$ in the expansion of $(2x^2-y-3z^2)^9$. 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.
- v) Discrete Random Variable.

- 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 i) probability distribution of X ii) 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	5	6
0	0	0	1/32	2/32	2/32	3/32
1	1/16	1/16	1/8	1/8	1/8	1/8
2	1/32	1/32	1/64	1/64	0	1/32

Find i) Marginal distributions of X and Y,

ii) $P(X \leq 1, Y=2)$ iii) $P(X \leq 1)$ iv) $P(Y \leq 3)$

- d) State and prove memory-less property for geometric distribution. **[5]**

Q5) a) Find MGF of Uniform 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]

$$f(x) = \begin{cases} \frac{100}{x^2}, & \text{for } x \geq 100 \\ 0, & \text{otherwise} \end{cases}$$

What is the probability that all of three such tubes in a given radio set will have to be replaced during the first 150 hours of operation.

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

$$f(x,y) = \begin{cases} 6x^2y, & 0 < x < 1, 0 < y < 1 \\ 0, & \text{elsewhere} \end{cases}$$

Find $p(0 < x < 3/4, 1/3 < y < 2)$, $P(x > y)$ and $P(x < 1 \mid y < 2)$

b) Wages of workers in a factory are normally distributed with average wage Rs. 4000/- and standard deviation 400. Find the highest wage of lowest paid 10% workers and lowest wage of highest paid 15% workers. [7]

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Total No. of Questions : 8]

SEAT No. :

P3850

[4875]-31

[Total No. of Pages : 2

M.C.A. - II (Management faculty)
IT -31- 301 : WEB TECHNOLOGIES
(2008Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q.1 and Q.8 are compulsory.*
- 2) *Solve any 5 from remaining.*

Q1) What is Global.asa? Explain with example? **[10]**

Q2) Explain Client and Server side image mapping with example. **[10]**

Q3) Explain the following CSS properties with example. **[10]**

- i) Font
- ii) Border
- iii) List
- iv) Margin
- v) Text

Q4) Write ASP application to accept student details through Student Registration Form.(Assume suitable table structure.) **[10]**

Q5) Explain Document Object Model in Java Script with Diagram and Examples. **[10]**

Q6) Write VB Script code for designing and validating Email account registration form. Validate any five fields.(Assume suitable registration form structure.) **[10]**

P.T.O.

Q7) Explain DTD with example.

[10]

Q8) Write short notes on (any two):

[10]

- a) String Object in Java Script.
- b) Request Object in ASP.
- c) Error Handling in VBScript.



Total No. of Questions : 7]

SEAT No :

P3851

[4875]-32

[Total No. of Pages : 2

M.C.A. (Management Faculty)

IT - 32: DATA COMMUNICATION AND COMPUTER NETWORKS (302)

(2008 Pattern) (Semester-III)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q.1 and Q.7 are compulsory.*
- 2) *Attempt any Three from remaining.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*

Q1) a) Justify with True or False (not more than 60 words). [10]

- i) X.25 standard covers five layers of OSI model.
- ii) End-to-end connectivity is provided by Session Layer of OSI model.
- iii) A protocol used to bind IP address to a low-level physical Hardware address is ARP.
- iv) The address allocation schemes used by DHCP are- Manual, Automatic and Dynamic.
- v) Firewall operates in two filtering modes: Deny all but explicit or Pass all but explicit.

b) What are the different HTTP Response message status codes? Give the description of each. [10]

Q2) Define the subnet mask to be used in Class-B addressing to support 30 subnets and also find the most hosts possible in each subnet. [10]

Q3) Explain with example the functions of SMTP and POP. What are the advantages of IMAP? [10]

P.T.O.

Q4) What is MIME? Explain its purpose and format in detail. **[10]**

Q5) What is Security? Explain different types of Security Threats. **[10]**

Q6) Define Topology. Explain operation of BUS, RING and STAR topologies with their advantages and disadvantages. **[10]**

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

- a) VPN.
- b) SNMP.
- c) Proxy Server.
- d) DHCP.
- e) Wireless LAN.
- f) ISDN.



Total No. of Questions : 6]

SEAT No. :

P3852

[4875]-33

[Total No. of Pages : 3

M.C.A. (Management Faculty)

**IT - 33 - 303 : OBJECT ORIENTED PROGRAMMING Using C++
(2008 Pattern) (Semester - III)**

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q1 is compulsory.*
- 2) *Solve any four from remaining.*

Q1) Find output for the following.

