

Total No. of Questions : 5]

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**[4073]-101**

**B. C. A. ( Semester - I ) Examination - 2011**

**BUSINESS COMMUNICATION**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1)** What are the Barriers in Communication ? How will you Overcome Barriers in Communication ? **[15]**

**OR**

**Q.1)** What is Listening ? State and explain the principles of Good Listening. **[15]**

**Q.2)** Draft an application letter for the post of a Team Leader in Synergy Ltd. along with Resume. **[15]**

**OR**

**Q.2)** What is an Enquiry Letter ? Write an Enquiry Letter to Sai Motors Pvt. Ltd., Pune for enquiring about the various offers they have on purchase of Cars. **[15]**

**Q.3)** What is Oral Communication ? Explain the Medias of Oral Communication. **[15]**

**OR**

**Q.3)** What is Group Discussion ? Elaborate the advantages and disadvantages of Group Discussion. **[15]**

**Q.4)** Give hints to improve your Speaking Skills. **[15]**

**OR**

**Q.4)** What is a Business Letter ? Explain the Layout of Business Letter. **[15]**

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**1**

**P.T.O.**

**Q.5) Write short notes : (Any Four)**

**[20]**

- (a) E-mail
  - (b) Internet
  - (c) Multimedia
  - (d) Meetings
  - (e) Art of Listening
  - (f) Video Conferencing
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**B. C. A. ( Semester - I ) Examination - 2011**

**PRINCIPLES OF MANAGEMENT**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

*Instructions :*

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

**Q.1)** What is meant by 'Management' ? Explain various functions of Management.

**OR**

**Q.1)** Critically evaluate the Elton Mayo's Hawthorne Experiment.

**Q.2)** What is Organisation ? Explain various steps involved in Organising Process.

**OR**

**Q.2)** Write notes :

- (a) Types of Decisions
- (b) Importance of Staffing

**Q.3)** What is Leadership ? Explain various Leadership Styles.

**OR**

**Q.3)** Define Control. Describe various Elements of Control Cycle.

**Q.4)** What is Strategic Management ? Explain its importance.

**OR**

**Q.4)** Write notes :

- (a) Strategy Formulation
- (b) Need of Stress Management

**Q.5) Write short notes : (Any Four)**

- (a) Social Responsibility of Business
  - (b) International Management
  - (c) Importance of Motivation
  - (d) Need of Co-ordination
  - (e) Management of Crisis
  - (f) Professional Management in India
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**[4073]-103**

**B. C. A. ( Semester - I ) Examination - 2011**

**PRINCIPLES OF PROGRAMMING AND ALGORITHM**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1) Answer the following :**

**[2x8=16]**

- (a) What is Identifier ?
- (b) What is difference between getch() and getchar() ?
- (c) What is the use of Continue Statement ?
- (d) List the different Preprocessor Directives.
- (e) What is Constant ?
- (f) Explain syntax and usage of scanf().
- (g) List any four White Space Characters.
- (h) What is Interpreter ?

**Q.2) Answer the following : (Any Four)**

**[16]**

- (a) Explain various loop controls used in 'C'.
- (b) Discuss various Forms of Increment and Decrement Operator.
- (c) Write a program to accept a number and check whether it is prime number.
- (d) Write a program to display the first 'n' terms of the Fibonacci Series.
- (e) Write a program to accept a number and print the number, its square and its cube.

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**1**

**P.T.O.**

**Q.3) Answer the following : (Any Four)**

**[16]**

- (a) Define Algorithm. Explain characteristics of Algorithm.
- (b) What are different Parameter Passing Techniques ? Explain.
- (c) What is Static Storage Class ? Explain with example.
- (d) Write a program to generate the following pattern for 'n' lines :  
A  
A B  
A B C
- (e) Write a program to check, the given year is Leap Year or not.

**Q.4) Answer the following : (Any Four)**

**[16]**

- (a) Define Recursion. Explain with example.
- (b) Explain Switch Statement with example.
- (c) What is Function ? Explain the advantages of Function.
- (d) Trace the following output and explain :

```
main()  
{  
    int i = 1;  
    for(; ;)  
        printf("%d", i);  
}
```

- (e) Trace the following output and explain :

```
main()  
{  
    int j = 1;  
    while()  
    {  
        printf("%d", j++);  
        if (j>3)  
            break;  
    }  
}
```

**Q.5) Answer the following : (Any Four)**

**[16]**

- (a) Explain steps in Problem Solving Techniques.
  - (b) What are the features of the 'C' language ?
  - (c) Explain concept and use of header files.
  - (d) Write an algorithm to check number is perfect or not.
  - (e) Draw a flowchart to find the L.C.M. of two numbers.
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**[4073]-104**

**B. C. A. ( Semester - I ) Examination - 2011**

**COMPUTER FUNDAMENTALS AND OFFICE AUTOMATION**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

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

**Q.1) Answer the following : (Any Eight)**

**[16]**

- (a) What is mean by Hardware and Software ?
- (b) Write full forms of - EPROM, EBCDIC
- (c) Write the definition of Algorithm.
- (d) Explain the purpose of following commands :
  - (i) Passwd
  - (ii) Who
- (e) What is Word Processor ?
- (f) Explain the following MS-Excel Functions with suitable example :
  - (i) LEFT( )
  - (ii) PROPER( )
- (g) Explain the term 'Desktop'.
- (h) Write the definition of Flowchart.
- (i) What is Booting ? State types of Booting.
- (j) What is an Operating System ? Give any two functions of Operating System.

**[4073]-104**

**1**

**P.T.O.**



**Q.2) Attempt any four of the following :** [16]

- (a) Write a note on Hard Disk.
- (b) Write a note on MS-Access.
- (c) Explain the characteristics of Computer.
- (d) Explain Metacharacters and Filters of Linux.
- (e) Draw a flowchart to find the largest of three numbers.

**Q.3) Answer the following : (Any Four)** [16]

- (a) State any four features of MS-Word.
- (b) What is Chart ? Explain different types of Charts in MS-Excel.
- (c) Differentiate between DOS and Windows.
- (d) Explain any four Internal DOS Commands.
- (e) Perform the following : (Any Four)
  - (i)  $(11011)_2 = (?)_{10}$
  - (ii)  $59_{10} = (?)_2$
  - (iii)  $CA_{16} = (?)_{10}$
  - (iv)  $110_2 \times 101_2 = (?)_2$
  - (v)  $110011_2 - 100011_2 = (?)_2$

**Q.4) Answer the following : (Any Four)** [16]

- (a) Write a note on vi editor in Linux.
- (b) Draw the symbols used in Flowchart with their name and purpose.
- (c) Write a Batch File that performs following tasks :
  - (i) Display Current Date and Time
  - (ii) Display the Content of File PQR.TXT
  - (iii) Copy a File PQR.TXT to D: drive
  - (iv) Delete a File Ram.txt
- (d) Differentiate Impact Printer and Non-impact Printer.
- (e) Write a note on DTP.

**Q.5) Answer the following : (Any Four)**

**[16]**

- (a) Write an algorithm to print the sum of 1 to 10 numbers.
  - (b) Explain the page view available in Power Point.
  - (c) What is Memory ? Explain different types of Memory.
  - (d) What is Mail-merge ? Explain its features.
  - (e) Write any four Linux Commands with its purpose.
-

Total No. of Questions : 5]

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B. C. A. ( Semester - I ) Examination - 2011

BUSINESS ACCOUNTING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instruction :

*All questions are compulsory.*

Q.1) Answer the following in brief : [12]

- Define the term Financial Accounting.
- What do you mean by Contra Entry ? When is it passed ?
- Describe meaning of 'Debit Note' and 'Credit Note'.
- Define the terms 'Debtor' and 'Creditor'.
- What is 'Real Account' ? State its Principle of Recording.
- Define the terms 'Capital' and 'Drawing'.

OR

Q.1) Explain various Concepts of Accounting. [12]

Q.2) The following is the 'Trial Balance' of Mr. FINACC prepared as on 31st March, 2010 :

**Trial Balance of Mr. FINACC as on 31-3-2011**

Particulars	Debit (Rs.)	Credit (Rs.)
Land and Building	4,00,000	—
Capital Account	—	8,50,000
Opening Stock	1,50,000	—
Administration Expenses	15,000	—
Carriage Inward	7,500	—
Carriage Outward	3,000	—
Insurance	3,600	—
Sales Expenses	17,500	—

<b>Particulars</b>	<b>Debit (Rs.)</b>	<b>Credit (Rs.)</b>
Plant and Machinery	2,10,000	—
Furniture	60,000	—
Investment	45,000	—
Outstanding Rent	4,500	—
Cash	15,400	—
Debtors and Creditors	75,000	50,000
Returns of Goods	7,500	5,700
Factory Expenses	8,500	
Discount	2,400	4,200
Bank Overdraft	—	42,000
Salaries	24,000	—
Purchases and Sales	1,20,000	2,15,000
Bad Debts and R.D.D.	5,000	7,000
<b>Total</b>	<b>11,73,900</b>	<b>11,73,900</b>

**Adjustments :**

- (1) Stock as on 31st March, 2011 is Rs. 1,90,000.
- (2) Depreciate all fixed assets by 10%.
- (3) Outstanding Factory Expenses Rs. 2,000.
- (4) Additional Bad Debts are Rs. 2,000. Provide for Doubtful Debts Rs. 5,000.
- (5) Salary Rs. 10,000 is paid in advance.

You are required to prepare Trading and Profit and Loss Account for the year ended on 31st March, 2011 and Balance Sheet as on that date. [20]

**Q.3)** Record the following transactions in the Cash Book of Miss BECEA : [16]

**Date :**

**(March, 2011)**

- 1 Cash Balance - Rs. 55,000, Bank Balance - Rs. 53,000 (credit).
- 5 Purchased goods of Rs. 80,000 from Mr. P @ 5% Trade Discount by paying half of the due amount immediately at 4% Cash Discount. Half of the net payment is made by cheque.

- 7 Sold goods of Rs. 1,20,000 to Mr. S. He has paid two third of the due amount immediately at 4% Cash Discount. Two third of the net payment is made in cash.
- 9 Paid Rs. 36,500 to Mr. X in full settlement of his account of Rs. 37,000.
- 15 Mr. S has returned the goods of Rs. 8,000 and has paid the due amount immediately.
- 20 Rs. 30,000 are withdrawn from the bank for purchasing furniture which was purchased on the next day.
- 26 Goods of Rs. 8,000 are returned to Mr. P and the due amount is paid at 5% discount.
- 28 Mr. T had settled his dues Rs. 19,000 at 4%. The amount received was immediately deposited in the bank.
- 30 Miss BECEA has purchased Stationery of Rs. 5,000 and has paid Rent Rs. 10,000 by cheque from her personal account.
- 31 Cash in excess of Rs. 15,000 is be deposited in the bank.

**Q.4)** On 31st March, 2011 the 'Pass Book' of Mr. B.R.S. showed Credit Balance of Rs. 23,500 which does not match with the 'Pass Book'. You are required to prepare 'Bank Reconciliation Statement' considering the following information :

**[16]**

- (1) Cheques of Rs. 18,000 and 15,000 issued on 29th March were debited by the bank on 2nd April.
- (2) Cheques of Rs. 14,500 and 15,400 received from Mr. 'XA' and 'XB' were deposited on 29th March are not credited by the bank till 31st March.
- (3) Cheque of Rs. 19,000 issued in favour of Mr. 'Error' on 5th March was wrongly entered in the cash column of the Cash Book. The same cheque was debited by the bank on 10th March.
- (4) The bank has debited our account with an amount of Rs. 1,500 for interest and has credited our account with Rs. 2,450 dividend collected by the bank for Mr. BRS. Bank Charges no effect was given in the Cash Book.
- (5) Mr. 'Honest', our customer has directly deposited Rs. 35,000 in our bank account. No entry was made in the Cash Book.
- (6) Bank Balance Rs. 16,500 on 15th March was brought forward as Rs. 15,600.

