Total No. of Questions : 5]

SEAT No. :

P691

[Total No. of Pages : 2

[4668] - 1001

B.C.A. (Semester - I)

MODERN OPERATING ENVIRONMENT AND MS-OFFICE

(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:-

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

Q1) Answer the following **(any eight)** : **[16]**

a) What is analog computer?

b) What is purpose of address bus?

c) Write any two example of Impact Printer.

d) What is memory?

e) Define flowchart.

f) Write any two objectives of operating system.

g) What is Networking?

h) Write any two graph types in Ms-excel.

i) Write full form of

i) DRAM ii) SRAM

j) What is Assembler?

P.T.O.

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

a) Explain limitations of computer.

b) Draw a block diagram of computer and explain.

c) Write a note on scanner.

d) Compare between Primary and Secondary storage.

e) Draw a flowchart to find wheather the given number is +ve or - ve.

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

a) Explain different features of Ms-office.

b) Write a note on Ms-Access.

c) Draw a figure of Twisted pair cabel and explain.

d) Write a note on Hybrid Computer.

e) Explain any four disadvantages of Internet.

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

a) Explain in detail compact disk.

b) Write an algorithm to find wheather given number is prime or not.

c) Write a note on memory organization.

d) Explain different uses of Ms-excel.

e) Write a note on WAN.

Q5) Attempt **any four** of the following : **[16]**

a) Write a note on power point.

b) Write a note on plotters.

c) Explain in detail history of window operating system.

d) Compare between Compiler and Interpreter.

e) Explain real time operating system.

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Total No. of Questions : 5]

SEAT No. :

P692

[Total No. of Pages : 4

[4668] - 1002

F.Y. B.C.A. (Semester - I)

102 - FINANCIAL ACCOUNTING

(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) What is Financial Accounting? Explain the limitations of Financial Accounting. **[16]**

OR

Define Accounting principles. Explain the Accounting principles in detail.

Q2) Journalise the following transactions in the book of Mr. Vijay for the month of June 2013. **[16]**

June 2013

1. Mr. Vijay commenced in business with cash Rs. 10,000 and Building Rs. 1,50,000 and Bank balance Rs. 43,000.
3. Bought goods worth Rs. 21,000 on credit from Ajay with trade discount at 5%.
4. Sold goods of Rs. 5600 with a cash discount of Rs. 600.
5. Paid wages Rs. 2000.
8. Goods costing Rs. 500 were distributed as free samples.
10. Paid Insurance premium for business office Rs. 350.
21. Invested Rs. 5,000 in Debentures of XYZ Co. Ltd.
30. Paid salary Rs. 20,000.

P.T.O.

Q3) Prepare a cash book with cash and discount columns for the month of March 2014. **[16]**

March 2014

1. Started business with cash Rs. 1,25,000, Goods worth Rs. 40,000 and Bank loan Rs. 50,000.

2. Opened current Account in the bank by depositing Rs. 20,000.

4. Cash purchases Rs. 40,000 at 10% trade discount and 5% cash discount.

5. Received commission Rs. 5,000 from murlidhar.

6. Sold goods worth Rs. 60,000 and allowed 5% cash discount.

7. Purchased goods worth Rs. 36,000 at 10% trade discount and 5% cash discount.

9. Sold goods on cash worth Rs. 55,000 allowed 10% trade discount and 5% cash discount.

12. Received Rs. 24,850 from Chandrakant in fall settlement of Rs. 25,000.

14. Paid Rs. 22,440 to Suryakant and earned a discount of Rs. 160.

18. Purchased typewriter costing Rs. 5,000 for office use.

20. Withdraw Rs. 4700 for self use

23. Our customer mahesh from whom Rs. 10,000 was receivable, now declared in solvent and only 35% of the amount due recovered from his private estate.

25. Received from Ganesh Rs. 1750 in respect of bad debts written off earlier.

27. Paid insurance premium of Rs. 1950 on life insurance premium.

28. Proprietor has sold his own old car for Rs. 30,000 and invested entire proceeds in the business.

30. Withdrawn Rs. 15,000 from business treasury for daughter's marriage.

Q4) From the following trial balance prepare the grading & profit and loss A/c for the year ending 31st March 2014 and Balance sheet as on that date after taking into considerations the following adjustments. **[16]**

Trial Balance

Particulars	Rs.	Particulars	Rs.
Opening stock	20,000	Bills payable	10,000
Sundry debtors	28,000	Return inwards	2,500
Purchases	40,000	Sundry creditors	21,500
Wages	8500	Sales	70,000
Salaries	2,700	R.D.D.	400
Office expenses	2,445	Capital A/c	90,000
Insurance	1,300	10% loan (taken on 1st Oct. 2013)	3,000
Plant and Machinery	30,000		
Rent	1800	Commission	1,000
Travelling expenses	1400	Discount Received	500
Returns inwards	3500	Rent Received	700
Land and Buildings	44800		
Bills Receivables	4,000		
Bank Balance	6,655		
Furniture	2,400		
Sundry exp's	800		
Bad debts	600		
Advertisements	700		
	1,99,600		1,99,600

Adjustments :

a) Closing stock valued at Rs. 15,000.

b) Outstanding wages Rs. 500, outstanding salaries Rs. 300.

c) Prepaid Insurance Rs. 300.

d) Depreciate plant and machinery at 10%, land and building at 15% and furniture at 5%.

e) Provide Rs. 500 for further bad debts and maintain reserve for bad and doubtful debts at 5%.

f) Provide 5% interest on capital.