[10]

- a)

```
# include <iostream.h>
void main ( )
{
    int a = 10;
    while(1)
    {
        switch (a)
        {
            case 10: cout<<a++;
            case 11:cout<<a--;
            case 12:cout<<a++;
        }
    }
}
```
- b)

```
Class base {
public;
int bval;
base ( ) {bval = 0;}
};
Class deri: public base{
    public:
    int dval;
    deri ( ) {dval = 1;}
};
void SomeFunc (base *arr, int size){
    for (int i = 0;i < size; i++, arr++)
        cout<< arr →bval;
    cout<< endl;
}
```

P.T.O.

```

void main () {
    base BaseArr [5];
    SomeFunc (BaseArr, 5);
    deri DeriArr [5];
    SomeFunc (DeriArr, 5);
}

```

c) Class base{

```

public:
void baseFun() {
cout<< "from base" <<endl;
}
};
class deri : public base {
public:
void baseFun () {
cout<< "from derived" <<endl;
}
};
void SomeFunc (base * baseObj) {
baseObj → baseFun ();
}
void main () {
base baseObject;
SomeFunc (& baseObject);
deri deriObject;
SomeFunc( & deriObject);
}

```

d) Class Sample

```

{
public:
int * ptr ;
Sample ( int i) {
ptr = new int (i);
}
~Sample () {
delete ptr;
}
void PrintVal () {
cout<< "The value is" << * ptr;
}
}

```

```

};
void SomeFunc (Sample x) {
    cout << "Say iam in SomeFunc" <<endl;
}
int main () {
    Sample S1 = 10;
    SomeFunc (S1);
    S1. PrintVal ();
}

```

- Q2)** a) Write a function template to calculate perimeter and area of rectangle. [8]
b) Write short note on inheritance with one example depicting inheritance. [7]
- Q3)** a) Write a program to check if the number is a perfect number. [7]
b) Write about operator overloading and write a program to overload '+' and '*' operators. [8]
- Q4)** a) Explain with example why virtual Base class is required. [7]
b) Explain any five manipulators with suitable example. [8]
- Q5)** a) Write a program to accept a string and throw "All Vowels Exception" if the string contains all vowels. [10]
b) Write short note on RTTI. [5]
- Q6)** a) Define Inheritance. Explain types of inheritance with examples of each type. [7]
b) Define logical error, run-time error & syntax error with an example. [8]

ζ ζ ζ

Total No. of Questions :7]

SEAT No. :

P3853

[4875]-34

[Total No. of Pages :1

M.C.A. (Management Faculty)

IT-34-304: ADVANCED DATABASE MANAGEMENT SYSTEM

(2008 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Q.No. 7 is compulsory.*
- 2) *Solve any five questions from 1 to 6.*
- 3) *Figures to the right indicate full marks.*

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

Q2) Compare RDBMS, OODBMS and ORDBMS. **[10]**

Q3) Explain Concurrency control & recovery in distributed databases. **[10]**

Q4) Explain Operation on cube? Explain Dimensional data Modeling. **[10]**

Q5) Explain Bayesian Classification. **[10]**

Q6) What is XML? Explain various features of XML also explain the difference between XML & HTML? **[10]**

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

- a) Web Architecture.
- b) Data preprocessing.
- c) KBS.
- d) SOAP.
- e) Multimedia databases.

EEE

Total No. of Questions : 7]

SEAT No :

P3854

[4875] - 35

[Total No. of Pages : 1

M.C.A. (Management Faculty)

(305) BM - 31: MANAGEMENT SUPPORT SYSTEM AND IS SECURITY

(2008 Pattern) (Semester -III)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q. No. 1 and 7 are compulsory.*
- 2) *Attempt any four from Q. No.2 to Q. No.6.*
- 3) *Figures to the right indicate full marks.*

- Q1)** Define the role of feedback control in the management group Decision making process with dynamic approach. **[10]**
- Q2)** Explain in detail the structure of MIS based on management activities and Functions. **[10]**
- Q3)** Explain characteristics and limitations of human information processing performance. **[10]**
- Q4)** Explain the information requirement for Functional area with respect to production management. **[10]**
- Q5)** Define operation research and explain various operation research techniques. **[10]**
- Q6)** Define expert system. Differentiate conventional and expert system. **[10]**
- Q7)** Write short Note on (Any Four): **[4×5=20]**
- a) Control by exception.
 - b) Value of information.
 - c) Static Vs. Dynamic model.
 - d) Types of information.
 - e) Simulation Technique.
 - f) Control Audit of information security.