**OR**

**3**

**[4073]-105**

**P.T.O.**

**Q.4)** Record the following transactions in the various subsidiary books of Mr. CASBOOK, post them into ledger and prepare a Trial Balance as on 31st March, 2011 : **[16]**

**Date**

- 1 Started business with Cash Rs. 70,000 and Machinery of Rs. 50,000.
- 5 Purchased Goods of Rs. 40,000 from P at 5% Trade Discount.
- 7 Sold Goods to Mr. S of Rs. 30,000. He has paid half of the due amount immediately at 5% Cash Discount.
- 10 Purchased a Machinery of Rs. 10,000 and Furniture of Rs. 12,000 from Mr. Supplier.
- 12 Goods of Rs. 6,000 are returned by Mr. S and goods of Rs. 4,000 are returned to Mr. P.
- 16 Paid Rent Rs. 6,000 and purchased Stationery of Rs. 2,000.
- 20 Paid half of the due amount to Mr. P at 2% Cash Discount.
22. Mr. S. has settled his dues at 4% Cash Discount.
- 24 Purchased Goods of Rs. 60,000 from Mr. P and the same are sold to Mr. S at 40% profit.
- 29 Mr. CASBOOK has paid the due amount by cheque to Mr. Supplier from his Personal Bank Account.

**Q.5)** Explain various provisions of Companies Act, 1956 in respect of preparation of Final Accounts. **[16]**

**OR**

**Q.5)** Write notes on the following : **[16]**

- (a) Conventions of Accounting
- (b) Benefits of Accounting Standards in India
- (c) Codification of Accounts
- (d) Generating Accounting Reports

Total No. of Questions : 8]

[Total No. of Printed Pages : 1

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B. C. A. ( Semester - II ) Examination - 2011

ORGANISATIONAL BEHAVIOUR

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

- 
- 
- Q.1) What are the emerging aspects of Organisational Behaviour ? [16]
- Q.2) Define Organisational Behaviour. Explain various models of Organisational Behaviour. [16]
- Q.3) Define Motivation. Explain Maslow's Need Hierarchy Theory of Motivation. [16]
- Q.4) Define Personality. Explain various Theories of Personality. [16]
- Q.5) What are the Symptoms of Stress ? How you can manage the stress at individual as well as Organisational Level ? [16]
- Q.6) Define the Group. What are the different types of Groups ? [16]
- Q.7) What are the Levels of Conflicts ? Explain the Conflict Resolution Process. [16]
- Q.8) Write short notes : (Any Two) [8x2=16]
- (a) McGregor's Theory X and Theory Y
  - (b) Traits of Effective Leader
  - (c) Nature and Characteristics of Team

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Total No. of Questions : 5]

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B. C. A. ( Semester - II ) Examination - 2011

ELEMENTS OF STATISTICS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

- (1) *All questions are compulsory.*
  - (2) *All questions carry equal marks.*
  - (3) *Figures to the right indicate full marks.*
  - (4) *Use of statistical tables and calculator is allowed.*
  - (5) *Symbols and abbreviations have their usual meanings.*
- 
- 

**Q.1)** Attempt **any four** of the following :

[4x4=16]

- (a) Explain the term Population and Sample with one illustration of each.
- (b) State the requirements of good measures of Central Tendency.
- (c) Define Permutation and Combination. Hence show that
$$\binom{n}{r} = \binom{n}{n-r}.$$
- (d) The probability that a contractor will get a plumbing contract is 0.4 and the probability that he will not get an electric contract is 0.7. If the probability of getting at least one contract is 0.6, what is the probability that he will get :
  - (i) both the contracts ?
  - (ii) exact one contract ?
- (e) Calculate Median and Harmonic Mean for the following data of weights of the students :

51, 52, 53, 51, 53, 54, 54, 50, 55, 53.



- (f) Compute Variance and Standard Deviation for the following observations :

36, 15, 25, 10, 14.

**Q.2) Attempt any four of the following :**

**[4x4=16]**

- (a) Explain Concept of Deterministic and Non-deterministic Experiments with one illustration each.
- (b) Explain Concept of Mutually Exclusive Events and Exhaustive Events with illustrations.
- (c) The following are the scores in intelligence test conducted for 40 candidates of a certain class :

11, 07, 11, 09, 13, 08, 08, 07, 10, 09,  
06, 11, 09, 09, 10, 09, 08, 08, 08, 12,  
09, 10, 10, 08, 08, 09, 07, 10, 12, 09,  
12, 11, 08, 06, 09, 13, 12, 10, 11, 07

Construct a frequency distribution of candidates. Also obtain average number of scores.

- (d) A class in probability theory consists of 6 men and 4 women. The students are ranked according to their performance in examination. Assuming that no two students obtain the same score. How many different ranking are possible ? Justify your answer. Also find the probability that women receive the top 4 scores.
- (e) For 20 samples each of size 4, we have  $\sum \bar{x} = 41.20$ ,  $\Sigma R = 0.34$ . Compute 3-sigma limits for  $\bar{x}$  and R-charts.  
(Given that for  $n = 4$ ,  $A_2 = 0.729$ ,  $D_3 = 0$ ,  $D_4 = 2.282$ )
- (f) The following data relates to the age distribution of 50 persons :

Age in Years	20-30	30-40	40-50	50-60	60-70	70-80
No. of Persons	3	7	14	16	8	3

Find mode of the above data.

**Q.3) Attempt any four of the following :**

**[4x4=16]**

- (a) Define :
- (i) Sample Space
  - (ii) Discrete Sample Space
  - (iii) Union of two events
  - (iv) Intersection of two events
- (b) Write a short note on Process Control and Product Control.
- (c) Mean daily salary of 50 employees in a firm is Rs. 88.40. An incomplete frequency distribution of salaries of these employees is given below :

Salary	40–60	60–80	80–100	100–120	120–140
No. of Employees	6	–	17	–	5

Find the missing frequencies.

- (d) Consider the following sample space  $\Omega = \{1, 2, 3, 4, 5, 6, 7, 8\}$ .  
Write down the following events :
- (i) A : An odd number appears
  - (ii) B : Number is greater than 4
  - (iii) At least one of A and B occurs
  - (iv) None of A and B occurs
- (e) Define Range of Data. Find the range for the following observations :  
55, 61, 66, 65, 87, 57, 88, 60.  
What would be the range if each observation is reduced by 5 ?
- (f) Suppose A and B are two events defined on sample space  $\Omega$ .  
If  $P(A) = 0.8$ ,  $P(A \cup B) = 0.9$  and  $P(B) = x$ , find the value of x if,
- (i) A and B are independent.
  - (ii) A and B are mutually exclusive.

**Q.4) Attempt any four of the following :** **[4x4=16]**

- (a) Define classical definition of Probability. State the addition theorem for three events.
- (b) Explain concept of absolute and relative measure of Dispersion.
- (c) The Arithmetic Mean and Standard Deviation of 12 items are 22 and 3 respectively. Later on it was observed that item 32 was wrongly taken as 23. Compute Correct Mean and Correct Standard Deviation.
- (d) Find the geometric mean of the following observations :  
2, 8, 20, 62, 54.
- (e) Consider an experiment of rolling of a fair die with sample space  $\Omega = \{1, 2, 3, 4, 5, 6,\}$  with the event A = Occurrence of an even number and B = Occurrence of a number greater than 4. Check whether A and B are independent or not.
- (f) Obtain median for the following frequency distribution of weekly salary of families :

<b>Weekly Salary in Rs.</b>	1400-1600	1600-1800	1800-2000	2000-2200	2200-2400	2400-2600
<b>No. of Families</b>	12	30	55	40	35	28

**Q.5) Attempt any two of the following :** **[8x2=16]**

- (a) Given below are the means and ranges of samples of size 4 each taken every hour :

<b>Sample No.</b>	1	2	3	4	5	6	7	8	9	10	11	12
<b>Means (<math>\bar{X}</math>)</b>	69.4	63.4	57.0	64.0	57.4	82.0	85.0	33.4	46.0	112.4	93.6	95.6
<b>Range (R)</b>	45	48	62	48	36	81	78	42	69	84	48	75

Construct Control Chart of Mean and Range. Also comment on state of Control.

(Given that for  $n = 4$ ,  $A_2 = 0.729$ ,  $D_3 = 0$ ,  $D_4 = 2.282$ )

- (b) Number of runs scored by cricketer A and B in 6 test matches is shown below :

<b>A</b>	20	30	40	90	45	30
<b>B</b>	10	40	60	50	20	40

Which cricketer is more stable ? Justify your result.

- (c) Let A, B, C be three events defined on  $\Omega$  with the following probabilities :

$$P(A) = 0.3, P(B) = 0.2, P(C) = 0.5,$$

$$P(A \cap C) = 0.25, P(B \cap C) = 0.15, P(A \cap B) = 0.17 \text{ and } P(A \cap B \cap C) = 0.1$$

**Compute :**

- (i)  $P(A \cup B)$
  - (ii)  $P(A' \cap B \cap C)$
  - (iii)  $P(A' \cap B' \cap C)$
  - (iv)  $P(A' \cap B' \cap C')$
-

Total No. of Questions : 4]

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**[4073]-203**

**B. C. A. ( Semester - II ) Examination - 2011**

**‘C’ PROGRAMMING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

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**Q.1) Attempt any ten of the following :**

**[10x2=20]**

(1) What is the difference between 7's in the following two expression ?

int num [7];

int num [7] = 15;

(2) What is Self Refrential Structure ?

(3) What is advantage of Array over Ordinary Variable ?

(4) Define ‘C’ Preprocessor.

(5) List Bitwise Logical Operators.

(6) What are the advantages of Command Line Argument ?

(7) Define Union with example.

(8) Give the use of rewind().

(9) List different Arithmetic Operations performed on Pointers.

(10) How are structure elements accessed and stored ?

(11) How is Pointer Variable declared and initilalized ?

(12) Define String. Which character is used to terminate the String ?

**Q.2)** Attempt **any four** of the following : **[5x4=20]**

- (a) Explain Memory Representation of Two-dimensional Array.
- (b) Explain use of following Standard Library Function :  
strlen(), strcmp(), strcat(), strcpy(), strrev().
- (c) What is Dynamic Memory Allocation ? Explain its advantages.
- (d) Illustrate difference between Arrays and Structure with an example.
- (e) How can array of structure be declared ? Can it be initialized ?  
Give an example.

**Q.3)** Attempt **any four** of the following : **[5x4=20]**

- (a) Write a 'C' Program to print array elements in reverse order.
- (b) Write a 'C' Program to calculate sum of major and minor diagonal elements of  $m \times n$  matrix.
- (c) Write a 'C' Program to read a file and print number of words, lines and characters in it.
- (d) Create a structure having record of 10 students. Containing Roll No., Name and Percentage. Print student names having percentage greater than 75.
- (e) Write a 'C' Program to find Union and Intersection of two sets of integers.

**Q.4)** Trace the output and justify : (**Any Four**) **[5x4=20]**

```
(a) main()  
{  
    int b[] = {10, 20, 30, 40, 50};  
    int i;  
    for (i = 0; i <= 4; i++)  
        printf("\n %d", * (b + i));  
}
```

```

(b) main()
    {
        char c[2] = "A";
        printf("\n %c", c[0]);
        printf("\n %s", c);
    }

(c) #define CUBE (x) (x * x * x)
    main()
    {
        int x, y = 3;
        x = CUBE (y++);
        printf("%d", x);
    }

(d) main()
    {
        static char s[] = "c is a philosophy of life";
        char t[40];
        char *ss, *tt;
        ss = s;
        tt = t;
        while (* ss)
            ** tt++ = * ss++;
        * tt = '\0';
        printf("%s",t);
    }

```

```
(e) main( )
{
    union ul
    {
        union u2
        {
            char a;
            char b;
        } abc;
        union u3
        {
            float x;
            char y;
        } xyz;
        cahr u4;
        } pqr;
    printf(“%d”, size of (pqr));
}
```



Total No. of Questions : 5]

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B. C. A. ( Semester - II ) Examination - 2011

FILE STRUCTURE AND DATABASE CONCEPTS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

**Q.1)** Attempt **any four** of the following :

**[4x4=16]**

- (a) Explain Heap File Organisation Technique in detail.
- (b) Write a short note on Dense Index.
- (c) Explain Network Model with example.
- (d) Differentiate between Fixed Length and Variable Length Records.
- (e) What is Key ? Explain its types.

