

Total No. of Questions : 5]

SEAT No. :

P973

[4768] - 1001

[Total No. of Pages :3

B.C.A.

**101:MODERN OPERATING ENVIRONMENT AND MS- OFFICE
(Semester-I) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw neat diagrams wherever necessary.*

Q1) Answer the following (any eight)

[16]

- a) What is special purpose computer?
- b) What is purpose of control bus?
- c) Write any two examples of non-impact printers.
- d) Write the following:
 - i) 1 Byte = (?) bits.
 - ii) 1KB=(?) bytes.
- e) Define Algorithm.
- f) What is interpreter?
- g) What is star topology? Draw diagram of star topology.
- h) Write any two statistical functions in MS- Excel.
- i) Write full form of 1) EPROM 2) DRAM.
- j) What is LAN?

P.T.O.

Q2) Attempt any four of the following: **[16]**

- a) Explain applications of computer in various fields.
- b) Explain bus structure of digital computer.
- c) Explain difference between RAM and ROM.
- d) Write a note on MS-Access.
- e) Draw a flowchart to calculate sum of first N numbers.

Q3) Attempt any four of the following: **[16]**

- a) Explain in detail Real time operating system.
- b) Write a note on MS-Word.
- c) Which are different network components? Explain.
- d) Write a note on OMR.
- e) Draw Neat diagram of bus topology and explain.

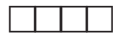
Q4) Attempt any four of the following: **[16]**

- a) Draw neat diagram of magnetic disk and explain.
- b) Explain characteristics of algorithm.
- c) Compare between Floppy disk and CD- ROM.
- d) Explain the different types of charts used in excel.
- e) Explain advantages of LAN.

Q5) Attempt any four of the following:

[4×4=16]

- a) Write a note on MS- Power Point.
- b) Write a note on Laser Printer.
- c) Compare between Window and Linux operating system.
- d) Compare between Impact and Non-impact printer.
- e) Write a note on mail-merge.



Total No. of Questions : 5]

SEAT No. :

P974

[4768]-1002

[Total No. of Pages : 4

F.Y. B.C.A.

102 : FINANCIAL ACCOUNTING

(Semester-I) (2013 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Use of calculator is allowed.*

Q1) What is 'Financial Accounting'? Explain the scope and objectives of Financial Accounting. **[16]**

OR

Explain the Accounting Principles and conventions.

Q2) Journalise the following transactions in the books of Mr. Sumit for the month ended Jan, 2013. **[16]**

Jan 2013:

1. Mr. Sumit started business with cash Rs. 10,000.
4. Opened bank A/c in State Bank of India by depositing Rs. 2,000.
6. Bought goods worth Rs. 2,000 with 5% trade discount.
7. Sold goods worth Rs. 500.
13. Withdrawn goods worth Rs. 100 by Mr. Sumit for private use.
16. Received Rs. 400 from Vivek on account.
24. Paid sundry expenses Rs. 50.
31. Paid Insurance premium Rs. 175.

P.T.O.

Q3) Enter the following transactions in cash book with discount and cash columns. **[16]**

March 2014:

1. Started business with cash Rs. 50,000.
2. Deposited Rs. 20,000 in the bank.
3. Purchased goods worth Rs. 10,000 at 10% trade discount and 5% cash discount.
4. Bought goods worth Rs. 15,000 at 10% trade discount and 5% cash discount.
7. Sold goods worth Rs. 54,000.
10. Received Rs. 11,900 from Ashok and allowed him discount of Rs. 100.
12. Paid Rs. 11,450 to Kishor and received Rs. 50 as discount.
15. Withdrawn Rs. 4,000 for personal use.
17. Withdrawn Rs. 15,000 from bank for office use.
19. Received Rs. 11,700 from Megnath in full settlement of Rs. 11,800.
22. Purchased furniture on cash for Rs. 15,000 for office use.
24. Paid for printing and stationery Rs. 1,775.
26. Paid for advertisement Rs. 9,000.
28. Bought goods worth Rs. 36,000.
30. Purchased machinery costing Rs. 25,000 for business use.
31. Withdrawn enough cash from bank to keep Rs. 15,000 in hand.

Q4) From the following particulars, prepare, Trading Account, Profit and Loss Account and Balance sheet for the year ended 31st March 2014. **[16]**

Trial Balance

Particulars	L.F.	Debit (Rs.)	Credit (Rs.)
Sundry debtors	-	15,000	-
Buildings	-	40,000	-
Goodwill	-	30,000	-
Bills payable	-	-	45,000
Sundry creditors	-	-	25,000
Plant and machinery	-	60,000	-
Opening stock	-	35,000	-
Sales	-	-	1,40,000
Bank overdraft	-	-	1,25,000
Bills receivable	-	40,000	-
Purchases	-	1,25,000	-
Sales returns	-	1,000	-
Wages	-	45,000	-
Purchases returns	-	-	1,500
Carriage inwards	-	600	-
Carriage outwards	-	300	-
Office salaries	-	12,000	-
Office Rent	-	500	-
Commission	-	600	-

Postage and Telegram	-	100	-
Depreciation	-	500	-
Printing and stationery	-	45	-
Bad debts	-	200	-
Prepaid insurance	-	150	-
Cash in hand	-	6,000	-
Cash at bank	-	9,000	-
Income receivable	-	400	-
Capital A/c	-	-	90,000
Drawings	-	5,105	
		<u>4,26,500</u>	<u>4,26,500</u>

Adjustment: Closing stock valued at Rs. 80,000.

Q5) Write short notes on Any Four:

[16]

- a) Limitations of financial accounting.
- b) Accounting standards.
- c) Accounting policies.
- d) Computers and financial application.
- e) Generating accounting reports.
- f) Accounting estimates.



Total No. of Questions : 5]

SEAT No. :

P975

[4768]-1003

[Total No. of Pages : 2

F.Y. B.C.A.

**103 : PRINCIPLES OF PROGRAMMING AND ALGORITHMS
(Semester-I) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory and carry equal marks.*
- 2) *Figures to the right indicate full marks.*

Q1) Answer the following (Any Eight):

[8 x 2 = 16]

- a) What is an Array?
- b) Define Time complexity.
- c) What is factorial number?
- d) What is Algorithm?
- e) List searching techniques.
- f) Explain column majors of matrix.
- g) What is flow chart?
- h) Explain 2-Dimensional array in brief.
- i) What is mean?