Total No. of Questions : 8]

SEAT No. :

P3855

[4875]-41

[Total No. of Pages : 1

M.C.A. (Management Faculty)
IT - 41 - 401 : JAVA PROGRAMMING
(2008 Pattern) (Semester - IV)

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.*

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

- a) Explain dynamic dispatch method.
- b) What is finally keyword?
- c) What is runtime polymorphism?
- d) Explain Final class.
- e) What is Inet Address Class?

Q2) Write a JDBC program to apply for passport registration. (assume suitable data). **[10]**

Q3) Write client-server socket echo client's request program. **[10]**

Q4) Write an applet to display scrolling image in an applet window. **[10]**

Q5) Explain Moucelistener and MouseMotionListener with suitable example. **[10]**

Q6) Write a program to merge two files into third file. Accept file names using command line argument. **[10]**

Q7) What is Remote Procedure call? Explain with example. **[10]**

Q8) Short Notes (any two): **[10]**

- a) MVC architecture.
- b) Interface.
- c) JDBC drivers.



Total No. of Questions :6]

SEAT No. :

P3856

[4875]-42

[Total No. of Pages : 1

M.C. A. (Mgt. Faculty)

**IT-42-402:SOFTWARE TESTING AND QUALITY ASSURANCE
(2008 Pattern) (Semester - IV)**

Time :3 Hours]

[Max. Marks :70

Instructions to students:

- 1) *Question No.1 and Q.6 are compulsory.*
- 2) *Attempt any 3 from the remaining.*
- 3) *State assumptions if any.*
- 4) *Draw neat labeled diagrams where necessary.*
- 5) *Figures to the right indicate marks.*

Q1) Write a detailed test plan for web based Air line reservation system. Your plan should cover scope of testing, risks and contingencies, strategies and schedule. Write test cases for login screen, ticket availability screen, ticket booking and cancellation screen, source and destination fields. **[20]**

Q2) What do you mean by functional and nonfunctional testing? Explain non functional testing attributes in detail. **[10]**

Q3) Calculate cyclometric complexity & design test cases for printing the addition of prime numbers between 1 to 50. **[10]**

Q4) Write a brief note on CMM. **[10]**

Q5) What is the need of process improvement & how it can be achieved? **[10]**

Q6) Write Short notes on (Any four) **[20]**

- a) Reliability Models.
- b) SQA process.
- c) Equivalence partitioning.
- d) Domain Testing.
- e) Inspection.

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Total No. of Questions :7]

SEAT No. :

P3857

[4875]-43

[Total No. of Pages :2

M.C.A. (Management Faculty)

IT-43 : OBJECT ORIENTED ANALYSIS AND DESIGN

(2008 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Question 1 is compulsory.*
- 2) *Solve any 5 questions from remaining.*
- 3) *Mention the assumptions made for solving case study.*

Q1) A food order management system is to be developed for seasons hotel, which should include the following.

- Categories of Food eg; Indian, Chinese etc.
 - Placing order - Selection of menu items, quantity as per the detail available.
 - Placed order will be monitored, and confirmed by hotel management.
 - Payment will be accepted either through creditcard or in cash at the time of delivery.
- a) Draw the Use case diagram. **[10]**
 - b) Draw the class diagram. **[10]**

Q2) Write the points of difference for OOAD and SSAD. **[10]**

Q3) Three phase induction motors will either spin clockwise or counter -clockwise, depending on the connection of the power lines. In applications requiring motor operation in both directions, two separate contactors (power relays) might be used to make the connections, one for each direction. Also, in some applications of large motors, the motor starts through a transformer that reduces the impact on the power supply. The transformer is bypassed by a third contactor after the motor has been given enough time to come up to speed. There are three momentary control inputs requests for forward, reverse or off. When the motor is off, forward or reverse request cause the motor to start up and run in the requested direction. A reverse request is ignored if the motor is starting or running in the forward direction and vice versa. An off request at any time shuts the motor off. Draw state transition diagram. **[10]**

P.T.O.

Q4) Explain the OMT in detail. **[10]**

Q5) a) Draw sequence diagram for doing registration to attend android workshop at ABC technologies. **[5]**

b) Lifeline group of hospitals has arranged free diabetic checkup. Draw an activity diagram for the same. **[5]**

Q6) What is the purpose of class identification approach? Explain any two approaches with proper example. **[10]**

Q7) Write shorts notes on (any 4): **[2.5 x 4 =10]**

a) OOSE.

b) Component diagram.

c) Design Refinement.

d) OODBMS.

e) Testing strategies.

f) Reusability.