**Q.2)** Attempt **any four** of the following :

**[4x4=16]**

- (a) Explain Select and difference operations of Relational Algebra with example.
- (b) Write a short note on Normalization.
- (c) Differentiate between File Processing System and DBMS.
- (d) Define :
  - (i) Data Dictionary
  - (ii) Domain
- (e) List various File Operations. Explain any three of them.

**Q.3)** Attempt **any four** of the following : **[4x4=16]**

- (a) Write a short note on Data Independence.
- (b) Discuss Anomalies of Unnormalised Database.
- (c) Explain the Search Operation of B<sup>+</sup> Tree.
- (d) List various DML Commands. Explain any one with example.
- (e) Explain Weak Entity with example.

**Q.4)** Attempt the following : **[16]**

Consider the following entities and their relationship :

Doctor (dno, dname, city)

Patient (opdno, pat\_name, addr, disease)

Doctor and Patient related with many to many relationship.

Create RDB in 3NF and solve **any five** of the following :

- (a) Insert a row in patient table.
- (b) Display name of patients, suffering from 'Daibeties' or 'BP'.
- (c) Count the no. of patients, treated by Dr. 'Warma'.
- (d) Add 'admit\_date' column to patient table.
- (e) Display total number of patient treated by each doctor.
- (f) Change patient address from 'Pune' to 'Mumbai'.

**Q.5)** Attempt the following :

- (a) A company has several employees. Atleast one employee is assigned to a project, but an employee may be on vacation and not assigned to any projects.

A database should provide following details to the user :

- (i) Identify all entities
- (ii) Identify all relations
- (iii) E-R Diagram

**[08]**

(b) Consider the following relational database :

Student (roll\_no, name, city, marks, c\_no)

Course (c\_no, cname, fees)

Construct queries into relational algebra :

(i) List student details enrolled for 'BBA' Course.

(ii) List the courses having fees < 20,000.

(iii) Display all students living in either 'Nasik' or 'Pune' city.

(iv) Display course detail for student 'Gaurav Sharma'. **[08]**

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Total No. of Questions : 5]

[Total No. of Printed Pages : 5

[4073]-205

B. C. A. ( Semester - II ) Examination - 2011

COST ACCOUNTING

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

**Q.1) (A) Indicate whether the following statements are 'True' or 'False' :**  
**(Any Five) [05]**

- (a) Cost Accounting is simply the techniques and process of Ascertaining Costs.
- (b) A Service Cost Centre renders services to Production Departments.
- (c) Leather used in shoe making business is an example of Indirect Material.
- (d) Selling Overheads are the cost of promoting sales and retaining customers.
- (e) Normal Losses are not charged to the product in Process Costing.
- (f) Cash Budget is prepared by the Finance Manager.

**(B) Fill in the blanks : (Any Five) [05]**

- (a) Cost Accounting is based on \_\_\_\_\_ System.
- (b) The basic object of Cost Accounting is to \_\_\_\_\_.
- (c) Direct Cost + Variable Overheads is known as \_\_\_\_\_ Cost.
- (d) The budget is an aid to \_\_\_\_\_.
- (e) At Higher P/V Ratio reflects \_\_\_\_\_ profitability.
- (f) The important objectives of Standard Costing is to Exercise Cost \_\_\_\_\_.

- Q.2)** (A) Limitation of Cost Accounting [07]  
 (B) Cost Unit and Cost Centre [08]

**OR**

- Q.2)** Differentiate between Cost Accounting and Financial Accounting. [15]

- Q.3)** Write short notes : (Any Three) [15]

- (a) Methods of Costing  
 (b) Escalation Clause  
 (c) Zero Base Budgeting  
 (d) Objectives of Marginal Costing  
 (e) Objectives of Standard Costing

- Q.4)** Following details have been obtained from the cost records of Colgate Ltd., Mumbai for the year ended 31-3-2010 :

<b>Particulars</b>	<b>Rs.</b>
Stock of Operating Material as on 1-4-2009	30,000
Wages paid to Direct Workers	55,000
Interim Dividend paid	12,000
Purchase of Raw Materials	87,000
Heating and Lighting	6,000
Counting House Salaries	20,000
Carriage and Cartage on Purchases of Raw Materials	3,000
Commission on Sales	5,000
Wages Payable	5,000
Technical Director's Fees	10,000
Stock of Operating Material as on 31-03-2010	40,000
Show Room Expenses	7,000
Establishment on Cost	12,000
Share Transfer Fees	2,000
Expenses of Testing Labs	4,000
Branch Office Expenses	8,000
After Sales Service Expenses	8,000
Selling Price	2,50,000

Prepare a Cost Sheet showing :

- (a) Cost of Raw Material consumed
- (b) Prime Cost
- (c) Works Cost
- (d) Cost of Production
- (e) Total Cost
- (f) Profit or Loss

Also calculate the percentage of :

- (a) Factory Overheads to Direct Wages
- (b) Office on Cost to Works Cost
- (c) Selling and Distribution Expenses to Cost of Production [16]

**Q.5)** (A) The following information is obtained from Sagar Ltd. for the year ended 31-3-2010 :

	<b>Rs.</b>
Sales (1,00,000 units)	1,00,000
Marginal Cost	60,000
Fixed Cost	30,000

**Calculate :**

- (a) P/V Ratio
- (b) BEP (Sales – Value)
- (c) Sales to earn a profit of Rs. 15,000
- (d) Profit when sales amounted to Rs. 1,40,000 [12]

- (B) Summarised below are the income and expenditure for costs for the month of March to August, 2010 of Shine Industries Ltd., Delhi :

Month	Credit Sales Rs.	Credit Purchases Rs.	Wages Rs.	Manufacturing Expenses Rs.	Office Expenses Rs.	Selling Expenses Rs.
March	60,000	36,000	9,000	4,000	2,000	4,000
April	62,000	38,000	8,000	3,000	1,500	5,000
May	64,000	33,000	10,000	4,500	2,500	4,500
June	58,000	35,000	8,500	3,500	2,000	3,500
July	56,000	39,000	9,000	4,000	1,000	4,500
August	60,000	34,000	8,000	3,000	1,500	4,500

You are given the following further information :

- (1) Plant Costing Rs. 16,000 is due for delivery in July, 2010. Payable 10% on delivery and balance after three months.
- (2) Advance Tax of Rs. 8,000 each is payable in March and June, 2010.
- (3) Period of credit allowed :
  - (i) by suppliers two months and
  - (ii) to customers one month
- (4) Lag in payment of manufacturing expenses half month.
- (5) Lag in payment of all other expenses one month.

You are required to prepare a Cash Budget for three months starting on 1st May, 2010 when there was a Cash Balance of Rs. 8,000. [12]

**OR**

- (B) In Toshniwal Chemicals, Tulapur for the output of Tosha Chemical of 10 kgs the Actual Mix differs from the Standard Mix with a change in output. The cost details for a period of March, 2010 are given below :

Materials	Standard Mix			Actual Mix		
	Quantity (kgs)	Price (Rs.)	Cost (Rs.)	Quantity (kgs)	Price (Rs.)	Cost (Rs.)
A	60	20	1,200	75	22	1,650
B	40	10	400	30	08	240
Total	100	–	1600	105	–	1,890

Calculate the following material variances :

- Material Cost Variance
- Material Price Variance
- Material Usage Variance and
- Material Mix Variance

[12]



Total No. of Questions : 5]

[Total No. of Printed Pages : 4

[4073]-301

B. C. A. (Semester - III) Examination - 2011

NUMERICAL METHODS

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

Instructions :

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

Q.1) (A) Attempt any four of the following :

[4x4=16]

- (a) Find the value  $\sqrt[3]{7}$  by Newton - Raphson's Method, correct upto 3 decimal places.
- (b) Fit a straight line  $y = a + bx$  to the following set of data :

x	1	2	3	4	5
y	3	4	5	6	8

- (c) (i) Evaluate :

$$\lim_{x \rightarrow 2} \frac{x^3 - 8}{x - 2}$$

- (ii) Differentiate w.r.t. x,

$$y = x \sin x + \cos x - e^{3x}.$$

- (d) Prove that,  $\nabla \equiv 1 - E^{-1}$ .

(e) From the following table, obtain the value of  $\tan(0.12)$  :

<b>x</b>	0.10	0.15	0.20	0.25	0.30
<b>tanx</b>	0.1003	0.1511	0.2027	0.2553	0.3093

(f) Explain Bisection Method graphically.

**Q.2) (A) Solve any four of the following : [4x4=16]**

(a) Fit a second degree polynomial  $y = a + bx + cx^2$  to the following data :

<b>x</b>	0	1	2	3	4
<b>y</b>	0	1.8	1.3	2.5	6.3

(b) State Runge - Kutta 2nd Order Method to solve differential

equation,  $\frac{dy}{dx} = f(x, y)$ , with  $y(x_0) = y_0$ .

(c) Find  $\frac{dy}{dx}$ , when  $x = -3$ , from the following table :

<b>x</b>	-3	-2	-1	0	1	2	3
<b>y</b>	-33	-12	-3	0	3	12	33

(d) A and B are two products to be manufactured. Unit profits are Rs. 20, Rs. 10 respectively. Maximum machine time available in hours are 48 hours. Maximum manpower (in hours) is 60 hours available. Each unit of 'A' requires 4 hours of machine and 3 hours of manpower. Whereas each unit of 'B' requires 3 hours of machine and 5 hours of manpower. Formulate this as a Linear Programming Problem.

(e) Using Simpson's  $\frac{1}{3}$ rd Rule, find the area of cross section of a river 80 meters wide, the depth  $y$  (in meters) at a distance  $x$  from one bank is given in the table below :

<b>x</b>	0	10	20	30	40	50	60	70	80
<b>y</b>	0	4	7	9	12	15	14	8	3

(f) (i) Explain Constraints.

(ii) Illustrate graphically : (1) LPP has no feasible solution (2) LPP has an unbounded solution.

**Q.3) (A) Solve any four of the following :**

**[4x4=16]**

(a) Estimate the missing term in the following table :

<b>x</b>	0	1	2	3	4
<b>y</b>	1	3	9	–	81

(b) Find initial basic feasible solution using Least Cost Method, to the following Transportation Problem.

		To			Supply ↓
		D	E	F	
From	A	6	4	1	50
	B	3	8	7	40
	C	4	4	2	60
Demand →		20	95	35	

(c) What is Unbalanced Transportation Problem ? How to balance it ?

(d) Construct the difference table for the following data :

<b>x</b>	10	15	20	25	30	35
<b>y</b>	19.97	21.51	22.47	23.52	24.65	25.89

Hence find  $\Delta^2 Y_{10}$ ,  $\Delta^3 Y_{15}$ .

(e) Give geometrical interpretation of Newton - Raphson Method.

(f) Show that,  $\Delta \log(F(x)) = \log \left[ 1 + \frac{\Delta F(x)}{F(x)} \right]$ .

**Q.4) (A) Attempt any two of the following :**

**[2x8=16]**

(a) Calculate,  $\int_{0.2}^{1.4} (\sin x - \log e^x + e^x) dx$  by Trapezoidal and Simpson's  $\frac{3}{8}$ th rule (Take  $h = 0.2$ ).

(b) Using Lagrange's Interpolation Formula, fit a polynomial to the data and also find  $y$  when  $x = 6$  :

<b>x</b>	1	2	4	7	8
<b>y</b>	22	30	82	106	206

- (c) Derive Picard's Method of successive approximation and solve the differential equation  $\frac{dy}{dx} = 1 + xy$ , subject to the condition  $y = 1$  when  $x = 0$ , by Picard's Method. Find the approximate value of  $y$ , when  $x = 0.1$ .