Q2) Answer the following (Any Four):

[4 x 4 = 16]

- a) Explain advantages of recursion.
- b) Explain binary search with example.

P.T.O.

- c) Explain different approaches for designing an Algorithm.
- d) Write an algorithm to find minimum of an array.
- e) Write an Algorithm to calculate netpay = basic + DA + HRA for gives basic & DA is 80%, HRA 20% PF-25% of basic.

Q3) Answer the following (Any Four):

[4 x 4 = 16]

- a) Explain program developing life cycle.
- b) Explain symbols of flow chart.
- c) Draw a flowchart to calculate sum of digits of given number.
- d) Explain quick sort with example.
- e) Write an Algorithm to find given number is prime or not.

Q4) Attempt the following (Any Four):

[4 x 4 = 16]

- a) Write advantages and disadvantages of algorithms.
- b) Explain types of array with examples.
- c) Draw a flow chart to calculate x^y .
- d) Draw a flow chart to find maximum of three numbers.
- e) Write an Algorithm to print Fibonacci series upto 'n' term.

Q5) Attempt the following (Any Four):

[4 x 4 = 16]

- a) Compare Linear search and binary search.
- b) Explain the term upper and lower triangle matrix.
- c) Write an algorithm to check leap year.
- d) Write an algorithm for sum of 'n' given numbers.
- e) Draw a flow chart to check given number is Armstrong or not.



Total No. of Questions : 5]

SEAT No. :

P976

[4768]-1004

[Total No. of Pages : 2

F.Y. B.C.A.

**104 : BUSINESS COMMUNICATION
(Semester-I) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

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

Q1) Give meaning of the term 'communication'. Highlight the principles of effective communication. **[15]**

OR

What do you mean by 'non-verbal communication'? Bring out advantages and limitations of non-verbal communication.

Q2) Enumerate the principles of good listening. **[15]**

OR

Define the term 'business correspondence'. Highlight its need.

Q3) a) What are the advantages of video conferencing? **[7]**

b) Draft a circular letter announcing the retirement of a partner of your firm. **[8]**

OR

a) State and explain do's for effective group discussion. **[7]**

b) You are managing partner of a firm, dealing with perfumeries in Jalgaon. Draft a reply to an enquirer from Mumbai, furnishing quotations for a wide range of goods. **[8]**

P.T.O.

Q4) Write a detailed note on 'Curriculum Vitae' highlighting its contents and importance. **[15]**

OR

Bring out advantages and limitations of internet and social media sites.

Q5) Write short notes on (Any Four): **[20]**

- a) Importance of communication.
- b) Body Language.
- c) Techniques of effective speaking.
- d) Overcoming barriers to communication.
- e) Limitations of written communication.
- f) Barriers to listening.
- g) Presentation skills.



Total No. of Questions : 5]

SEAT No. :

P977

[4768]-1005

[Total No. of Pages : 2

B.C.A.

**105 : PRINCIPLES OF MANAGEMENT
(Semester-I) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*

Q1) What is management? Explain the management as an art, a science and a profession.

OR

What is organisation? Explain the essential features of a sound organisation structure.

Q2) Explain the contribution of Human Relations theory as developed by Elton Mayo.

OR

Define decision making. What are the various types of decisions.

Q3) Write notes:

- a) Importance of planning.
- b) Limitations to Delegation of Authority.

OR

What is leadership? Distinguish between autocratic and democratic style of leadership.

P.T.O.

Q4) Define control. Explain the features of control.

OR

What is strategic management? Critically examine strategic management practices in India.

Q5) Write short notes on (Any Four):

- a) Disaster Management.
- b) Importance of Motivation.
- c) Principles of Direction.
- d) Stress Management.
- e) Organisational Communication.
- f) Management and Social Responsibility.



Total No. of Questions : 4]

SEAT No. :

P978

[4768]-2001

[Total No. of Pages : 4

F.Y. B.C.A.

**201 : PROCEDURE ORIENTED PROGRAMMING USING-C
(Semester-II) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagram must be drawn wherever necessary.*
- 3) *Use Ansi C Method.*

Q1) Answer the following (Any Ten):

[10 x 2 = 20]

- a) What is Indirection operator.
- b) Give syntax to define self Referential structure.
- c) Explain strlen() and strcpy().
- d) What are the different types of files?
- e) How is a union Declared and Initialized?
- f) Define string with an example.
- g) Define pointer to pointer.
- h) What is the significance of argv[0]?
- i) List primary data types in C language.
- j) "Size of is an operator in 'c'" state true or false.
- k) List all Bitwise operator.
- l) Define structure with an example.

P.T.O.

Q2) Attempt Any Four of the following:

[4 x 5 = 20]

- a) What is pointer? Explain Array of pointer in detail.
 - i) Putc() and fputc().
 - ii) fprintf() and fscanf()
- b) Compare Macro with functions.
- c) What is Dynamic Memory Allocation? Explain functions used to allocate and delete memory dynamically.
- d) How can Array be passed to function? Explain with example.
- e) Define recursion. Explain recursion with example.

Q3) Attempt Any Four of the following:

[4 x 5 = 20]

- a) Write a 'C' program to check if given string is palindrome or not using pointers.
- b) Create structure to store data of 10 employees as employee number, name and salary. Write a 'C' program to print Employee Numbers and names of Employees having salary greater than 10,000.
- c) Write a C program to accept a four digit number from user and count zero, odd and even digits of the entered number.
- d) Write a 'C' program to accept a string from user and generate following pattern
(e.g. input is string "abcd").
a
a b
a b c
a b c d
a b c
a b
a
e) Write a 'C' program to convert upper case to lower case by using file.

Q4) Trace output and justify:

[5 x 4 = 20]

a) Main ()

```
{
    int a [5] = {5, 1, 15, 20, 25};
    int i, j, m;
    i = ++a[1];
    j = a[1]++;
    m = a [i++];
    printf("%d %d %d", i, j, m);
    getch();
}
```

b) #define PRODUCT (x) (x*x)

```
main()
{
    int i = 3, j;
    j = PRODUCT (i + 1);
    printf ("\n %d", j);
}
```

c) Main ()

```
{
    int i = -5, j = -2;
    junk(i, &j);
    printf("i=%d j = %d\n", i, j);
    junk (int i, int*j)
    {
        i = i*j;
        *j = *j**j;
    }
}
```


d) Main()

```
{  
    char s[ ] = "Aw what the breek";  
    printf ("%s", s);  
    printf ("ln%c", s[3]);  
    printf ("ln%c", s[1]);  
}
```

e) Main ()

```
{  
    Char s1[ ] = "FYBCA SYBCA TYBCA";  
    Char s2[20];  
    Char s3[20];  
    scanf (s1, "%s %s %s", s1, s2, s3);  
    printf ("%s, %s, %s", s1, s2, s3);  
    }.
```



Total No. of Questions : 5]

SEAT No. :

P979

[4768]-2002

[Total No. of Pages : 3

B.C.A.