EEE

Total No. of Questions : 4]

SEAT No. :

P3858

[4875]-44

[Total No. of Pages : 4

M.C.A. (Management Faculty)
MT - 41-405 : OPTIMIZATION TECHNIQUES
(2008 Pattern) (Semester - IV)

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) The following table shows the jobs of a network along with their time estimates. **[9]**

Activity	Immediate Predecessor	Time (days)		
		Optimistic	Most Likely	Pessimistic
A	-	4	6	8
B	A	5	7	15
C	A	4	8	12
D	B	15	20	25
E	B	10	18	26
F	C	8	9	16
G	E	4	8	12
H	D, F	1	2	3
I	G, H	6	7	8

- i) Draw the network diagram.
 - ii) Find the expected duration and variance for each activity. What is the expected project length and variance of the project?
 - iii) Find the probability that the project is completed in 44 days.
- b) Solve the following Integer Programming Problem: **[9]**

$$\text{Max } Z = x_1 + x_2$$

$$\text{Subject to } 2x_1 + 5x_2 \leq 10$$

$$5x_1 + 8x_2 \leq 40$$

$$x_1, x_2 \geq 0$$

P.T.O.

- c) In a bakery, the customers are handled by single person. 5 customers arrive per hour. He takes 3 minutes to handle a customer. [6]

Find:

- i) The probability that there are no customers.
 ii) Expected number of customers waiting in the bakery for their turn.
 iii) The average time spent by the customer in the bakery.
 d) Solve the problem of job assignments to minimize the cost: [6]

		Job				
		J ₁	J ₂	J ₃	J ₄	J ₅
Machines	M ₁	7	5	9	8	11
	M ₂	9	12	7	11	10
	M ₃	8	5	4	6	9
	M ₄	7	3	6	9	5
	M ₅	4	6	7	5	11

- Q2) a) Solve the following Transportation Problem: [9]

		Destinations				Supply
		D ₁	D ₂	D ₃	D ₄	
Origins	O ₁	6	1	9	3	22
	O ₂	11	5	2	8	15
	O ₃	10	12	4	7	8
Demand		7	12	17	9	

- b) The following mortality rates have been observed for a certain type of resistors in an electronic device. [6]

Week:	1	2	3	4	5	6
Probability of Failure	0.04	0.06	0.25	0.30	0.15	0.20

There are 500 such resistors in use and it costs 80 paise to replace an individual resistor which has failed. If all the resistors were replaced simultaneously it would cost 50 paise per resistor. What policy the maintenance manager should follow between individual replacement policy and group replacement policy, if group policy is adopted, at what interval of time he should replace all resistors.

c) Draw the network diagram for the following data: [5]

Activities	A	B	C	D	E	F	G	H	I	J	K
Immediate predecessor	-	-	A	A	B, C	B,C	F	F	A	E, G	H, I, J

Q3) a) Solve the following LPP by Big M method: [9]

$$\text{Max : } Z = 10x_1 + 12x_2$$

Subject to:

$$x_1 + x_2 = 5$$

$$x_1 \geq 2$$

$$x_2 \leq 4$$

$$x_1, x_2 \geq 0$$

b) A particular item has demand of 3000 units per year. The cost of one procurement is Rs. 100 and the holding cost is Rs. 2.40 per year. The replenishment is instantaneous and no shortages are allowed. [6]

Find:

i) EOQ.

ii) Number of orders per year.

iii) Total cost per year if the cost of one unit is Re. 1.

c) Explain the terms: [5]

i) Degeneracy in Transportation.

ii) Infeasible solution.

iii) Objective Function.

iv) Arrival Rate.

v) Prohibited Assignments.

- Q4) a)** The following time-cost table (time in days and cost in Rupees) applies to a project. Use it to arrive at the network associated with completing the project in optimum cost. **[9]**

Activity	Normal		Crash	
	Time	Cost	Time	Cost
1-2	6	600	4	1000
1-3	4	600	2	2000
2-4	5	500	3	1500
2-5	3	450	1	650
3-4	6	900	4	2000
4-6	8	800	4	3000
5-6	4	400	2	1000
6-7	3	450	2	800

Indirect cost per day is Rs. 100.