**Q.5) Attempt any two of the following :**

**[2x8=16]**

- (a) Obtain initial basic feasible solution by Vogel's Approximation Method to the following Transportation Problem :

	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	Supply ↓
O <sub>1</sub>	23	27	16	18	30
O <sub>2</sub>	12	17	20	51	40
O <sub>3</sub>	22	28	12	32	53
Demand →	22	35	25	41	

- (b) Solve the following Assignment Problem for Maximization :

	M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	M <sub>4</sub>	M <sub>5</sub>
1	30	37	40	28	40
2	40	24	27	21	36
3	40	32	33	30	35
4	25	38	40	36	36
5	29	62	41	34	39

- (c) Solve graphically the following LPP :

$$\text{Max. } z = 40x + 50y$$

$$\text{Subject to, } 2x + 6y \leq 36$$

$$5x + 3y \leq 30$$

$$8x + 2y \leq 40$$

$$x, y \geq 0$$

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4073]-302

B. C. A. ( Semester - III ) Examination - 2011

DATA STRUCTURE USING 'C'

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

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**Q.1)** Attempt **any eight** of the following :

**[8x2=16]**

- (a) Define Time Complexity.
- (b) Explain various Properties of an Algorithm.
- (c) Define Array. Give its ADT.
- (d) What are the different ways to represent a Polynomial ?
- (e) State different types of Queue.
- (f) What is the difference between Malloc and Calloc ?
- (g) Define Binary Tree.
- (h) List the different methods for graph representation in Memory.
- (i) What is Hash Function ?
- (j) What is Recursion ?

**Q.2)** Attempt **any four** of the following : **[4x4=16]**

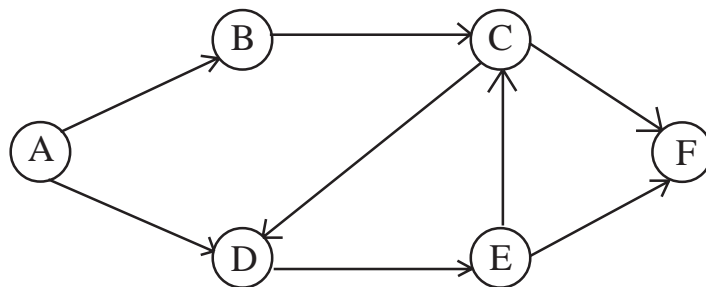
- (a) Write an algorithm for prefix to infix conversion of an expression.
- (b) What is Stack ? Discuss various applications of Stack.
- (c) Convert the following infix expressions into postfix :
  - (i)  $(A + B) * C$
  - (ii)  $(A + B) * (C + D)$
- (d) Write a program to accept size of queue and add elements in the queue one by one from the user till the queue is filled.
- (e) Write a function for adding and deleting elements from a Stack.

**Q.3)** Attempt **any four** of the following : **[4x4=16]**

- (a) Write an algorithm for Binary Search Method.
- (b) Write a program to accept roll no, name and marks for N students from the user and print the data. (Use Structure Array)
- (c) What are the advantages of an Array over a Linked List ?
- (d) Write a program to add a node in a Doubly Linked List at the beginning and at the end.
- (e) Explain the difference between Binary Tree and Heap.

**Q.4)** Attempt **any four** of the following : **[4x4=16]**

- (a) What are the different types of Tree Traversal Methods ? Explain any one with suitable example.
- (b) Write a program to construct a Binary Search Tree and Traverse using Inorder and Preorder Traversal.
- (c) What is a Graph ? Traverse the following graph using DFS ? (Start A )



(d) Define Height Balance Tree. Built an AVL Tree for the following data :

Jan, Feb, Mar, Apr, May, June, July

(e) Write a program to Count Leaf and Non-leaf Nodes of a Tree.

**Q.5) Attempt any four of the following : [4x4=16]**

(a) Explain Insertion Sort with example.

(b) Sort the following numbers in ascending order using Heap Sort Method :

23, 15, 29, 11, 01, 07

(c) State different types of Hashing Techniques and explain any one in detail.

(d) Write a program to accept N numbers from the user and sort using merge sort.

(e) Write an algorithm for quick sort. (Use recursion)

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Total No. of Questions : 5]

[Total No. of Printed Pages : 2

**[4073]-303**

**B. C. A. ( Semester - III ) Examination - 2011**

**SOFTWARE ENGINEERING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

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**Q.1) Attempt the following : (Any Eight)**

**[16]**

- (a) Define System and its elements.
- (b) What is Ripple Effect ?
- (c) State advantages of Prototype Model.
- (d) Define Open and Closed System.
- (e) What is E-R Diagram ? Draw various symbols of E-R Diagrams.
- (f) Define Decision Tree and Decision Table.
- (g) Difference between White Box Testing and Black Box Testing.
- (h) What is Coupling and Cohesion ?
- (i) What is Efferent Module ?
- (j) Define Open Ended and Close Ended Questionnaires.

**Q.2) Attempt the following : (Any Four)**

**[16]**

- (a) What is Data Dictionary ? Explain its various elements.
- (b) Explain Testing Principles and Objectives.
- (c) Explain role of System Analyst.
- (d) Explain in detail SRS Documentation.
- (e) Explain Waterfall Model in detail.
- (f) What is Structured Design ? What are the various aspects of Structured Design ?



**Q.3) (A)** Design an Input Form for College Admission System. **[08]**

(B) Material is issued to the department by considering whether the Material Requisition Note (MRN) is signed or not, it contains valid items or not and it is given within 8 hours or not.

Draw Decision Tree and Decision Table. **[08]**

**Q.4) Write short notes : (Any Four) [16]**

- (a) Feasibility Study
- (b) Spiral Model
- (c) Software Qualities (McCall's Quality Factors)
- (d) Maintenance of System
- (e) Quality of a Good Design

**Q.5) Case Study :**

Consider a Hospital Management System in which the hospital has Inpatient Department (IPD), Outpatient Department (OPD) the system maintains patient records and bills of patient it also manages information of various wards in the hospital like ICU, General, Private, Semi-private and Delux.

- (a) Identify all entities
- (b) Draw Context Level Diagram
- (c) First Level DFD for the System
- (d) Structure Chart

**[16]**

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

**[4073]-304**

**B. C. A. ( Semester - III ) Examination - 2011**

**MANAGEMENT ACCOUNTING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

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**Q.1) Define 'Management Accounting'. Explain the advantages and limitations of Management Accounting. [16]**

**OR**

**Q.1) What is Working Capital ? Explain various factors affecting the need of Working Capital. [16]**

**Q.2) Following is the Pro-forma Cost Sheet of a Company :**

<b>Particulars</b>	<b>Amount per unit Rs.</b>
Raw Material	160
Direct Labour	60
Overheads	120
Total Cost	<u>340</u>
Profit	<u>60</u>
Selling Price	400

**Additional Information :**

- (1) The annual production is 1,05,000 units.
- (2) 1/4th output is sold in cash.
- (3) Raw Materials are in stock for one month.
- (4) Credit allowed by Suppliers is one month.
- (5) Credit allowed to Customers is two months.
- (6) Lag in payment of Wages is 1.5 month.
- (7) Lag in payment of Overheads is one month.
- (8) Work-in-process is half month.
- (9) Finished Stock is in stock for one month.
- (10) Cash in hand Rs. 25,000.

Prepare a statement showing requirement of working capital taking into consideration that the production is carried out evenly through out year. [16]

**Q.3)** The following information is obtained from Rajkumar Co. Ltd. :

<b>Particulars</b>	<b>Rs.</b>
Sales (1,00,000 units)	1,00,000
Variable Cost	60,000
Fixed Cost	30,000

**Calculate :**

- (a) P/V Ratio
- (b) Break-even Point at Sales Value
- (c) Profit when sales amounted to Rs. 1,40,000 [16]

**OR**

**Q.3)** What is Fund Flow Statement ? Discuss the significance of Fund Flow Statement as a Tool of Financial Statement. [16]

**Q.4)** A manufacturing company submits the following Profit and Loss Account of the year ended 31st March, 2009 :

Particulars	Amount Rs.	Particulars	Amount Rs.
To Opening Stock	52,000	By Sales	3,20,000
To Purchases	1,60,000	By Closing Stock	76,000
To Wages	48,000		
To Manufacturing Exp.	32,000		
To Gross Profit c/d	1,04,000		
	<b>3,96,000</b>		<b>3,96,000</b>
To Selling Expenses	8,000	By Gross Profit b/d	1,04,000
To Administration Exp.	45,600	By Profit on Sale of Shares	9,600
To Loss by Fire	2,700		
To Interest on Debentures	1,600		
To Net Profit	56,000		
	<b>1,13,600</b>		<b>1,13,600</b>

**Calculate :**

- Gross Profit Ratio
- Net Profit Ratio
- Operating Profit Ratio
- Operating Expenses Ratio [16]

**OR**

**Q.4)** Define the term 'Budget' and 'Budgetary Control'. Explain its objectives and advantages. [16]

**Q.5)** Write short notes : (Any Two) [16]

- Distinction between 'Fixed Budget' and 'Flexible Budget'
- Break-even Analysis
- Limitations of Budgetary Control

Total No. of Questions : 5]

[Total No. of Printed Pages : 4

[4073]-305

B. C. A. ( Semester - III ) Examination - 2011

RELATIONAL DATABASE MANAGEMENT SYSTEM (RDMS)

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

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**Q.1) Attempt all :**

**[16]**

- (a) What are the main objects in MS-Access ?
- (b) What is Cursor ? List Attributes of Cursor.
- (c) What is PL/SQL ? Give PL/SQL Block Structure.
- (d) What is Schedule ? Give types of Schedule.
- (e) List the States of Transaction.
- (f) Define Lock. List different types of Lock.
- (g) Define redo and undo operations.
- (h) Define Commit and Rollback.

**Q.2) Attempt any four :**

**[16]**

- (a) Differentiate between DBMS and RDBMS with example.
- (b) Explain advantages and disadvantages of PL/SQL.
- (c) What is Transaction ? Explain ACID Properties of Transaction.
- (d) Explain strict two phase locking protocol with example.
- (e) Explain Deferred Database Modification with example.

**Q.3) Attempt any four :**

**[16]**

- (a) Explain different Control Structures used in PL/SQL with proper example.
- (b) Write a note on Storage Type.
- (c) Explain Deadlock Prevention Methods.
- (d) Explain different types of Failure.
- (e) What are the various problems that occurs in Concurrent Transaction ?

[4073]-305

1

P.T.O.

**Q.4) Attempt any four :**

**[16]**

- (a) Consider the following relational database :
- Doctor (doct\_no, doct\_name, d\_city)
  - Hospital (hosp\_no, hosp\_name, h\_city)
  - Doc-Hos (doct\_no, hosp\_no)
- Write a script of cursor to print the list showing the hospital-wise list of doctors.
- (b) Consider the following relational database :
- Customer (cust\_no, cust\_name, cust\_city)
  - Account (acc\_no, acc\_type, balance)
  - Cust-Acc (cust\_no, acc\_no)
- Define a trigger before insert or update of each row of account table for existing customer, if the customer is having balance less than Rs. 500 in his account then raise an exception and display corresponding message.
- (c) Consider the following relational database :
- Publisher (p\_no, p\_name, p\_addr)
  - Book (b\_no, b\_name, price)
  - Pub-Book (p\_no, b\_no)
- Write a function that will accept publisher name as a parameter and return number of books published by that publisher.
- (d) Consider the following relational database :
- Department (d\_no, d\_name, location)
  - Employee (e\_no, e\_name, e\_addr, e\_salary, d\_no)
- Write a procedure, which will take department name as parameter and will display details of employees working in that departments.
- (e) Write a package, which consist of one procedure and one function. Pass two numbers to procedure and print largest number. Pass department number to function and print location of that department for this consider following relation :
- Department (d\_no, d\_name, location)

**Q.5) Attempt any four :**

**[16]**

- (a) Consider the following transactions. Find out two concurrent schedule, which will be serializable to serial schedule  $\langle T_1, T_2 \rangle$  :

$T_1$	$T_2$
Read (A)	Read (B)
$A := A - 70$	$B := B + 10$
Write (A)	Write (B)
Read (B)	Read (C)
$B := B + 70$	$C := C + 50$
Write (B)	Write (C)

- (b) Consider the following non-serial schedule. Is this schedule serializable to a serial schedule  $\langle T_1, T_2 \rangle$  ?