202 : DATABASE MANAGEMENT SYSTEM

(Semester-II) (2013 Pattern) (New)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Draw neat diagrams wherever necessary.*

Q1) Answer the following (Any Four):

[4 x 4 = 16]

- a) Explain primary key and foreign key with suitable example.
- b) What are logical and physical files.
- c) Explain object oriented model.
- d) List various users of DBMS & specify their jobs.
- e) Explain advantages and disadvantages of DBMS.

Q2) Answer the following (Any Four):

[4 x 4 = 16]

- a) What are anomalies of un-normalized database?
- b) Explain Basic file operation.
- c) List various DDL commands. Explain any one with example.
- d) Explain select and project operation in Relational Algebra.
- e) What are different aggregate functions in sql.

Q3) Attempt the following:

[16]

Consider the following entities and their relationship:

Game (gno, gname, no-of-player, coachname)

P.T.O.

player (pno, pname)

Game and player are related with many-to-many relationship.

Create RDB in 3NF and solve the following queries by using SQL (any five):

- a) Insert a row in Game table.
- b) List total number of players playing "Basket Ball".
- c) Display all players having coach as "Mr. Dixit".
- d) Add birth date column to player table. Use alter table command.
- e) List all games played by Amit.
- f) Count total No. of players whose coach name is "Mr. Sharma".

Q4) Answer the following (Any Four):

[4 x 4 = 16]

- a) Write a note on normalization.
- b) Explain the terms or commands
 - i) Group By
 - ii) Entity
 - iii) Order By
 - iv) Domain
- c) Explain entity and attributes and explain its types.
- d) Explain dense and sparse index.
- e) Explain sequential file organization in detail.

Q5) Attempt the following:

[8]

- a) A reputed general hospital has decided to computerized its operations. In hospital many doctors are working. The patients are admitted to the hospital, into the room. There they are treated by various doctors. Some times patients have to undergo certain pathological tests, which are carried out in the labs.

A database should provide following details.

- i) Identify all entities.
- ii) Identify all relationship.
- iii) Draw E-R diagram.

b) Consider relational database:

[8]

customer (cust-no, cust-name, address, city)

Loan (loan-no, loan-amt, loan-date, cost_no)

Customer and loan are related with one to many relationship.

Write relational algebraic expression for the following:

- i) List loan details of customer name as “Mr-Shinde”.
- ii) List names of customer who have taken loan of amount more than 50,000.
- iii) List names of customer who stay in city “Mumbai”.
- iv) Display customer with loan amount greater than 1,00,000.



Total No. of Questions : 8]

SEAT No. :

P980

[4768]-2003

[Total No. of Pages : 1

B.C.A.

**ORGANISATIONAL BEHAVIOUR
(Semester-II) (2013 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *Solve any five questions.*
- 2) *All questions carry equal marks.*

Q1) Explain in detail concepts of Total Quality Management. **[16]**

Q2) Define the term 'Attitude'. Explain the Effects of Employee Attitudes. **[16]**

Q3) Define Motivation. Explain in detail nature and importance of Motivation. **[16]**

Q4) What is Personality? Explain various determinants of Personality. **[16]**

Q5) What is stress? Explain the Nature and Types of Stress. **[16]**

Q6) What are the different levels of conflicts? Explain the Positive and Negative Effect of Conflict. **[16]**

Q7) What do you mean by Resistance to Change? How organizations can overcome the resistance to Change? **[16]**

Q8) Write explanatory notes on (Any Two): **[2 x 8 = 16]**

- a) Importance of Organizational Behaviour.
- b) Perception.
- c) Types of Groups.



Total No. of Questions : 5]

SEAT No. :

P981

[4768]-2004

[Total No. of Pages : 4

F.Y. B.C.A.

204 : COMPUTER APPLICATIONS IN STATISTICS

(Semester-II) (2013 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*
- 3) *Figures to the right indicate full marks.*
- 4) *Use of calculator is allowed.*

Q1) Attempt Any Four of the following:

[4 x 4 = 16]

- a) Define Permutation and Combination. State the formula of ${}^n P_r$ and ${}^n C_r$.
- b) There are 8 points in a plane of which 3 are collinear. Find the number of lines that can be drawn using these points.
- c) Define Simulation. State some applications of Simulation.
- d) If ${}^{18} C_{r+2} = {}^{18} C_{2r-5}$, then find the value of ${}^{3r} C_{20}$.
- e) Determine which of the following are Deterministic or Non-deterministic experiments:
 - i) Winning Team of Programming Competition out of 15 teams.
 - ii) Sex of a new born baby.
 - iii) Result of multiplication of the numbers 21 and 45.
 - iv) Number of defective articles in a lot of 50 articles.
- f) If X follows B(10, 0.4), then find i) $P(X < 2)$, ii) $P(X > 2)$.

P.T.O.

Q2) Attempt Any Four of the following:

[4 x 4 = 16]

- a) State probability mass function of Discrete Uniform Distribution. State its Mean and Variance.
- b) How many permutations of the letters A, B, C, D, E, F and G contain
 - i) The string BCA
 - ii) The string AB and CD?
- c) Let A and B be two events on Ω such that $P(A) = 0.9$, $P(B) = 0.5$, $P(A \cup B) = 0.7$. Find $P(A \cap B)$ and $P(A \cap B')$.
- d) Define the following terms:
 - i) Random Experiment
 - ii) Sample Space
 - iii) Event
 - iv) Trial
- e) In a certain region, the probability that it rains on any given day is 0.2. Use Binomial Distribution to evaluate the probability that in seven days chosen at random, it rains on at most one day.
- f) Define Bernoulli distribution. State relationship between Bernoulli and Binomial distribution.

Q3) Attempt Any Four of the following:

[4 x 4 = 16]

- a) If a random variable X has discrete Uniform distribution with parameter n, find the value of 'n' if $E(X) = 3\text{Var}(X)$.
- b) Write note on Binomial Distribution.
- c) Generate a random sample of size 4 using Linear Congruential Generator $X_{i+1} = (3X_i + 6) \bmod 10$ with $X_0 = 1$.
- d) A bag contains 30 tickets numbered from 1 to 30. One ticket is selected at random. Find the probability that its number is either odd or a square of an integer.