- b)** Express the following Transportation Problem as LPP: **[6]**

		Warehouses				Supply
		P	Q	R	S	
Factory Plants	A	10	8	7	12	500
	B	14	12	8	8	600
	C	7	9	14	10	200
	D	8	10	12	14	700
Demand		700	550	450	300	

- c)** Describe the queuing system and its elements. **[5]**



Total No. of Questions : 7]

SEAT No. :

P3859

[4875] - 45

[Total No. of Pages : 1

M.C.A. (Management Faculty)

(BM - E1) 411 : MIS FRAMEWORK & IMPLEMENTATION

(2008 Pattern) (Semester - IV) (Elective)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q.No. 1 and 7 are compulsory.*
- 2) *Solve any Four questions from remaining.*
- 3) *Figures to the right indicate full marks.*

Q1) How Information Technology changing the way Marketing function is performed? Explain **[10]**

Q2) What is Expert system? Explain components of expert system. **[10]**

Q3) Explain the techniques of evaluating information Technology Investment. **[10]**

Q4) What are common computer misuses that damage IT Infrastructure? **[10]**

Q5) Explain the term “MIS as an instrument for organization change”. **[10]**

Q6) Explain critical role of security in implementing IT application. **[10]**

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

- a) Features of MIS.
- b) Collaborative systems.
- c) Role of Information System.
- d) DSS.
- e) Competitive advantage.



Total No. of Questions : 09]

SEAT No. :

P3860

[4875] -46

[Total No. of Pages : 2

M.C.A. (Faculty of Management)

412: FOUNDATION OF DECISION PROCESSES

(Elective) (2008 Pattern) (Semester-IV) (BME-2)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Attempt any SEVEN from the following.*
- 2) *Use of non-programmable calculators is allowed.*
- 3) *Figures to the right indicate full marks.*

Q1) Explain the various decision making criteria with illustrations. **[10]**

Q2) Solve the game for the given pay-off matrix: **[10]**

-5	3	1	20
5	5	4	6
-4	-2	0	-5

Q3) A management is faced with a problem of choosing one of three products for manufacturing. The potential demand for each product may turn out to be good, moderate or poor. The probabilities for each of the states of nature were estimated as follows: **[10]**

Product	Nature of Demand		
	Good	Moderate	Poor
X	0.70	0.20	0.10
Y	0.50	0.30	0.20
Z	0.40	0.50	0.10

The estimated profit or loss in Rs. Under the three states may be taken as:

Product	Good	Moderate	Poor
X	30000	20000	10000
Y	60000	30000	20000
Z	40000	10000	-15000

Prepare the expected value table and advise the management about the choice of the product.

Q4) Explain the dominance rules in Game with proper example. **[10]**

P.T.O.

Q5) A super market has a single cashier. During the peak hours customers arrive at a rate of 20 customers per hour. The average number of customers that can be processed by the cashier is 24 per hour. Calculate: [10]

- i) The probability that the cashier is idle.
- ii) The average number of customers in the supermarket.
- iii) The average time a customer spends in the system.
- iv) The average number of customers in the queue.

Q6) Explain the various decision making criteria with illustrations. [10]

Q7) A bakery keeps stock of popular brand of cake. Previous experience indicates the daily demand as given below: [10]

Daily Demand	0	10	20	30	40	50
Probability	0.14	0.27	0.27	0.18	0.09	0.04

Consider the sequence of following random numbers:

48 78 19 51 56 77 15 14 68 09 23 80 54 76 64

Using the above sequence, simulate the demand for the next 15 days.

- i) Find out the stock situation if the owner of the bakery decides to order 30 cakes every day.
- ii) Estimate the daily average demand for the cake on the basis of simulated data.

Q8) An executive has to take a decision from four alternatives $\Delta_1, \Delta_2, \Delta_3$ and Δ_4 . Events may lead such that any of the four results may occur R_1, R_2, R_3 and R_4 . The probability of occurrences of these results are as follows:

$$P(R_1) = 0.50; P(R_2)=0.20; P(R_3)=0.20; P(R_4)=0.10. \quad [10]$$

	R_1	R_2	R_3	R_4
Δ_1	14	9	10	5
Δ_2	11	10	8	7
Δ_3	9	10	10	11
Δ_4	8	10	11	13

Show this decision situation in the form of decision tree and indicate most preferred decision and calculate corresponding expected values.