$T_1$	$T_2$
Read (X)	
$X := X - N$	
	Read (X)
	$X := X + N$
Write (X)	
Read (Y)	
	Write (X)
$Y := Y + N$	
Write (Y)	

- (c) The following is a list of events in an interleaved execution if set of transaction  $T_0, T_1, T_2$  with two phase locking protocol :

Time	Transaction	Code
$t_1$	$T_0$	Lock (A, X)
$t_2$	$T_1$	Lock (B, S)
$t_3$	$T_2$	Lock (A, S)
$t_4$	$T_0$	Lock (C, X)
$t_5$	$T_1$	Lock (D, X)
$t_6$	$T_0$	Lock (D, S)
$t_7$	$T_1$	Lock (C, S)
$t_8$	$T_2$	Lock (B, S)

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

- (d) Following is the list of events in an interleaved execution if set  $T_1, T_2, T_3$  and  $T_4$  assuming 2PL (two phase lock). Is there a deadlock ? If yes, which transactions are involved in deadlock ?

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

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

[start\_transaction,  $T_1$ ]

[write\_item  $T_1, D, 20$ ]

[commit  $T_1$ ]

[check point]

[start\_transaction  $T_4$ ]

[write\_item  $T_4, B, 15$ ]

[commit  $T_4$ ]

[start\_transaction  $T_2$ ]

[write\_item  $T_2, B, 25$ ]

[start\_transaction  $T_3$ ]

[write\_item  $T_3, A, 30$ ]

[write\_item,  $T_2, D, 25$ ] ← System Crash

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



Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4073]-306

B. C. A. ( Semester - III ) Examination - 2011

PRINCIPLES OF PROGRAMMING AND ALGORITHM

(Old 2004 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

**Q.1)** Attempt **any four** of the following :

[4x4=16]

- (a) Explain the structure of 'C' Program.
- (b) List all bitwise operators in 'C'.
- (c) What is a Variable ? State the rules for naming the Variable.
- (d) Define following terms with suitable example :
  - (i) Constant
  - (ii) Identifier
- (e) Explain working of 'do - while' loop with syntax and example.

**Q.2)** Attempt **any four** of the following :

[4x4=16]

- (a) What are the advantages of 'C' Language ?
- (b) Differentiate between if - else and switch - case.
- (c) Explain Actual Parameter and Formal Parameter with example.
- (d) What is an Escape Sequence ? List and explain them.
- (e) Explain Static Storage Class with example.

**Q.3) Attempt any four of the following :** **[4x4=16]**

- (a) Explain following functions with example :
  - (i) scanf( )
  - (ii) printf( )
- (b) Explain Arithmetic Operators in 'C'.
- (c) Explain basic data types of 'C'.
- (d) Discuss the different ways to terminate loop execution.
- (e) Explain various steps involved in program execution in 'C'.

**Q.4) Attempt any four of the following :** **[4x4=16]**

- (a) Write a 'C' Program to find GCD and LCM of two numbers.
- (b) Write a 'C' Program to check whether the given number is perfect number or not.
- (c) Write a 'C' Program to calculate the sum of digits of a given number.
- (d) Write a 'C' Program to calculate area of a circle.
- (e) Write a 'C' Program to calculate the maximum and minimum of three numbers.

**Q.5) Trace the output : (Any Four)** **[4x4=16]**

- (a) 

```
main( )
{
    char ch = 'ABC';
    printf("%c", ch);
}
```
- (b) 

```
main( )
{
    char ch;
    for (ch = 'A'; ch <= 'G'; ch++)
    {
        printf("%d\n", ch);
    }
}
```

(c) main( )

```
{  
int i = 3;  
    i = i++;  
printf(“%d”, i);  
}
```

(d) main( )

```
{  
    int a = 1;  
    switch (a)  
    {  
        case 0 : a = 1;  
        case 1 : a = 2;  
        default : printf(“Default”);  
    }  
    printf(“%d”, a);  
}
```

(e) main( )

```
{  
    printf(“ABC”);  
    printf(“\n”);  
    printf(“PQR”);  
}
```

Total No. of Questions : 5]

[Total No. of Printed Pages : 2

**[4073]-401**

**B. C. A. ( Semester - IV ) Examination - 2011**

**NETWORKING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1) Attempt any three of the following : [15]**

- (a) What is www ? Explain its architecture.
- (b) Explain in detail Sky Wave Propagation.
- (c) Differentiate Synchronous and Asynchronous Communication.
- (d) Define following :
  - (i) Simplex
  - (ii) Half Duplex
  - (iii) Full Duplex
  - (iv) Computer Network
  - (v) Gateways

**Q.2) Attempt any three of the following : [15]**

- (a) Compare Broadcast and Point-to-point Networks.
- (b) Draw TCP/IP Model and state functions of each layer.
- (c) Define Topology. Explain its various types.
- (d) Explain Frame Format of Wireless LAN (IEEE 802.11).

**Q.3)** Attempt **any three** of the following : **[15]**

- (a) Explain Bridge with its advantages and disadvantages.
- (b) What is NIC ? Explain its types.
- (c) Write a note on Coaxial Cable.
- (d) List various Goals of Networking.

**Q.4)** Attempt **any three** of the following : **[15]**

- (a) Write a note on Protocols and Standards.
- (b) What is Wireless Transmission ? Explain Infra-red as a Wireless Transmission.
- (c) What are Design Issues of Layers.
- (d) What is an Internet Information Server ? Explain with benefits.

**Q.5)** Write short notes : **(Any Four)** **[20]**

- (a) SAP
- (b) Proxy Servers
- (c) Connection Oriented Services
- (d) Repeaters
- (e) IEEE 802.4 (Token Bus)

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4073]-402

B. C. A. ( Semester - IV ) Examination - 2011

VISUAL BASIC

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

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

**Q.1)** Explain the following property settings : **(Any Eight)** [8x2=16]

- (a) Property used to type multiline text in a textbox.
- (b) Property used to enable textbox control.
- (c) Property used to display the form as full screen at run time.
- (d) Property used to set focus order of control.
- (e) Property used to display text in a textbox at centre.
- (f) Property used to display picture on the command button.
- (g) Property to display colour on the command button.
- (h) Property used to count the number of item in the list box control.
- (i) Property used to set the timer control.
- (j) Property used to set the special password character of textbox control.

**Q.2) Answer the following : (Any Four) [16]**

- (a) What are Arrays in Visual Basic ?
- (b) Explain If-then-else statement in Visual Basic, with syntax and example.
- (c) State the difference between Combo Box and List Box.
- (d) Explain various ways of adding controls to a toolbox.
- (e) Explain the structure of MDI.

**Q.3) Attempt the following : (Any Four) [16]**

- (a) Write a program in Visual Basic to calculate sum of digits of a given number.
- (b) Write a VB Program to find the prime number.
- (c) Write a program to transfer the selected elements from the list 1 to list 2.
- (d) Write a VB Program to display odd numbers from an array.
- (e) Write a menu driven program in VB for :
  - (i) Addition
  - (ii) Substraction
  - (iii) Multiplication
  - (iv) Division

**Q.4) Attempt the following : (Any Two) [16]**

- (a) Write a program to accept the details of students from user and store that details along with total and percentage into the database. (Dont use Standard Control) Students having fields stud\_rollno, stud\_name, stud\_mark1, stud\_mark2, stud\_mark3.
- (b) What are procedures and functions in Visual Basic ? Explain with syntax and example.
- (c) What are Control Arrays ? Explain with the help of a suitable example.

**Q.5) Write short notes : (Any Four)**

**[16]**

- (a) Message Box
  - (b) Keyboard Events
  - (c) Tool Bar
  - (d) Menus in Visual Basic
  - (e) Integrated Development Environment
-



Total No. of Questions : 5]

[Total No. of Printed Pages : 3

[4073]-403

B. C. A. ( Semester - IV ) Examination - 2011

INVENTORY MANAGEMENT (SAD)

(New 2008 Pattern)

Time : 3 Hours]

[Max. Marks : 80

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**Q.1)** Attempt **any eight** of the following :

[8x2=16]

- (a) What is Reorder Point ?
- (b) What is WIP ?
- (c) State Sections of Plan.
- (d) What is Tolerance ?
- (e) Define Concept Map.
- (f) List out the types of Symbologies.
- (g) What is Collusion Theft.
- (h) Define and state use of Flowchart.
- (i) List out Duties of Store-keeper
- (j) Define Assessment.

**Q.2)** Attempt **any four** of the following :

[4x4=16]

- (a) What is BPR ? State objectives of BPR.
- (b) "Bar Code reduces cost and errors !" Comment and Justify.
- (c) Explain drawbacks of CASE Tools.
- (d) Discuss objectives of Inventory Management.
- (e) Explain Reverse Engineering with neat diagram.

**Q.3)** Attempt **any two** of following :

**[2x8=16]**

- (a) Explain any two methods of Pricing Raw Material with its advantages and disadvantages.
- (b) Describe the Architecture of CASE Tools with diagram.
- (c) What is ABC Analysis ? Solve following using ABC Analysis.

IR Pvt. Ltd. has an inventory of 10 items based on price and annual usage determine which item should be categorised as A, B and C :

Item Code	Price per unit	Annual Use
IR-1	400	50
IR-2	10	2000
IR-3	300	100
IR-4	0.50	3000
IR-5	50	50
IR-6	3.5	20
IR-7	20	1000
IR-8	57	500
IR-9	500	10
IR-10	100	300

**Q.4)** Solve **any four** of the following :

**[4x4=16]**

- (a) Explain the phases of BCP Life Cycle with proper diagram.
- (b) Why Record inaccuracy occurs ?
- (c) Why there is need to hold Inventories ?
- (d) Describe the features of TURBO Analyst.
- (e) The annual demand for the product is 7200 units. The Unit Cost is Rs. 8 and the Inventory Carrying Cost per unit per annum is 25% of the Average Inventory Cost. If the cost of procurement is Rs. 85, then calculate following :
  - (i) EOQ
  - (ii) No. of Orders per annum
  - (iii) Total Cost of Purchasing

**Q.5) Write a short notes : (Any Four)**

**[4x4=16]**

- (a) Taxonomy of CASE Tools
  - (b) Reverse Engineering to Understand Interfaces
  - (c) Classification of Bar Code
  - (d) JIT
  - (e) Criteria for Judging the Inventory
-

Total No. of Questions : 6]

[Total No. of Printed Pages : 1

**[4073]-404**

**B. C. A. ( Semester - IV ) Examination - 2011**

**HUMAN RESOURCE MANAGEMENT**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

- (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.*

- 
- 
- Q.1)** Define Concept HRM. Explain in detail the functions of HRM. [15]
- Q.2)** What is Manpower Planning ? Explain the Internal and External Sources of Recruitment. [15]
- Q.3)** Explain the term 'Performance Appraisal'. Explain in detail various methods of 'Performance Appraisal'. [15]
- Q.4)** Define the term 'Training'. Explain the objectives and importance of 'Training'. [15]
- Q.5)** Explain the important methods of Wage Payment. [15]
- Q.6)** Write short notes : (**Any Four**) [20]
- (a) Approaches of Organisational Behaviour
  - (b) Challenges before HRM
  - (c) Promotion and Demotion Policy
  - (d) Process of Performance Appraisal
  - (e) Evaluation of Management Development Programme
  - (f) Models of Organisational Behaviour

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**[4073]-404/1**

Total No. of Questions : 5]

[Total No. of Printed Pages : 4

[4073]-405

**B. C. A. ( Semester - IV ) Examination - 2011**  
**OBJECT ORIENTED PROGRAMMING USING C++**  
**(New 2008 Pattern)**

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

- (1) *All questions are compulsory.*
- (2) *Assume suitable data, if necessary.*
- (3) *Black figures to the right indicate full marks.*

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---

**Q.1) Attempt any eight of the following :**

**[8x2=16]**

- (a) List User Defined Data Types in C++.
- (b) What role does the iomanip file play ?
- (c) How to call Private Member Functions of a class in C++ Program ?
- (d) What is Constructor ? List the types of Constructor.
- (e) What is Polymorphism ? List the types of Polymorphism.
- (f) Give special characteristics of a Static Member Variable in C++.
- (g) List C++ Stream Classes for File Operations.
- (h) Draw structure of Hierarchical and Hybrid Inheritance.
- (i) List the operators in C++ that cannot be overloaded.
- (j) Define :
  - (i) Data Abstraction
  - (ii) Data Encapsulation