- e) Write a note on Monte Carlo Simulation.
- f) In a random arrangement of all letters of the word 'BACKLOG'. Find the probability that the two vowels come together.

Q4) Attempt Any Four of the following:

[4 x 4 = 16]

- a) Define the following terms:
 - i) Elementary event
 - ii) Impossible event
 - iii) Certain event
 - iv) Exhaustive events
- b) The probability of defective bolt is 0.1. Let X denotes number of defective bolts in a box of 20 bolts. Identify the distribution of X and also find mean and variance of X.
- c) Write down sample spaces for the following:
 - i) Answer to an objective question which has 4 multiple choice A, B, C, D. Student ticks a single correct answer.
 - ii) A coin is tossed until head appears.
 - iii) Number of customers visiting to the Departmental Store is noted down.
 - iv) The life of an electronic component.
- d) Let A and B be two events with $P(A) = 0.5$, $P(A \cup B) = 0.8$, $P(B) = p$, find 'p' if A and B are independent.
- e) A roulette wheel is divided into 25 sectors of equal area numbered from 1 to 25. Let X be the number that occurs when the wheel is spun. Find i) Probability mass function of X ii) $P(X > 20)$.
- f) Explain the concept of Random Number Generator.

Q5) Attempt Any Two of the following:

[2 x 8 = 16]

a) Let A and B be two events defined on sample space. If $P(A) = 3/8$, $P(B) = 1/2$ and $P(A \cap B) = 1/4$. Find

i) $P(A \cup B)$

ii) $P(A' \cap B)$

iii) $P(A \cap B')$

iv) $P(A' \cap B')$.

b) The number of T.V. sets sold by a salesman per day is a discrete uniform random variable taking values 0, 1, 2, 3, 4. Simulate the number of T.V. sets sold in a week using following random numbers:

0.63, 0.52, 0.14, 0.28, 0.54, 0.09, 0.15.

c) Simulate a project completion time for 5 projects if the probability distribution of time required to complete the project is as follows:

Project completion time in months (X)	1	2	3	4	5
Probability P(X)	0.10	0.15	0.30	0.25	0.20

Use following random numbers:

0.42, 0.69, 0.91, 0.94, 0.65.



Total No. of Questions : 5]

SEAT No. :

P982

[4768]-2005

[Total No. of Pages : 2

B.C.A.

205 : E-COMMERCE CONCEPTS

(Semester-II) (New 2013 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

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

Q1) Answer the following (Any Eight):

[16]

- a) What is extranet?
- b) What is paperless billing?
- c) What is electronic cash?
- d) Define digital envelope.
- e) What is electronic fund transfer?
- f) Define hacker.
- g) What is encryption?
- h) State any two applications of E-commerce.
- i) What is RTGS?
- j) What is ATM?

Q2) Attempt Any Four of the following:

[16]

- a) Define internet. State it's advantages.
- b) Write advantages & limitations of ATM.
- c) Explain benefits of website.
- d) What is electronic cheque? Explain it's advantages.
- e) What is electronic payment system? Explain it's advantages.

P.T.O.

Q3) Attempt Any Four of the following: [16]

- a) What is virus? Explain types of virus.
- b) Explain advantages of intranet.
- c) Explain advantage of E-Commerce.
- d) Explain symmetric key encryption in detail.
- e) What is phishing? Explain steps of phishing.

Q4) Attempt Any Four of the following: [16]

- a) Explain working of B2B.
- b) What is internet service provider? Explain it with it's types.
- c) Explain types of electronic payment system.
- d) Explain applications of E-Commerce.
- e) Explain Limitations to encryption solution.

Q5) Write short notes on (Any Four): [16]

- a) Digital signature.
- b) Credit card system.
- c) Banner exchange.
- d) Hacking.
- e) Internet banking.



Total No. of Questions : 5]

SEAT No. :

P983

[4768]-3001

[Total No. of Pages : 4

S.Y. B.C.A.

301 : RELATIONAL DATABASE MANAGEMENT SYSTEM

(RDBMS)

(Semester-III) (2013 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

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

Q1) Attempt all:

[16]

- a) What is RDBMS? List any two features of RDBMS.
- b) What is difference between % type and %row type?
- c) What is serializability? List the types of serializability.
- d) Define: i) commit ii) rounback
- e) What is checkpoint?
- f) Define Recoverable schedule.
- g) Define i) upgrading ii) downgrading
- h) Write syntax of for loop in PL/SQL with example.

Q2) Attempt Any Four:

[16]

- a) Explain any two popular products of RDBMs.
- b) What is cursor? Explain different attributes used in it.
- c) What is transaction? Explain ACID properties of transaction.
- d) What is PL/SQL? Explain block of PL/SQL.
- e) What is deadlock? Explain how deadlock in recovered.

Q3) Attempt Any Four:

[16]

- a) Explain various types of failures that may occur in system.
- b) What is trigger? Explain trigger with proper syntax and example.
- c) What are the various problems that occur in concurrent transaction?
- d) Explain Timestamp ordering protocol.
- e) Explain deferred database modification technique with example.

P.T.O.

Q4) Attempt Any Four:

[16]

- a) Consider the following relational database.

Employee (empno, empname, city, deptname)

Project (projno, proj name, status)

Emp-proj (empno, proj no, number-of-days)

Write a function which will return total number of employees working on any project for more than 60 days.

- b) Consider the following relational database.

Politician (pno, pname, description, partycode)

Party (partycode, partyname)

Write a cursor to display partywise details of politicians.

- c) Consider the following relational database.

Department (deptno, deptname, location)

Employee (empno, empname, salary, commission, designation, deptno)

Write a trigger for an employee table that restricts insertion or updation or deletion of data on 'sunday'.

- d) Consider the following relational database

Book (bno, bname, pubname, price, dno)

Department (dno, dname)

Write a procedure which will display total expenditure on books by a given department.

- e) Write a package which consist of one procedure and one function, consider relation student.

Student (Roll-no, stud-name, class, stud-addr, percentage) procedure of a package will display details of given student. Function of a package will count total number of students having percentage greater than 80 and class 'TYBCA'.

Q5) Attempt Any Four:

[16]

- a) Consider the following transactions. Give two non-serial schedules that are serializable.