Q9) Explain the steady state Markov process with example. [10]

Total No. of Questions : 06]

SEAT No. :

P3861

[4875] -47

[Total No. of Pages : 1

M.C.A.(Mgt)

**(413): BME-1-Elective:INFORMATION SYSTEM AUDIT
AND GOVERNANCE**

(2008 Pattern) (Semester-IV)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q.1 and Q.6 are compulsory.*
- 2) *Solve any 3 from Q.2 to Q.5*
- 3) *Figures to the right side indiate full marks.*

Q1) XYZ is an educational organization conducting different online courses of computer. For online examination you have been appointed as a lead auditor for auditing work. Describe the following task.

- a) Find out required security issues for physical controls.
- b) Find out required security issues for logical controls.
- c) Required validation controls.
- d) Different evidences. [20]

Q2) Explain hardware and software procurement controls in detail. [10]

Q3) Explain with example network audit. [10]

Q4) Define & explain role of auditor during SDLC phases. [10]

Q5) Define & explain e-governance in detail. [10]

Q6) Short notes (any four). [4×5=20]

- a) ISACA standards
- b) Risk assessment process.
- c) Performance measurement tools
- d) Security issues in e-commerce
- e) Steering committee & their role in auditing.



Total No. of Questions : 7]

SEAT No. :

P3862

[4875] -48

[Total No. of Pages : 1

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

**BME-4-414: COLLABORATIVE MANAGEMENT
(2008 Pattern) (Semester-IV) (Elective)**

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 merger and acquisition, 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.

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. :

P3863

[4875] -49

[Total No. of Pages : 1

M.C.A. (Management Faculty)

BME-5: Elective: 415: DECISION SUPPORT SYSTEM

(2008 Pattern) (Semester-IV)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

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

Q1) Explain importance of database management system for DSS and its structure in detail. **[10]**

Q2) Discuss the models of ES and DSS integration. **[10]**

Q3) Explain characteristics and capabilities of ESS. **[10]**

Q4) Explain knowledge based expert system with knowledge representation methods. **[10]**

Q5) Explain how EIS helps top management in better decision making. **[10]**

Q6) Discuss the classification of DSS development tools. Elaborate DSS development platforms. **[10]**

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

- a) SCM
- b) AI
- c) Compare EIS and DSS
- d) IDSS
- e) Organizational DSS



Total No. of Questions : 06]

SEAT No. :

P3864

[4875] -50

[Total No. of Pages : 2

M.C.A. - II (Management Faculty)
BME-6-416: ENTERPRISE RESOURCE PLANNING
(2008 Pattern) (Elective) (Semester-IV)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No.1 and Q.No.6 are compulsory.*
- 2) *Solve any three questions from Q.2 to Q.No.5.*
- 3) *Figures to the right indicate full marks.*

Q1) “Khan auto care’ is an organization engaged in servicing and sales of spare parts of four wheeler in major cities in maharashtra. They have 120 service centers across the state. Top management has decided to convert their semi automated service centre based system into a central and fully automated ERP system for administrating all their service centers, prepare a detail ERP pre and post implementation plan. **[20]**

Q2) a) Discuss the purchase of raw material module in purview of ERP implementation. **[5]**

b) What is BPR? Discuss in detail significance in ERP system. **[5]**

Q3) a) What is CRM? Give the importance of CRM in business organization.**[5]**

b) What is data mining? How OLAP is useful for data analysis. **[5]**

Q4) a) Explain critical success factors for ERP implementation. **[5]**

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

Q5) a) Explain the importance of component based ERP system. **[5]**

b) Explain end-user training and going live stage of ERP implementation.**[5]**

P.T.O.

Q6) Write short note on (any four).

[4×5=20]

- a) ERP in banking sector.
- b) ESS
- c) Application of data warehousing.
- d) Application of on-line analytical processing
- e) SCM and FMCG



Total No. of Questions : 7]

SEAT No. :

P3865

[Total No. of Pages : 1

[4875]-51

M.C.A. (Management Faculty)

IT - 51 : HUMAN COMPUTER INTERFACE

(2008 Pattern) (Semester - V)

Time :3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No. 1 is compulsory.*
- 2) *Answer any five from remaining.*
- 3) *Figures to the right hand indicates full marks.*

Q1) What features do you envisage in a Tablet, may be more advanced than the currently available Tablet? Discuss about the issues related interfaces for each feature of such a Tablet. **[20]**

Q2) a) Explain individual window design.
b) Write icon-specific guidelines. **[10]**

Q3) a) What are form-fills and how do they help data-entry? **[5]**
b) Explain Design Considerations for reports. **[5]**

Q4) a) State and explain three pillars of interface design process. **[5]**
b) Comments on arguments usually given for and against participatory design. **[5]**

Q5) Explain UI Design for a Website for E-Commerce assuming suitable examples. **[10]**

Q6) Explain the VIDEO Display Unit and various technologies for it. **[10]**

Q7) Write short notes on (any two) **[2 × 5 = 10]**
a) Social acceptability.
b) Stages of LUCID.
c) GUI Tools.