**Q.2) Attempt any four of the following :**

**[4x4=16]**

- (a) Explain structure of C++ program using class with the help of suitable example.
- (b) Explain Function Overloading with the help of suitable example.
- (c) Write a note on Function Template.
- (d) Write a C++ Program using class which will accept 'n' number of country names from user and display it on to the screen. (Use array of pointer to object)

- (e) Write a C++ Program in which write a function `accept_display()` to accept and display matrix of size  $m \times n$ . The function takes `int m` and `int n` as arguments, accepts matrix elements and display matrix elements. Use a default value of 3 for `m` and `n` to make the function to accept and display matrix of size  $3 \times 3$  when these arguments are omitted. Write main function that gets the values of `m` and `n` from the user. (Use default argument)

**Q.3)** Attempt **any four** of the following : **[4x4=16]**

- (a) Explain Unary Operator Overloading with the help of suitable example.
- (b) Write a C++ Program which will accept three file names as input from Command Line Argument. Concatenate contents of second file to first file and write it into third file. Display contents of third file.
- (c) List all ios format functions used in C++. Explain use of any two ios format function with the help of suitable example.
- (d) Write a C++ Program to find out minimum of two integer numbers of two different classes using friend function.
- (e) Trace the output of the following program and explain output : (Assume there is no syntax error)

```
#include <iostream.h>
class class1
{
    int x, y;
public;
class1 (int a, int b)
{
    x = a;
    y = b;
    cout << "class1 initialized\n";
}
void display1 (void)
{
    cout <<"y =" << y <<"\n";
    cout <<"x =" << x <<"\n";
}
};
```

```

class class2 : public class1
{
    int p, q;
    public :
    class2 (int a, int b, int c, int d) : class1 (a, b)
    {
        p = c;
        q = d;
        cout <<"class2 initialized\n";
    }
    void display2 (void)
    {
        cout <<"p=" <<p<< "\n";
        cout <<"q=" <<q<< "\n";
    }
};
int main( )
{
    class2 obj (10, 20, 30, 40);
    obj.display2( );
    obj.display1( );
    return 0;
}

```

**Q.4) Attempt any four of the following : [4x4=16]**

- (a) What is Destructor ? Describe importance of destructors with the help of suitable example.
- (b) Write a C++ Program using class which will compare length of two string object. (Use operator overloading to overload <=operator>)
- (c) Explain Concept of Virtual Base Class with the help of suitable example.

- (d) Create a Base Class Shape. Derive three different classes circle, sphere and cylinder from shape. Write a C++ program to calculate area of circle, sphere and cylinder. (Use pure virtual function)
- (e) Explain different uses of Scope Resolution Operator in C++ with the help of suitable example.

**Q.5) Attempt any four of the following : [4x4=16]**

- (a) Write a C++ Program which will accept 'n' integers from user, write all positive integers into "P.dat" file and write all negative integers into "N.dat" file. Display contents of both files.
- (b) Write a C++ Program to calculate square and cube of a given integer number. (Use Inline Function)
- (c) Explain how member functions of a class can be defined in C++, with the help of suitable example.
- (d) Explain concept of this pointer with the help of suitable example.
- (e) Trace the output of the following program and explain output : (Assume there is no syntax error)

```
#include <iostream.h>
#include <iomanip.h>
ostream and symbol (ostream and output)
{
    return output << endl <<"Rs:" << setw(5);}
main( )
{
    int b = 9500, a = 950, t = 10450;
    cout << symbol <<b<<"Baisc";
    cout <<a<< "Allowance";
    cout <<symbol<<t<<"Total";
}
```

---



Total No. of Questions : 5]

[Total No. of Printed Pages : 3

**[4073]-501**

**B. C. A. ( Semester - V ) Examination - 2011**

**·NET PROGRAMMING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

- (1) All questions are compulsory.*
  - (2) All questions carry equal marks.*
  - (3) Draw suitable diagrams wherever necessary.*
  - (4) Design proper GUI.*
- 

**Q.1) Attempt any eight of the following :**

**[8x2=16]**

- (a) Enlist various Mouse Events in VB.Net.
- (b) Explain Properties of Timer Control.
- (c) State difference between DataSet and DataReader.
- (d) Enlist various features of VB.Net.
- (e) What do you mean by Sealed Class ?
- (f) Write an appropriate property for following things :
  - Property is used to separate the files according to specific extension.
  - Property is used to add multiple lines in textbox.
- (g) Explain Field Count Property of DataReader.
- (h) What do you mean by MDI in VB.Net ?
- (i) Give the difference between HTML Server Controls and Web Server Controls.
- (j) What are the different types of Errors in VB.Net ?

**Q.2) Attempt the following : (Any Four)**

**[4x4=16]**

- (a) Explain Polymorphism in VB.Net.
- (b) Explain any four advantages of .Net Framework.
- (c) Design GUI and write code for following in VB.Net :
  - Accept one number in textbox.
  - Check whether number is Armstrong or Not.
  - Display Result in MessageBox.
- (d) Design GUI and write code for following in VB.Net (ADO.Net) without Wizard :
  - Accept Teacher details like Teacher\_No, Teacher\_Name, Teacher\_Qualification and save these details in Teacher Table.
- (e) Design GUI and write code for following :
  - Accept string in textbox
  - Check vowels present in string
  - Display result in MessageBox

**Q.3) Attempt the following : (Any Four)**

**[4x4=16]**

- (a) Give difference between Overloading and Overriding.
- (b) Explain Common Type System (CTS).
- (c) Explain in detail four elements of Assembly Contents.
- (d) Design GUI and write a code for following in VB.Net :
  - Accept Five Numbers in ListBox.
  - Find maximum number among them.
  - Display Result in TextBox.
- (e) Design GUI and write code for following in VB.Net :
  - Accept string in textbox.
  - Reverse if and display it in second textbox.

**Q.4) Attempt the following : (Any Four) [4x4=16]**

- (a) Write a program which uses a function to check whether a given number is Perfect or NOT using console application.
- (b) Explain how Garbage Collector works in VB.Net.
- (c) With suitable example describe destructor in VB.Net.
- (d) Design GUI and write code for following in VB.Net :
  - Accept a number in textbox.
  - Convert number into Binary and show result in second textbox.
- (e) Design GUI and write code for following in VB.Net :
  - Accept a radius in textbox.
  - Calculate area for circle and show result in second textbox.

**Q.5) Write short notes : (Any Four) [4x4=16]**

- (a) HTML Server Controls
  - (b) Abstract Class
  - (c) Menu in VB.Net
  - (d) Constructor
  - (e) Databinding
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 4

**[4073]-502**

**B. C. A. ( Semester - V ) Examination - 2011**

**INTERNET PROGRAMMING AND CYBER LAW**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

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

**Q.1) Solve any eight :**

**[8x2=16]**

- (a) Explain Marquee with two attributes.
- (b) What is the use of External Style Sheet ?
- (c) Explain any two events in JavaScript.
- (d) What is the use of Session Object in ASP ?
- (e) What is the importance of Cyber Law ?
- (f) Define Public Key and Private Key.
- (g) Explain <Select> tag.
- (h) What is Encryption ?
- (i) What is Firewall ?
- (j) Explain any two methods of History Objects.

**Q.2) Solve any four :**

**[4x4=16]**

- (a) Write a HTML Code to create following frame :


- (b) Write a JavaScript of HTML Code to accept the information and display the result :

Enter the Number	<input type="text"/>
Action	<input type="radio"/> Double <input type="radio"/> Square
Result	<input type="text"/>

- (c) Write an ASP Code that displays employee details : empno, empname, empsalary, empaddr on the screen.
- (d) Explain the functioning of Internet.
- (e) Explain Hash Function in Encryption Technique.

**Q.3) Solve any four :**

**[4x4=16]**

- (a) Explain Response Object in ASP.
- (b) Write short note on Digital Signature.
- (c) Explain Image Mapping.
- (d) Write a program in JavaScript to find the sum of digits of a given number.
- (e) Write an ASP Code to update specific record. Code must accept item number of update the price of the item and design necessary HTML Code.

**Q.4) Solve any four :**

**[4x4=16]**

(a) Write an HTML Code which generates following output :

INDIA

1. Maharashtra

■ Mumbai

■ Pune

■ Nagpur

2. Gujarat

■ Gandhinagar

■ Ahmedabad

■ Vadodara

(b) Write HTML and JavaScript Code to accept information and display accepted information :

Product Details													
Product Name	<table border="1"><tr><td>▼</td><td>Pen</td><td>▼</td></tr><tr><td></td><td>Paper</td><td></td></tr><tr><td></td><td>Pencil</td><td></td></tr><tr><td>▲</td><td>Book</td><td>▲</td></tr></table>	▼	Pen	▼		Paper			Pencil		▲	Book	▲
▼	Pen	▼											
	Paper												
	Pencil												
▲	Book	▲											
Qty	<input type="text"/>												
Rate	<input type="text"/>												
<input type="button" value="Display"/>	<input type="button" value="Clear"/>												

(c) What is Granularity ?

(d) Explain any four string functions in JavaScript.

(e) What is Book-keeping ?

**Q.5) Solve any four :**

**[4x4=16]**

- (a) Explain different types of Style Sheets.
- (b) Explain the structure of HTML Program.
- (c) Write an HTML Code to design following output :

Description	Qty.	Rate	Amount	
			Rs.	Ps.
Mouse	4	500	2,000	00
Keyboard	2	1,200	2,400	00

- (d) Write an ASP Code to change the font colour based on user choice selected from a drop down :

Change My Colour

▼ Red ▼

▲ Green ▲

▲ Blue ▲

OK

- (e) What is Hacking ?

---

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

**[4073]-503**

**B. C. A. ( Semester - V ) Examination - 2011**

**PRINCIPLES OF MARKETING**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

- 
- 
- Q.1)** Define Marketing. Distinction between the Traditional Concept of Marketing and Modern Concept of Marketing. **[16]**
- Q.2)** What is Product Life Cycle ? Explain various stages of Product Life Cycle. **[16]**
- Q.3)** Define Price. Explain the importance of Price in Marketing Mix. **[16]**
- Q.4)** What is Distribution Channels ? Explain the role and functions of Distribution Channels. **[16]**
- Q.5)** What is Sales Promotion ? Explain objectives, advantages and limitations of Sales Promotion. **[16]**
- Q.6)** What is Marketing Organisation ? Explain the importance and types of Marketing Organisation. **[16]**
- Q.7)** Write short notes : **(Any Four)** **[16]**
- (a) Brand Testing
  - (b) Product Development
  - (c) Consumer Behaviour
  - (d) Public Relations
  - (e) Physical Distribution of Goods
  - (f) Kinds of Packaging

---

**[4073]-503/1**



Total No. of Questions : 5]

[Total No. of Printed Pages : 3

**[4073]-504**

**B. C. A. ( Semester - V ) Examination - 2011**

**CORE JAVA**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1) Attempt all :**

**[2x8=16]**

- (a) What is Javac ?
- (b) Give memory requirement for Integer Data Type.
- (c) What is Constructor ? When it get executed ?
- (d) What is the purpose of Super Keyword ?
- (e) State any two difference between Abstract Class and Interface.
- (f) What is Stream ?
- (g) List any four interfaces used for Event Handling.
- (h) What is the difference between paint( ) and repaint( ) ?

**Q.2) Attempt any four :**

**[4x4=16]**

- (a) How does Java Handle Strings ? Explain in detail.
- (b) Write a Java Program that allows the user to accept two end points (using mouse) and draw a rectangle between two points. (Use AWT Frame Class and Mouse Listener)
- (c) What is an Abstract Class ? Give features of Abstract Class.
- (d) Write a Java Program the input person's name in the form of first, middle and last. And then print it in the form of last, first and middle (M). Where M is the person's middle initial.
- (e) Write a Java Program to copy the contents of file1.txt to file2.txt using Command Line Argument.

**Q.3) Attempt any four :**

**[4x4=16]**

- (a) Explain Static Class Members in detail.
- (b) Write a Java Program to find out minimum of array element and check for array limit. (Use exception Handling)
- (c) Describe various forms of Implementing Interface. Give example of each code.
- (d) Create a Package Vehicle which will have two classes - Two Wheeler and Four Wheeler.  
Two Wheeler with method disp (cc, price), Four Wheeler with method show (reg no., reg year)
- (e) Write a note on AWT. Explain any two AWT Components with proper example.