T_1	T_2
Read (A)	Read (A)
$A = A + 1000$	$A = A - 1000$
Write (A)	Write (A)
Read (BC)	Read (B)
$C = C - 1000$	$B = B - 1000$
Write (C)	Write (B)
Read (B)	
$B = B + 1000$	
Write (B)	

- b) Consider the following transactions. Give two non-serial schedules that are serializable.

T_1	T_2	T_3
Read (A)	Read (C)	Read (B)
$A = A + 100$	Read (B)	$B = B + 200$
Write (A)	$B = B + C$	Write (B)
Read (B)	Write (B)	Read (C)
$B = B + 100$	Read (A)	$C = C + 200$
Write (B)	$A = A - C$	Write (C)
	Write (A)	

- c) Following is II list of events in an interleaved execution of set of transactions T_1, T_2, T_3 and T_4 with two phase locking protocol.

Time	Transaction	Code
t_1	T_1	Lock (B, S)
t_2	T_2	Lock (A, X)
t_3	T_3	Lock (C, S)
t_4	T_4	Lock (B, S)
t_5	T_1	Lock (A, S)
t_6	T_2	Lock (C, X)
t_7	T_3	Lock (A, X)
t_8	T_4	Lock (C, S)

Construct a wait for graph according to above request. Is there deadlock at any instance? Justify.

- d) Following is a list of events in an interleaved execution of set of transactions T_1, T_2, T_3 and T_4 with two phase locking protocol.

Time	Transaction	Code
t_1	T_1	Lock (A, X)
t_2	T_2	Lock (B, S)
t_3	T_3	Lock (A, S)
t_4	T_4	Lock (C, S)
t_5	T_1	Lock (B, X)
t_6	T_2	Lock (C, X)
t_7	T_3	Lock (D, S)
t_8	T_4	Lock (D, X)

Construct a wait for graph according to above requests. Is there deadlock at any instance? Justify.

- e) Following are the log entries at the time of system crash.

```
[start - transaction, T1]
[write - item, T1, A, 100]
[commit . T1]
[start - transaction, T3]
[write - item, T3, B, 200]
[checkpoint]
[commit, T3]
[start - transaction, T2]
[write - item, T2, B, 300]
[start - transaction, T4]
[write - item, T4, D, 200]
[write - item, T2, C, 300] ← System crash
```

If deferred update technique with checkpoint is used, what will be the recovery procedure?



Total No. of Questions : 5]

SEAT No. :

P984

[4768] - 3002

[Total No. of Pages : 2

B.C.A.

DATA STRUCTURE USING C++

(2013 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *All Questions carry equal marks.*
- 3) *Assume suitable data, if necessary.*

Q1) Attempt any eight of the following :

[8×2 = 16]

- a) What is linked list structure?
- b) Compare the efficiency of Bubble Sort with Insertion Sort?
- c) How to calculate count of Best, Worst and Average case?
- d) What is Ancestor of Node?
- e) What are the different types of data structures?
- f) What are the applications of queue?
- g) What is use of tree? How it is differ from linked list?
- h) What is difference between structure and polynomial?
- i) State the types of graph.
- j) What is use of (&) address operator and dereferencing (*) operator?

Q2) Attempt any four of the following :

[4×4 =16]

- a) Write an algorithm to convert given infix expression to prefix expression.
- b) What is height-balanced tree? Explain LL and RR rotations.
- c) Explain BFS with an example.
- d) Write a function to remove last node of singly linked list and add it at the beginning.
- e) Write a function to display mirror image of given tree.

P.T.O.

Q3) Attempt any four of the following :

[4×4 = 16]

- a) Explain Quick sort technique with an example.
- b) Write a function which compares the contents of two queues and display message accordingly.
- c) What is doubly circular linked list? Explain its node structure.
- d) Write a function to merge given two singly linked lists.
- e) Explain different types of asymptotic notations in details.

Q4) Attempt any four of the following :

[4×4 = 16]

- a) Explain different types of dynamic memory allocation functions.
- b) Sort following data by using Insertion sort techniques:
12,5,122,9,7,54,4,23,88,60.
- c) Write a function to display circular linked list in reverse order.
- d) Write a function to remove given node from singly linked list and add it at the end of list.
- e) What is graph? Explain its representation techniques in details.

Q5) Attempt any four of the following :

[4×4 = 16]

- a) Write a “C” program for addition of two polynomials.
- b) What is an algorithm? How to measure its performance?
- c) Write a function to count the number of leaf nodes in a tree.
- d) Write a recursive function for erasing linked list.
- e) What are the drawbacks of sequential storage?



Total No. of Questions : 5]

SEAT No. :

P985

[4768] - 3003

[Total No. of Pages : 4

B.C.A.

303: INTRODUCTION TO OPERATING SYSTEM

(2013 Pattern) (Semester - III)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*

Q1) Attempt any eight of the following :

[8×2 = 16]

- a) Round Robin algorithm is non-preemptive comment & Justify.
- b) What is semaphores.
- c) What is process.
- d) What is External fragmentation.
- e) Define system program.
- f) List Basic operations on file.
- g) What is the purpose of command inter preter.
- h) Define Burst Time.
- i) Define Swap time.
- j) What is Deadlock.

Q2) Attempt any four of the following:

[4×4 =16]

- a) Explain multilevel feedback queue Algorithm.
- b) What is page fault. Explain the different steps in handling a page fault.

P.T.O.

- c) Explain different methods for recovery from a deadlock.
- d) Differentiate between MVT and MFT job scheduler.
- e) Consider the following set of processes with the length of CPU Burst time and arrival time.

Process	Burst time	Arrival time
P ₁	5	1
P ₂	3	0
P ₃	2	2
P ₄	4	3
P ₅	2	13

Calculate Turn around time waiting time Average waiting time and Average turn around time using Round Robin Algorithm with time quantum = 2.

Q3) Attempt any four of the following: [4×4 = 16]

- a) Explain medium term scheduler.
- b) List and explain system calls related to file management.
- c) Explain Direct Access method with advantages & disadvantages.
- d) Explain operations on process in detail.
- e) Consider the following page reference string.

7,5,4,9,4,7,8,5,2,3,4,7,9,7,4.

Find the number of page fault for the following algorithm with 3 frames.

- i) LFV
- ii) FIFO.