Total No. of Questions : 7]

SEAT No. :

P3866

[4875]-52

[Total No. of Pages : 1

M.C.A (Management)

IT52: SOFTWARE I.T. PROJECT MANAGEMENT

(2008 Pattern) (Semester-V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q1 & Q7 are compulsory.*
- 2) *Solve any Four from remaining.*

Q1) a) Explain & differentiate in between Network diagram & Gantt chart. **[8]**

b) Explain activities carried out in project planning phase. **[7]**

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

Q3) Explain various team structures used in IT organization. **[10]**

Q4) Explain various risk drivers. Explain risk exposure. **[10]**

Q5) Explain function of quality assurance. **[10]**

Q6) Explain need of change management & also explain version control. **[10]**

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

- a) Earned value analysis.
- b) CMM.
- c) Function point analysis.
- d) Rayleigh's Function.



Total No. of Questions : 7]

SEAT No. :

P3867

[4875] - 53

[Total No. of Pages : 1

M.C.A. (Management Faculty)
EMERGING TRENDS IN INFORMATION TECHNOLOGY
(2008 Pattern) (Semester - V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q 1 & 7 are compulsory.*
- 2) *Attempt any Four from remaining.*
- 3) *Figures to the right indicate full marks.*

Q1) Wissen Technologies pvt. Ltd., an 100% export oriented Software company has its head office in Vancouver, Canada. They also have their corporate house in Germany and Norway. As a Business continuity steering committee Head, suggest a suitable Business continuity plan structure for this company. **[15]**

Q2) Explain security management in operational cryptographic security system?**[10]**

Q3) What is E-learning and its Models? **[10]**

Q4) Why is crop management important? How do we do crop management?**[10]**

Q5) What are the types of knowledge and explain the need for knowledge Management system? **[10]**

Q6) Discuss RFID technology & its areas of application? **[10]**

Q7) Write Short Notes (any 3): **[15]**

- a) GIS Development process.
- b) Development Cycle of Embedded System.
- c) Supplier Chain Management.
- d) Business process re-engineering.
- e) E-Agriculture.



Total No. of Questions : 7]

SEAT No. :

P3868

[Total No. of Pages : 2

[4875]-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 No. 1 & Question No. 7 are compulsory.*
- 2) *Attempt any four Questions from remaining.*
- 3) *Right side indicates marks.*

Q1) What is E-Commerce? Explain how payment transactions took Place in E-Commerce with Proper Example. **[15]**

Q2) Write a servlet program to accept online registration details of candidates for appearing NET Examination. Assume suitable table structure. **[10]**

Q3) Write a PERL Program to accept a file name from user. Display No. of Characters, No. of words & No. of Numericals Present in a file. **[10]**

Q4) Write a PHP code to accept & insert customer-details from customer. After successful Insertion, Display customer details in proper format. Assume Suitable table structure. **[10]**

Q5) What are ISP actions? Explain Error Handling in ISP with Proper example. **[10]**

Q6) Explain with examples cookies in servlet & life cycle of servlet. **[10]**

P.T.O.

Q7) Write Short Note on any Three :

[15]

- a) Arrays in PERL
- b) Arrays in PHP
- c) HTTP Session
- d) HTTP Request & HTTP Response
- e) PHP Error Handling



Total No. of Questions : 6]

SEAT No :

P3869

[4875] - 55

[Total No. of Pages : 1

M.C.A. (Management Faculty)

ITE-1 - Elective: CYBER LAW AND I.T. SECURITY

(2008 Pattern) (Semester -V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Que. 1 and Que. 6 are compulsory.*
- 2) *Solve any three from remaining questions.*

Q1) a) Explain the importance of cyber law with the perspective of cyber crime.[10]

b) What is Digital Signature with advantage and disadvantage. [10]

Q2) Describe hacking with its type also suggests how to protect data from hacking. [10]

Q3) Explain in detail scope of IT Act. [10]

Q4) Explain domain name in details also explain different dispute regarding domain name. [10]

Q5) Explain E-Commerce. How to provide security to E-commerce Application? [10]

Q6) Write short note on following [Any 4]: [20]

- a) Tampering with Computer Source & Documents.
- b) E-Governance.
- c) Encryption techniques.
- d) Function of certifying authority.
- e) Intellectual property right.