**Q.4) Attempt any four :**

**[4x4=16]**

- (a) Develop an Applet that receives 3 Numeric Values as input from the user and then display largest of three on the screen.
- (b) What is Layout Manager ? Explain any one in detail.
- (c) What will be the output for the following code. (Consider there is no syntax error). Explain :

```
Class Try Catch
{
    public static void main( )
    {
        try
        {
            double x = 0.0 ;
            throw (new exception ("Throw"));
            return;
        }
        catch (exception e)
        {
```

```

        system.out.print\n("Exception Caught");
    return;
    {
        finally
        }
        system.out.print\n("Finally Caught");
        }
    }
}

```

- (d) What is an Array ? Explain how it is used in Java.
- (e) Explain the use of final, finally, finalise with example.

**Q.5) Attempt any four :**

**[4x4=16]**

- (a) Write a short note on Constructor.
- (b) How do Applets differ from Application Program ? Explain in details.
- (c) Explain Errors with its types. How it differs from Exception ?
- (d) Write a program in Java to print following pattern :

```

1   2   3   4   5
1   2   3   4
1   2   3
1   2
1

```

- (e) Write a Java Program to find sum of integers from Command Line Argument. And count invalid integer entered through command line.

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

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

**[4073]-51**

**B. C. A. ( Semester - V ) Examination - 2011**

**DATA COMMUNICATION AND NETWORKING**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

- (1) Question No. 1 is compulsory.*
- (2) Attempt any four from Q. Nos. 2 to 6.*
- (3) Question Nos. 2 to 6 carry equal marks.*
- (4) Draw neat diagrams wherever necessary.*

- 
- 
- Q.1)** Explain Coaxial, Twisted Pair and Fiber Optic Cable Media with reference to its structure, types and connectors used. **[20]**
- Q.2)** Differentiate between Routers and Gateways. Explain their working mechanism and types of Gateways. **[15]**
- Q.3)** Differentiate between Peer-to-Peer and Client-Server Network. **[15]**
- Q.4)** Explain different Modulation Methods used for Data Communication. **[15]**
- Q.5)** Explain the working of Web Server in detail. **[15]**
- Q.6)** Write short notes : **[15]**
- (a) Bluetooth
  - (b) Token Ring
  - (c) Network Operating System

---

**[4073]-51/1**

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4073]-52

B. C. A. ( Semester - V ) Examination - 2011

WEB DESIGN AND INTERNET PROGRAMMING

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

- (1) Question No. 1 is compulsory.
- (2) Solve **any four** from the remaining.
- (3) State assumption wherever necessary.
- (4) Figures on the right indicate full marks.

---

---

**Q.1)** Write short notes on the following : (Any Four)

[20]

- (a) DOM
- (b) CSS
- (c) Web-Hosting
- (d) Date Functions of JavaScript
- (e) Global.asa

**Q.2)** (A) Write HTML Code to :

[10]

**Result Analysis**

Subject	No. of Students Appeared			No. of Students Passed		
	Girls	Boys	Total	Girls	Boys	Total

(B) Explain different types of lists in HTML.

[05]

- Q.3) (A)** Write HTML and JavaScript Code and display result as per user's choice : **[10]**

**Application for Area Calculation**

Enter Value

Shape :  Circle       Square

Area

- (B) Explain Arrays in JavaScript. **[05]**

- Q.4) (A)** Write JavaScript Code to design the following form (Do proper validation) : **[10]**

Enter Name

Enter Age

Enter Mobile No.

- (B) Explain VB-script String Function. **[05]**

- Q.5)** Create a login screen to validate the User. Database is c:\user.mdb. **[15]**

**OR**

- Q.5)** Write ASP Code which will accept Name and E-mail of Employee and store it in Database. [Handle Validation] **[15]**

- Q.6)** Write an ASP Code to display all employee details in tabular format where employee has basic salary more than 5,000 in empdet table. Empdet has fields - empname (char), empcity (char), empsal (numeric), empdob (date). **[15]**

Total No. of Questions : 6]

[Total No. of Printed Pages : 2

[4073]-53

B. C. A. ( Semester - V ) Examination - 2011

MATERIALS MANAGEMENT

(Old 2005 Pattern)

Time : 3 Hours]

[Max. Marks : 80

*Instructions :*

(1) Question No. 6 is compulsory.

(2) Solve *any three* questions from Q. Nos. 1 to 5.

- 
- 
- Q.1)** (A) What is Materials Management ? Explain importance and objective of Material Management. [10]  
(B) Discuss in details Cost associated with Inventory. [10]
- Q.2)** (A) What is Forecasting in Materials Management ? Describe any two methods of it. [10]  
(B) State factors influencing MRP. [10]
- Q.3)** (A) What is Classification of Materials ? In what different ways can materials be classified ? [10]  
(B) Define Purchasing Management. State the responsibility of Purchase Department. [10]
- Q.4)** (A) Explain various Material Handling Equipments in Material Management. [10]  
(B) Describe Import Procedure for Materials. [10]
- Q.5)** (A) Discuss usage of Software Packages in Materials Management. [10]  
(B) Explain the Purchase Cycle in Materials Management. [10]

**Q.6) Write short notes : (Any Four)**

**[20]**

- (a) BOM
  - (b) F-S-N
  - (c) Basic Model of EOQ
  - (d) Standardization
  - (e) Warehouse Management
-



Total No. of Questions : 5]

[Total No. of Printed Pages : 4

**[4073]-54**

**B. C. A. ( Semester -V ) Examination - 2011**

**C++ AND OOP**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

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

**Q.1) Attempt any four of the following :**

**[20]**

- (a) Explain different parameter passing in C++.
- (b) Explain benefits of OOPs.
- (c) Differentiate Function Overloading and Function Overriding.
- (d) Write a short note on Manipulators.
- (e) What are Friend Function and Friend Classes ?

**Q.2) Define the following : (Any Five)**

**[10]**

- (a) Dynamic Binding
- (b) Copy Constructor
- (c) Hybride Inheritance
- (d) tellg( ) and tellp( )
- (e) Template
- (f) Virtual Function

**Q.3)** Attempt **any three** of the following : **[15]**

- (a) How ambiguity is avoided in Multiple Inheritance ?
- (b) Explain how to open a file in C++ Program ? Describe various File Opening Modes.
- (c) Explain the use of keyword protected with example.
- (d) Explain Compile Time Polymorphism with example.

**Q.4)** Write C++ Programs for the following : (**Any Five**) **[25]**

- (a) Write a program to print the factorial of a given number using a constructor and a destructor member function.
- (b) Write a program to display following output :  
1  
1 2  
1 2 3  
1 2 3 4
- (c) Define a base class 'Vehicle'. Derive 3 classes '2 wheeler', '3 wheeler' and '4 wheeler'. Mention the names of methods which keep the track of stock and sales of all types of vehicles and explain it.
- (d) Write a program in C++ to merge two files into a one file heading.
- (e) Develop a program to prepare the marksheet of on university examination with the following items, read from the keyboard.  
Name of the student, roll no., subject name, subject code, external marks, internal marks. Design a base class consisting of the data members such as name of the student, roll\_no and subject name. The derived class consists of the data members, viz, subject code, internal marks and external marks.
- (f) Write a program to class test having data members as name of a student and marks. Accept and display information by using 'this' pointer.

**Q.5)** Explain the output of the following :

**[10]**

```
(a) #include <iostream.h>
class base
{
    public :
        base()
        {
            cout <<"constructing base\n";
        }
        ~base()
        {
            cout <<"destructing base\n";
        }
};
class derived : public base
{
    public :
        derived()
        {
            cout <<"constructing derived\n";
        }
        ~derived()
        {
            cout <<"destructing derived\n";
        }
};
int main()
{
    derived Ob;
    return 0;
}
```

```
(b) #include <iostream.h>
class abc
{
    public :
    int i;
    abc(int);
    void print(void);
    void operator( )(int);
};
abc :: abc(int v)
{
    i = v;
}
void abc :: print(void)
{
    cout <<"i = " << i << "\n";
}
void abc :: operator( )(int v)
{
    i = v;
    cout << "\n the ( ) operator\n";
}
void main( )
{
    abc a(10);
    a.print( );
    a(100);
    a.print( );
}
```

Total No. of Questions : 7]

[Total No. of Printed Pages : 1

**[4073]-601**

**B. C. A. ( Semester - VI ) Examination - 2011**

**E-COMMERCE**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

- (1) Question No. 1 is compulsory.
- (2) Answer **any four** from remaining questions.

- 
- 
- Q.1)** (A) What is E-commerce ? Brief its applications. [10]  
(B) Define Internet. Differentiate between Intranet and Extranet. [10]
- Q.2)** Explain Concept of EDI. Discuss its applications and limitations. [15]
- Q.3)** “In Electronic Business on the Internet, fortunes are made or lost almost overnight.” Explain. [15]
- Q.4)** What is EPS ? Explain in detail various types of EPSs. [15]
- Q.5)** What are the reasons for building own website ? What are the bandwidth requirements for the same ? [15]
- Q.6)** Sketch the E-cycle of Internet Marketing. Discuss the Pros and Cons of Online Shopping. [15]
- Q.7)** Short notes : **(Any Three)** [15]
- (a) E-governance
  - (b) Shopping Bots
  - (c) Service Centre
  - (d) Web Promotion
  - (e) Paperless Bill

Total No. of Questions : 5]

[Total No. of Printed Pages : 2

**[4073]-602**

**B. C. A. ( Semester - VI ) Examination - 2011**

**MULTIMEDIA SYSTEMS**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

- (1) All questions are compulsory.*
- (2) All questions carry equal marks.*
- (3) Draw diagram wherever necessary.*

---

---

**Q.1) Answer in short : (Any Eight)**

**[16]**

- (a) Multimedia Definition
- (b) Flow Line
- (c) GIF
- (d) Wavelength
- (e) NISC
- (f) RAID
- (g) Analog Signals
- (h) Nodes and Links
- (i) ADC and DAC
- (j) EDTV

**Q.2) Answer the following : (Any Four) [16]**

- (a) What is MIDI ? Explain Components of MIDI.
- (b) Explain size based various types of DVD.
- (c) What is Hypertext ? State difference between Text and Hypertext.
- (d) Explain 8 Bit Colour Image with its advantages and disadvantages.
- (e) Explain various characteristics of Synthesizers.

**Q.3) Answer the following : (Any Four) [16]**

- (a) Explain Analog to Digital Conversion.
- (b) Explain any two Music Sequencing Notation Software Tools.
- (c) Explain any two Video Signal Formats.
- (d) Explain use of Multimedia in Education.
- (e) Explain Nested/Hybrid RAID.

**Q.4) Answer the following : (Any Four) [16]**

- (a) Explain any two Standard System Independent File Formats.
- (b) Explain Sound Card. Which are different sound I/p and I/o Ports ?
- (c) Explain various CD Formats.
- (d) Explain Multimedia Application Development Process in detail.
- (e) Discuss various advantages of Story Boarding.

**Q.5) Write short notes : (Any Four) [16]**

- (a) Characteristics of Sound
- (b) Phase Alternation Lines (AL)
- (c) JPEG File Format
- (d) Sampling Rate
- (e) High Definition T.V.

Total No. of Questions : 5]

[Total No. of Printed Pages : 4

**[4073]-603**

**B. C. A. ( Semester - VI ) Examination - 2011**

**INTRODUCTION TO SYSTEM PROGRAMMING AND  
OPERATING SYSTEM**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

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

**Q.1) Attempt any eight of the following :**

**[8x2=16]**

- (a) Define the term Operating System.
- (b) What is meant by Deadlock ?
- (c) Define the term Dispatcher.
- (d) What is the Race Condition ?
- (e) What do you mean by Waiting Time ?
- (f) What is meant by Multiprocessing System ?
- (g) What is Context Switch ?
- (h) List various Operations on Files.
- (i) What do you mean by Seek Time in Disk Scheduling ?
- (j) What is meant by Address Binding ?