Q4) Attempt any four of the following:

[4×4 = 16]

- a) Write a note on memory compaction.
- b) In normal mode of operation. List and explain the sequence of utilization of resources by process.
- c) Explain PC bus structure with diagram.
- d) Explain the Reader's writer's problem which is a classic problem of synchronization.
- e) Consider the following job queue.

Job	Memory	Time
1	80K	9
2	110K	4
3	20K	18
4	60K	5
5	40K	10

Show the memory map of various stages by using MVT scheduling.

Assumption total memory is of 400K & monitor of 100K and all jobs are arrived at same time.

Q5) Attempt any four of the following:

[4×4 = 16]

- a) Explain overlay's in detail with diagram.
- b) Explain -Resource-Allocation graph in detail.
- c) Explain the overlapped swapping in detail.
- d) The request queue is as follows,

87,148,92,171,96,131,103,71

Number of tracks = 0 to 199.

Starting position or current head position = 125

Find total head movement by Applying SSTF (Shortest seek time first) disk scheduling Algorithm.

- e) Consider the five processes P_0, P_1, P_2, P_3, P_4 and three resources R_1, R_2, R_3 . Resource type R_1 has 10 instances, R_2 has 5 instances and R_3 has 7 instances. Allocation and max matrix is given below.

	Allocation			MAX		
	R_1	R_2	R_3	R_1	R_2	R_3
P_0	0	1	0	7	5	3
P_1	2	0	0	3	2	2
P_2	3	0	2	9	0	2
P_3	2	1	1	2	2	2
P_4	0	0	2	4	3	3

Answer the following questions using Banker's Algorithm.

- What is the content of Need Matrix.
- Is the system in a safe sequence? If yes, give the safe sequence.



Total No. of Questions : 5]

SEAT No. :

P986

[4768] - 3004

[Total No. of Pages : 5

B.C.A.

304: BUSINESS MATHEMATICS
(New 2013 Pattern) (Semester - III) (Theory)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Use of non-programmable pocket calculator is allowed.*

Q1) a) Attempt any ONE of the following: [1×6 = 6]

- i) In 2011 population of a city was 80,000. There was rise of 10% for each next year. Find the population at the year 2014.
- ii) Find two numbers which are in the ratio 2:3 such that, if 5 deducted from first number and 5 added to the second, the new ratio is 1:2.

b) Attempt any TWO of the following: [2×5 = 10]

- i) A television when sold ₹ 23,660 resulted in a loss of 9%. What was the cost price of the television?
- ii) If $a+b : a-b = 7:3$, find the value of $a:b$.
- iii) Explain the terms
 - 1) Inverse proportion
 - 2) Market price.

Q2) a) Attempt any ONE of the following: [1×6 =6]

- i) Harshvardhan sold a new kind of battery at a profit of 20%. If the cost price and selling price are both reduced by ₹ 100 the profit on the new cost price is 25%. Find the original cost price.

P.T.O.

- ii) Find the amount of ₹ 6000 at 12% p.a. in 3 years compounded quarterly.

b) Attempt any TWO of the following: [2×5 = 10]

- i) If x varies directly as y and inversely as z and $x = 13$ when $y = 8$ and $z = 16$, find y when $x = 9$ and $z = 12$.
- ii) Prasanna borrowed ₹ 7000 for 5 years at the rate of 9% p.a. simple interest. Find the amount that would have to pay at the end of five years.
- iii) The rate of commission is increased from 5% to 9%, still the income of an agent remains the same. Find the percentage change in his sales.

Q3) a) Attempt any ONE of the following: [1×6 = 6]

- i) Find the inverse of the following matrix by adjoint method.

$$A = \begin{bmatrix} 4 & 2 & 3 \\ 4 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$$

- ii) Solve the following system of linear equations by matrix inversion method.

$$3x + y = 6$$

$$2x - y = 2$$

b) Attempt any TWO of the following: [2×5 = 10]

- i) If $A = \begin{bmatrix} 2 & 2 \\ 7 & 3 \end{bmatrix}$, find a matrix X such that $A+X = I_2$.

ii) Solve the following linear programming problem by graphically.

$$\text{Maximize } Z = 20x + 17y$$

$$\text{Subject to } 2x + 2y \leq 22$$

$$12x + 10y \leq 120$$

$$x, y \geq 0$$

iii) Find the value of the determinant, where $\begin{vmatrix} 2 & 3 & 4 \\ 3 & 2 & 1 \\ 7 & 9 & 2 \end{vmatrix}$.

Q4) a) Attempt any ONE of the following:

[1×6 = 6]

i) Obtain the initial basic solution of the following transportation problem by using Vogel's approximation method.

		Destinations				Supply
		D ₁	D ₂	D ₃	D ₄	
Factory	F ₁	50	150	70	60	90
	F ₂	80	70	90	10	60
	F ₃	15	90	80	80	50
Demand		30	70	60	40	200

ii) A manufacturer produces two items A and B. Item A needs 2 hours on machine G and 2 hours on machine H. Item B needs 3 hours on machine G and 1 hour on machine H. If machine G can run for a maximum of 12 hours per day and machine H for 8 hours per day and profit from item A and B are ₹ 4 and ₹ 5 per item respectively. Formulate linear programming problem.

b) Attempt any TWO of the following: [2×5 = 10]

- i) A car was bought for ₹ 86,000 and sold for ₹ 92,000 through a broker who charges commission of 2% on purchase and 3% on sales. Find the total gain on the transaction.
- ii) Find the simple interest on ₹ 2,000 at 6% p.a. for 6 months.
- iii) Obtain initial basic solution to the following transportation problem by north west corner method.

Sources ↓	Destination				Supply
	D ₁	D ₂	D ₃	D ₄	
1	2	6	3	10	200
2	4	3	1	9	150
3	5	3	2	4	150
Demand	100	200	100	100	

Q5) a) Attempt any ONE of the following: [1×6 = 6]

- i) Rohit purchase a flut of cash price ₹ 4,80,000. Rohit paid 25% of this in cash and borrowed 75% from HDFC at 15% p.a. repayable in monthly equal installments spread over 15 years. Find the EMI.
- ii) Explain the terms:
 - 1) Simple Interest
 - 2) Solution of linear programming problem.
 - 3) Cash discount.

b) Attempt any TWO of the following:

[2×5 = 10]

i) What is transportation problem? How to find solution of it by matrix minima method?

ii) Compute the value of

$$\left\{ 4 \begin{bmatrix} 1 & 2 & -3 \\ 4 & 5 & 6 \end{bmatrix} + \begin{bmatrix} -1 & -2 & 6 \\ 0 & 2 & 9 \end{bmatrix} \right\} \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$$

iii) If $8:x :: x : 2$, find x .