Total No. of Questions : 7]

SEAT No. :

P3870

[Total No. of Pages : 1

[4875]-56

M.C.A. (Management Faculty)

ITE - 2 : PROGRAMMING LANGUAGES PARADIGMS

(2008 Pattern) (Elective) (Semester - V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Questions No. 1 and 7 is compulsory.*
- 2) Attempt any four questions from the remaining.*
- 3) Figures to the right side indicates full marks.*

Q1) Explain various programming languages paradigms with suitable examples. **[15]**

Q2) Explain compiler, interpreter and assembler with examples. **[10]**

Q3) What is firmware computer? Explain with suitable diagram the layers of virtual computer for any web application. **[10]**

Q4) Explain the structure of conventional computer with block diagram. **[10]**

Q5) Explain parameter transmission method in subprogram sequence control. **[10]**

Q6) What is binding times? Write the classes of bindings with suitable examples. **[10]**

Q7) Write Short Notes on (Any three) : **[15]**

- a) Non. arithmetic expression
- b) Virtual machine
- c) Features of C++.
- d) Linking and Loading



Total No. of Questions : 7]

SEAT No :

P3871

[4875] - 57

[Total No. of Pages : 1

M.C.A. (Management Faculty)
ITE-3: ADVANCED UNIX (Elective)
(2008 Pattern) (Semester -V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question one and seven are compulsory.*
- 2) *Solve any four from remaining.*
- 3) *Assume suitable data whenever necessary.*
- 4) *Figure at right hand indicates full marks.*

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

- a) malloc ()
- b) ialloc ()
- c) chmod ()
- d) fork ()
- e) fstat ()

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

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

Q4) What are message Queues ? Explain the structure of information maintained by Kernel for every message Queue. **[10]**

Q5) Explain the term “Environment variables”. Describe the functions to access and manipulate them. **[10]**

Q6) What are pipes ? What happens when a pipe system is called ? **[10]**

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

- a) Record Locking.
- b) Zombie Processes.
- c) Parent Process id.
- d) Sessions and process groups.
- e) Inode table.



Total No. of Questions : 6]

SEAT No :

P3872

[4875] - 58

[Total No. of Pages : 1

M.C.A. (Management Faculty)

ITE-4 ELECTIVE: MOBILE WIRELESS COMPUTING

(2008 Pattern) (Semester -V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Question No. 1 and 6 are Compulsory.*
- 2) *Attempt any THREE questions from remaining Q. 2 to Q. 5.*

Q1) a) Explain Routing in Mobile Network. How Virtual Backbone Routing is implemented in Kelpi. **[10]**

b) Explain TCP issues in Wireless Network. **[10]**

Q2) Explain GSM Architecture with suitable diagram. **[10]**

Q3) Explain functions of Mobile agents. Explain Aglets and Ajanta systems for mobile agent programming. **[10]**

Q4) Explain Frequency allocation in GSM. Why framing and logical channeling is important? **[10]**

Q5) Explain Handoff in TCP. Explain how handoff is performed during roaming. **[10]**

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

- a) Link rxmit.
- b) Blue-tooth.
- c) GPRS.
- d) QoS in Wireless.
- e) PUSH-PULL.
- f) CDMA.



Total No. of Questions : 7]

SEAT No. :

P3873

[Total No. of Pages : 1

[4875]-59

M.C.A. (Management Faculty)

**(ITE - 5 : Elective) : DISTRIBUTED DATABASE MANAGEMENT
SYSTEM**

(2008 Pattern) (Semester - V)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Q7 is compulsory. Solve any 5 from remaining.*
- 2) *Draw suitable diagram when needed.*
- 3) *Give suitable examples if required.*
- 4) *Whenever necessary state assumptions.*
- 5) *Right side Indicates Marks.*

Q1) What is DOM? Explain the various reasons why objects are distributed. **[10]**

Q2) Explain the various concurrency control mechanism for Distributed Databases. **[10]**

Q3) Explain the various Reliability Issues in Distributed Databases. **[10]**

Q4) What is Transaction? Explain the various goals of Transaction management with respect to Distributed Databases. **[10]**

Q5) Explain Characterization of query Processors in distributed databases. **[10]**

Q6) Explain the various Distributed design Issues. **[10]**

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

- a) Global Directory Issues.
- b) Advantages of DDBMS.
- c) Objective of query Processing
- d) Availability in DDBS.
- e) Mobile Database System.