**Q.2) Attempt any four of the following :** **[4x4=16]**

- (a) What do you mean by Editors ? Explain editors with the help of a suitable diagram.
- (b) Explain the Resource Allocation Graph with suitable example.
- (c) What is Fragmentation ? Compare Internal and External Fragmentation.
- (d) Write a short note on File Directories.
- (e) Consider the following set of processes :

<b>Process</b>	<b>CPU Burst Time (in milliseconds)</b>
----------------	---

$P_1$	30
$P_2$	6
$P_3$	8

Calculate the Average Waiting Time and Average Turnaround Time by using Round Robin CPU Scheduling Algorithm. (The time quantum is of 5 milliseconds)

**Q.3) Attempt any four of the following :** **[4x4=16]**

- (a) Explain Process Control Block (PCB) in detail with the help of diagram.
- (b) What is CPU Scheduler ? State the criteria of CPU Scheduling.
- (c) Describe in detail the 'Dinning Philosopher Problem' Synchronization Problem.
- (d) Differentiate between Sequential Access and Direct Access.
- (e) What do you mean by Segmentation ? List the advantages and disadvantages of Segmentation.

**Q.4)** Attempt **any four** of the following : **[4x4=16]**

- (a) Describe the Structure of Operating System with the help of a suitable diagram.
- (b) Write a short note on Semaphores.
- (c) Define the terms :
  - (i) Dynamic Loading
  - (ii) Dynamic Linking
- (d) A disk drive has 540 cylinders numbered 0–539. The drive is currently serving the request at cylinder 54. The queue is in order :

98, 183, 47, 125, 10, 126, 380, 200, 79.

Starting from the current head position what is the total distance that the disk arm moves to satisfy all the pending request for the following Disk Scheduling Algorithm ?

- (i) FCFS
- (ii) SCAN
- (e) What are the necessary conditions for Deadlock Occurrence ?

**Q.5)** Attempt **any four** of the following : **[4x4=16]**

- (a) What are the differences between Preemptive and Non-preemptive Scheduling ?
- (b) Consider the following page reference string :  
7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1.  
The number of frames are 3. Show the page trace and calculate the page faults for the following page replacement schemes.
  - (i) LRU
  - (ii) Optimal Page Replacement
- (c) What is meant by Free Space Management ? Define Bit Vector and Linked List.

- (d) Describe the application of I/o Interfaces in details.
- (e) Consider the following snapshot of system :

	Allocation			Max			Available		
	A	B	C	A	B	C	A	B	C
P <sub>0</sub>	0	1	0	7	5	3	3	3	2
P <sub>1</sub>	2	0	0	3	2	2			
P <sub>2</sub>	3	0	2	9	0	2			
P <sub>3</sub>	2	1	1	2	2	2			
P <sub>4</sub>	0	0	2	4	3	3			

Is the system safe ? Justify. If yes, give safe sequence.

---

Total No. of Questions : 5]

[Total No. of Printed Pages : 3

**[4073]-604**

**B. C. A. ( Semester - VI ) Examination - 2011**

**ADVANCED JAVA**

**(New 2008 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

***Instructions :***

- (1) All questions are compulsory.*
  - (2) Figures to the right indicate full marks.*
  - (3) Answer of sub-questions of each question should be attempted at one place. It should not be written separately.*
- 
- 

**Q.1) Attempt the following : (Any Eight)**

**[2x8=16]**

- (a) Explain types of Statements in JDBC ?
- (b) What is Hash Set ?
- (c) What is Thread ?
- (d) Differentiate between notify() and notifyAll().
- (e) Explain Stub ?
- (f) Explain types of Servlet.
- (g) What is Jar File ?
- (h) Write names of JSP Directives.
- (i) What is Bean ?
- (j) What is Cookies ?

**Q.2) Answer the following : (Any Four) [4x4=16]**

- (a) Explain the steps involved in creating a JDBC Application.
- (b) Explain Inter Thread Communication.
- (c) Write a JDBC Program to insert a record in doctor table. (Take suitable structure of table.)
- (d) Write HTML Page to accept name and age of a voter and check on servlet page whether he is eligible for voting or not.
- (e) Write a note on Serialization.

**Q.3) Answer the following : (Any Four) [4x4=16]**

- (a) Explain RMI Registry and state its need.
- (b) Write a Java Program to implement following options on vector :
  - (i) Add Elements
  - (ii) Delete Elements
  - (iii) Display
- (c) Write a Java Program to create a class called File Watcher that can be given several filenames that may or may not exist. The class should start a thread for each file name. Each thread will periodically check for the existence of its file. If the file exists, the thread will write a message to the console and then end.
- (d) What is JSP ? Explain its features.
- (e) Explain JDBC interfaces with at least two functions.

**Q.4) Answer the following : (Any Four) [4x4=16]**

- (a) Write JDBC Program to accept a Emp\_id from Command Line Argument and display its record.
- (b) Explain different methods of creating Threads.
- (c) Write a HTML Page to accept details of item sold like itemname, qty, and unit price and display amount to be paid on servlet page.
- (d) Differentiate Array List and Linked List.
- (e) Explain JSP Life Cycle.

**Q.5) Answer the following : (Any Four)**

**[4x4=16]**

- (a) Explain difference between Local Object and Remote Object.
  - (b) Explain Java Bean API.
  - (c) Differentiate between Iterator and Enumeration.
  - (d) Write a program to create thread. The program should print numbers from 1 to 10 line by line after 5 seconds.
  - (e) What is Servlet ? Explain its types.
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 2

**[4073]-61**

**B. C. A. ( Semester - VI ) Examination - 2011**

**ADVANCED NETWORKING**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1) Answer the following : (Any Three) [15]**

- (a) Explain the significance of OSI Model along with the function of each layer.
- (b) Explain Reverse Address Resolution.
- (c) Explain the difference between AAL 1 and AAL 5.
- (d) Explain Classical IP over ATM with Overlay Model.

**Q.2) Answer the following : (Any Three) [15]**

- (a) Explain Fragmentation and Reassembly.
- (b) Explain how security is implemented with IP Sec Protocol ?
- (c) Explain any two Lossless Data Compression Technique.
- (d) Explain different types of Networks.

**Q.3) Solve any two : [20]**

- (a) What are the drawbacks of SSL ? How TLS is more secure than SSL ?
- (b) What are the different methods used for Analog to Digital Conversion ? Explain each.
- (c) What are the main advantages and disadvantages of Parallel Transmission ?

**[4073]-61**

**1**

**P.T.O.**

**Q.4) Explain TCP/IP Architecture. [10]**

**Q.5) Write short notes : (Any Four) [20]**

- (a) PEM
  - (b) Security Association
  - (c) ATM Addressing
  - (d) Routing Metrics
  - (e) IP Packet
-



Total No. of Questions : 5]

[Total No. of Printed Pages : 2

**[4073]-62**

**B. C. A. ( Semester - VI ) Examination - 2011**

**MULTIMEDIA**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

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**Q.1) Explain Input and Output Devices using Multimedia System. [10]**

**Q.2) Solve any three : [15]**

- (a) Discuss Size and Capacity of DVD.
- (b) Differentiate between 8-bit Colour Image and 24-bit Colour Image.
- (c) Discuss Components of MIDI System.
- (d) Explain Basics of Video.

**Q.3) Solve any three : [15]**

- (a) What is Authoring ? Explain various Multimedia Authoring Tools.
- (b) Explain Concept of Anchor, Nodes and Pointer.
- (c) Discuss Interactivity Features of Multimedia.
- (d) Explain about the Storage Devices for Multimedia Presentation.

**Q.4) Solve any four : [20]**

- (a) Distinguish between Discrete and Continuous Media.
- (b) Discuss the Applications of Multimedia.
- (c) Discuss Concept of Story and Script.
- (d) Explain Graphics and Image Editing Tools.
- (e) Explain the terms Hypertext, Hypermedia and Multimedia.

**Q.5) Write short notes : (Any Four)**

**[20]**

- (a) Jpeg File Format
  - (b) Scanner
  - (c) Types of Animations
  - (d) DAT
  - (e) Limitations of Optical Storage
-

Total No. of Questions : 7]

[Total No. of Printed Pages : 2

**[4073]-63**

**B. C. A. ( Semester - VI ) Examination - 2011**

**MARKETING MANAGEMENT**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

- (1) *Question No. 7 is compulsory.*
- (2) *Solve **any four** from Q. Nos. 1 to 6.*

- 
- 
- Q.1)** What do you mean by Marketing Management ? Explain its importance and functions in detail. **[15]**
- Q.2)** Describe the term Marketing Environment along with Internal and External Factors in detail. **[15]**
- Q.3)** Explain the Marketing Mix for the following products : **[15]**
- (a) Pizza
  - (b) Washing Powder
  - (c) Honda Activa
- Q.4)** What is the meaning of Global Marketing ? Explain the importance and ways of it in comparison with Domestic Marketing. **[15]**
- Q.5)** Explain in detail the Concept of Consumer Behaviour along with its Primary and Secondary Motives. **[15]**
- Q.6)** What do you mean by Services ? What are the characteristics of Services ? **[15]**

**Q.7) Write short notes : (Any Four)**

**[20]**

- (a) E-marketing
  - (b) Social Marketing
  - (c) Selling
  - (d) Advertising
  - (e) Pricing Policies
  - (f) Marketing Planning
-

Total No. of Questions : 5]

[Total No. of Printed Pages : 4

**[4073]-64**

**B. C. A. ( Semester -VI ) Examination - 2011**

**JAVA**

**(Old 2005 Pattern)**

**Time : 3 Hours]**

**[Max. Marks : 80**

**Instructions :**

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

**Q.1) Attempt any four of the following :**

**[16]**

- (a) What is Polymorphism ? How it is used in Java ?
- (b) Describe various forms of Implementing Interfaces. Give example of each.
- (c) What is Token ? List various types of Token.
- (d) Write a note on Static Keyword.
- (e) Differentiate Overloading and Overriding Method.

**Q.2) Attempt any four :**

**[16]**

- (a) Discuss various levels of access protection available for Package and their implication.
- (b) Explain following methods :
  - (i) Set Priority( )
  - (ii) Sleep( )
  - (iii) Wait( )
  - (iv) Notify( )
- (c) Differentiate between Abstract Class and Interface.
- (d) Write a note on Exception Handling.
- (e) What is Signature of Method ? How to Override Method in Java ?

**Q.3) Attempt any four :**

**[16]**

- (a) Explain the steps to create JDBC Application.
- (b) Write a note on Layout Manager.
- (c) List five major features that are intentionally removed from Java. Give reason.
- (d) Write a note on following :
  - (i) Super
  - (ii) Final
- (e) Differentiate Throw and Throws with example.

**Q.4) Attempt any four :**

**[16]**

- (a) Write a Java Program to show following output :

```
*  
*  *  
*  *  *  
*  *  *  *
```

- (b) Create an Abstract Class Person. Derive two classes employee and worker from it use proper method to accept and display details for the same. The fields of employee are empno, empname, empaddr and fields for workers are name, working hour.
- (c) Write a Class Account with accno, name and balance. Initialize values through parameterised constructor. If balance is between 1000 and 5000 generate user defined exception "Balance within the range".
- (d) Write JDBC Program that takes rollno as a command line argument and display the details such as name and percentage from 'stud' table.
- (e) Write a Java Program that accept positive integer from the user using Buffer Reader Class and print prime numbers upto that range.

**Q.5) (A)** Trace the output :

**[08]**

(a) Class Continue

```
{
    public static void main(string args[])
    {
        int m = 0
        loop1 : for (int i = 0; i < 10; i++)
            loop2 : for (int j = 0; j < 10; j++)
                loop3 : for (int k = 0; k < 10; k++)
                    {
                        system.out.print\n (++m);
                        if ((k % 10) == 0)
                            continue loop2;
                    }
            }
    }
```

(b) Class Max

```
{
    public static void main(string ss[])
    {
        int max = 10;
        max(max, 20, 30);
        system.out.print\n (max);
    }
    static void max(int max, int x1, int x2)
    {
        if (x1 > x2)
            max = x1;
        else
            max = x2;
    }
}
```

**[4073]-64**

**3**

**P.T.O.**

(B) Attempt **any two** of following :

**[08]**

- (a) Write a program which throws user defined exception, if user entered number is less than zero.
  - (b) Write a program that accept a number and check it as a pallindrome or not. Display appropriate menage.
  - (c) Write a program in Java to accept 5 elements in a array and display them in descending order.
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