Total No. of Questions : 5]

SEAT No. :

P987

[4768] - 3005

[Total No. of Pages : 2

S.Y.B.C.A.

**SOFTWARE ENGINEERING
(2013 Pattern) (Semester - III)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*

Q1) Attempt the following : (Any eight)

[8×2 = 16]

- a) Define Interfaces.
- b) Explain any 2 skills of System Analyst.
- c) Define software.
- d) State the qualities of good design.
- e) Define the term Data Dictionary.
- f) What is an Entity?
- g) State any two advantages of RAD model.
- h) Define the term Module.
- i) State all the symbols of DFD.
- j) Define S/W Testing.

Q2) Answer the following: (Any four)

[4×4 =16]

- a) Explain Prototyping model in detail.
- b) State difference between verification and validation testing.
- c) Explain system concepts in detail.

P.T.O.

- d) Explain Role of System Analyst as an architect and as a salesperson.
- e) Explain Mc Call's Quality factors in detail.
- f) Explain structure chart in detail.

Q3) a) Design a Prototype Report for Electric Bill generation for Electric company. **[8]**

b) Sales tax is to paid by customers based on following conditions.

- i) If customer is from Maharashtra and has sales tax exemption certificate the no sales tax is to be paid by customer.
 - ii) If customer is from Maharashtra but does not have sales tax exemption certificate the 8% sales tax is to be paid.
 - iii) If customer is out of Maharashtra 4% central sales tax is to be paid.
- Draw decision tree and decision table for above case. **[8]**

Q4) Write short notes on: (Any four) **[4×4 = 16]**

- a) Integration testing.
- b) Software characteristics.
- c) SRS documentation.
- d) Types of Module.
- e) Feasibility study.

Q5) Consider a "Employee Payroll System". **[16]**

- a) Identity all the Entities.
- b) Draw a context level DFD.
- c) Draw a 1st level DFD for the above case.



Total No. of Questions : 5]

SEAT No. :

P1255

[Total No. of Pages : 4

[4768] - 4001
S.Y.B.C.A. (Semester - IV)
OBJECT ORIENTED PROGRAMMING USING C ++
(2013 Pattern)

Time : 3 Hours]

[Maximum Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *All questions carry equal marks.*
- 3) *Assume suitable data, if necessary.*
- 4) *Figures to the right indicate full marks.*

Q1) Attempt any eight of the following :

[8 × 2 = 16]

- a) List any four features of OOP's.
- b) What is function over loading?
- c) What is the difference between constructor and destructor.
- d) Define pure virtual function?
- e) What is cascading of I/O operator?
- f) Write the syntax to define a derived class from Base class?
- g) What is function template?
- h) What task is performed by self () and precision ()?
- i) List the ways to define a constant?
- j) Write what action is carried by following function call -
 - i) `fin. seekg (0, ios :: beg)`
 - ii) `fin. seekg (- m, ios :: end)`

P.T.O.

Q2) Attempt any four of the following : **[4 × 4 = 16]**

- a) What is friend function? Write characteristics of friend function.
- b) When do we make a class virtual base class? Explain it with suitable example.
- c) What is exception? Explain, how exception is handled in C++?
- d) Write a C++ program to create a class product which contains data members as P - Name, P - Price, quantity. Write member functions to accept quantity for each product and accordingly generate & display bill.
- e) Write a C++ program to read contents of a text file and count number of characters, words and lines in a file.

Q3) Attempt any four of the following : **[4 × 4 = 16]**

- a) Describe various uses of scope resolution operator.
- b) Explain various stream classes used to perform console input/output (I/O) operations
- c) When do we need to use default arguments in a function? Explain with example.
- d) Write a C ++ program to calculate square and cube of a integer number by using inline function.
- e) Write a C++ program to calculate sum of Integer & float array elements of size five (5) by using function template.

Q4) Attempt any four of the following : **[4 × 4 = 16]**

- a) Explain various error handling functions used during file operations.
- b) Define polymorphism? Explain its types.
- c) Write a C++ program to create a class 'space' that contains x , y , z , as integer data members. Write necessary definition to use copy constructor to copy one object to another (Use Default and parameterised constructor to initialize the appropriate objects).
- d) Design two base classes personnel (Name, Address, Email - id, Birthdate) and Academic (Marks - in - tenth, marks - in - Twelfth, class - obtained) Derive a class Biodata from both these classes write a C++ program to prepare a biodata of a student having personnel and Academic information.

- e) Trace output of following program and explain it. Assume there is no syntax error.

```
#include <iostream.h>
class number
{
public :
    int a, b;
    static int cnt;
    number (int x, int y)
    {
        cout << "\n constructor called";
        a = x;
        b = y;
        cnt ++;
    }
    void display ( )
    {
        cout << "\n a = " <<a << " \n b = " <<b;
    }
};
int number : : cnt;
int main ( )
{
    Number N1 (4, 6), N2(2, 8);
    Cout << "\n total objects created : " << Number : : cnt;
    return 0;
}
```

Q5) Attempt any four of the following :

[4 × 4 = 16]

- Explain parameterised and Dynamic constructor with suitable example.
- Create a class time which contains data members as Hours, minutes, seconds. write a C++ program using operator overloading for the following :
 - == to check whether two times same or not
 - >> to accept time.
 - << To display time.
- What is operator overloading? List the operators that cannot be overloaded in C++? Why is it necessary to overload an operator?

- d) Create a C++ class Maximum to perform following functions as :-
- i) `int max (int, int) ⇒ Returns maximum of two integer numbers.`
 - ii) `int max (int [], int) ⇒ Returns largest number from an integer array of size n .`

- e) Trace output of following program & explain it. Assume there is no syntax error.

```
#include <iostream. h>
class base
{
    public :
    void display ()
    {
        cout <<“ \n display base”;
    }
    virtual void print ()
    {
        cout <<“ \n print base”;
    }
};
class derived : public base
{
    public :
    void display ()
    {
        cout << “\n display derived”;
    }
    void print ()
    {
        cout <<“ \n print derived”;
    }
};
int main ()
{
    Base * Bptr;
    Base B;
    Derived D;
    Bptr = & D;
    Bptr → display ();
    Bptr → print ();
return 0;
}
```



Total No. of Questions : 5]

SEAT No. :

P988

[4768] - 4002

[Total No. of Pages : 2

S.Y.B.C.A.

PROGRAMMING IN VISUAL BASIC

(2013 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Give illustrate wherever necessary.*

Q1) Explain the following property setting (Any 8)

[16]

- a) Property used to hide a control at runtime.
- b) Property used to create a vertical scroll bar.
- c) Property used to set special Password character.
- d) Property used to count number of items selected from the list box control.
- e) Property used to move the text in the control towards left.
- f) Property used to sort items in combo box.
- g) Property used to resize the picture to fit in the image control.
- h) Property used to change the name of the form.
- i) Property used to set current path of folder of director list box.
- j) Property used to specify text when the mouse is paused over the control.

Q2) Answer the following (Any 4):

[16]

- a) Explain briefly MDI Form. How it differs from Simple Form.
- b) Explain any two built in date function with Syntax and examples.

P.T.O.

- c) What do you mean by Variable? Explain Scope of Variables.
- d) Differentiate between MSGBOX and InputBox.
- e) Explain If-then-else statement with syntax and example.

Q3) Attempt the following (Any 4): [16]

- a) Write a VB program for subtraction of two matrices.
- b) Write a VB program to display string in reverse order using built in function.
- c) Write a VB program to calculate x^y without using built-in function.
- d) Write a VB program to check whether a year is leap year or not.
- e) Write a VB program to find even and odd numbers from given array.

Q4) Attempt the following (Any 2) [16]

- a) What is Menu Editor? Explain Steps to Create Menu Editor.
- b) Explain procedures and functions in Visual Basic with syntax and suitable example.
- c) Write a program to accept the details of Student from user and store that details into the database (Don't use standard control). Student having fields RollNo, name, Class, Percentage.

Q5) Short notes (Any 4) [16]

- a) Progress Bar.
- b) Common Dialog Box.
- c) Events Driven Programming.
- d) Data Types.
- e) Control array.



Total No. of Questions : 5]

SEAT No. :

P989

[4768] - 4003

[Total No. of Pages : 2

S.Y.B.C.A.

**403: COMPUTER NETWORKING
(2013 Pattern) (Semester - IV)**

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*

Q1) Attempt any three of the following:

[3×5 = 15]

- a) Define Network Topology list Different types of Topologies. Explain any one in detail.
- b) What is co - axial cable? Explain its physical structure with its applications.
- c) Define the Bridge? Explain types of Bridges.
- d) What is NIC? List types of NIC and explain any one in detail.

Q2) Attempt any three of the following:

[3×5 =15]

- a) Describe the IEEE 802.11 architecture.
- b) Explain fire wall and its security features.
- c) Compare connection oriented and connectionless Network Models.
- d) Different types of address.

Q3) Attempt any three of the following :

[3×5 = 15]

- a) Describe the frame format and physical layer of Ethernet.
- b) Explain Server based and peer to peer LAN'S.
- c) Compare ISO/OSI reference model and TCP/IP.
- d) What are repeaters? Define different types of repeaters.

P.T.O.

Q4) Attempt any three of the following:

[3×5 = 15]

- a) Explain WWW Architecture.
- b) Explain in detail 'Line - of Sight'.
- c) Explain Asynchronous communication in detail.
- d) Write note on protocols and standards.

Q5) Write notes (Any 4)

[4×5 = 20]

- a) Unguided media.
- b) Bluetooth.
- c) Modes of communication.
- d) Search Engines.
- e) Hub.



Total No. of Questions : 5]

SEAT No. :

P990

[4768] - 4004

[Total No. of Pages : 2

S.Y.B.C.A.

**404: ENTERPRISE RESOURCE PLANNING AND
MANAGEMENT**

(2013 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*

Q1) Answer in short.

[8×2 = 16]

- a) Define IDOC Application.
- b) Define ALE Integration.
- c) Define OCR Integration.
- d) What is a Data Warehouse?
- e) Define Data mining.
- f) List the types of Business Models.
- g) What is E-commerce?
- h) List the role of Enterprise.

Q2) Answer the following: (Any four)

[4×4 =16]

- a) What is ERP? Explain problem areas in ERP implementation.
- b) Explain CRM (Customer Relationship Management) in detail.
- c) Explain in brief ERP implementation Life Cycle.
- d) Explain the components of EDI.
- e) Discuss the SAP Architecture with its layers.

P.T.O.

Q3) Answer the following: (Any four).

[4×4 = 16]

- a) Explain Data Warehousing & structure of Data ware house.
- b) Explain the working of EIA.
- c) Explain Business Modeling & Integrated data model.
- d) Explain any one Implementation Methodology.
- e) Explain EDI Administration in brief.

Q4) Answer the following: (Any four)

[4×4 = 16]

- a) What is the relation between ERP & Internet?
- b) Explain Stevan's Model in detail.
- c) Explain Generic Model of ERP system.
- d) Differentiate between performance & scalability.
- e) What is IDOC? Explain its benefits.

Q5) Write short notes on (Any four)

[4×4 = 16]

- a) Evaluation of ERP.
- b) OCR Integration.
- c) Oracle ERP.
- d) Scope of Enterprise system.
- e) Limitations of ERP.



Total No. of Questions : 6]

SEAT No. :

P991

[4768] - 4005

[Total No. of Pages : 2

B.C.A.

HUMAN RESOURCE MANAGEMENT

(New 2013 Pattern) (Semester - IV)

Time : 3 Hours]

[Max. Marks : 80

Instructions to the candidates:

- 1) *Question No. 6 is compulsory.*
- 2) *Answer any four from the remaining.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw figures wherever necessary.*

Q1) Define the term 'Human Resource Management (HRM). Explain in detail the Activities and functions of HRM. **[15]**

Q2) What is 'Selection'? Explain in detail the selection procedure of candidates. **[15]**

Q3) What is 'performance Appraisal'? Explain in detail the various methods of 'performance Appraisal'. **[15]**

Q4) Give the meaning of Employee Remuneration. State the factors determining the level of Remuneration. **[15]**

Q5) Define the term 'Discipline'. Explain the objectives & principles of Discipline. **[15]**

P.T.O.

Q6) Write Short notes (Any four)

[20]

- a) Need & Requisites for E-Learning.
- b) Nature and Merits, Demerits of E-HRM.
- c) Methods of Training.
- d) Wage and salary Administration.
- e) Nature & Procedure of Grievance.
- f) Challenges before Human Resource Development (HRD).