Q5) Write short notes any four : **[16]**

a) Accounting standards

b) Scope of Accounting

c) Accounting conventions

d) Accounting and Book keeping

e) Accounting concepts

f) Accounting estimates

Total No. of Questions : 5]

SEAT No. :

P693

[Total No. of Pages : 2

[4668] - 1003

F.Y. B.C.A. (Semester - I)

103 : PRINCIPLES OF PROGRAMMING AND ALGORITHMS

(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) Answer the following (Any 8) : **[8 × 2 = 16]**

a) What is an Algorithm?

b) What is Big-O notation?

c) Explain 2-Dimensional Array in brief.

d) What is recursion?

e) List sorting techniques.

f) What is palindrome?

g) Define time complexity.

h) What is Row major of matrix?

i) What is sequential search?

Q2) Answer the following (any 4) : **[4 × 4 = 16]**

a) Explain space complexity with example.

b) Write an algorithm to calculate area of circle for given radius.

c) Write an algorithm to find maximum of an array.

d) Draw a flow chart for multiplication of 2 numbers.

e) Explain concept of insertion sort with example.

P.T.O.

Q3) Answer the following (Any 4) : **[4 × 4 = 16]**

a) Draw a flow chart for sum of first n natural numbers.

b) Explain program development life cycle.

c) Explain different symbols of flow chart.

d) Explain concept of recursion.

e) Write an algorithm for Binary Search.

Q4) Answer the following (Any 4) : **[4 × 4 = 16]**

a) Explain any one problem solving technique.

b) Explain characteristics of algorithm.

c) Draw flow chart for sum of first n even numbers.

d) Write an algorithm for factorial of a given number.

e) Draw a flow chart to find the given year is leap year or not.

Q5) Answer the following (Any 4) : **[4 × 4 = 16]**

a) Write a short note on an array.

b) Compare linear and binary search.

c) Write an algorithm for addition of 2 matrices.

d) Draw a flow chart for finding average of n given numbers.

e) Write an algorithm to print factors of a given number.

Total No. of Questions : 5]

SEAT No. :

P695

[Total No. of Pages : 2

[4668] - 1005

B.C.A. (Semester - I)

PRINCIPLES OF MANAGEMENT

(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

1) ***All questions are compulsory.***

2) ***All questions carry equal marks.***

Q1) What is management? Explain the features of management.

OR

Explain the contribution of F.W. Taylor and Henry Fayol to management.

Q2) Define delegation of authority. Explain the difficulties in the effective delegation of authority.

OR

What is planning? Explain its importance and limitations.

Q3) Write notes :

a) Principles of Direction

b) Decision making process

OR

Define motivation. Critically examine the Theory X and Theory Y.

P.T.O.

Q4) What is controlling? What are the principles of a good control system?

OR

What is strategic management? Explain its need and importance.

Q5) Write short notes (Any four) :

a) Functions of a Leader

b) Importance of staffing

c) Resistance to change

d) Limitation to social Responsibility of Management

e) Organisational stress

f) Total Quality Management

Total No. of Questions : 7]

SEAT No. :

P662

[Total No. of Pages : 1

[4668]-101

B.C.A. (Semester - I)

BUSINESS COMMUNICATION

(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) Define communication. Explain in detail process and functions of communication. **[16]**

Q2) What is Business letter? What are the need and functions of Business letters? **[16]**

Q3) a) Write enquiry letter to Olympus Nylon Ltd. Chimohwad, Pune From Gangajali and Sons Basa Road, Culcutta, about Nylon cloths for their shop. **[8]**

b) Draft a circular letter for M/s Jain and Narang announcing the conversion of their partnership into limited company under the name of Jain, Narang and Co. Ltd. **[8]**

Q4) What is public address system? Distinguish between dramatisation and Public address system. **[16]**

Q5) Explain the Advantages and Disadvantages of Group Discussion. **[16]**

Q6) What is Meeting? Explain in detail types of meetings. **[16]**

Q7) Write Short Notes **(Any Two)** **[16]**

a) Grapevine.
b) Press conference.
c) Word Processor.
d) Principles of good listening.

Total No. of Questions : 5]

SEAT No. :

P663

[Total No. of Pages : 1

[4668]-102

B.C.A. (Semester - I)

PRINCIPLES OF MANAGEMENT

(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) Define management. Explain the difference between management and administration.

OR

Explain the contributions and limitations of Scientific Management Theory.

Q2) What is planning? Explain the process of planning.

OR

Write notes on -

a) Importance of Effective Communication System.
b) Decision Making Process.

Q3) Define Motivation. Explain the Fredrick Herzberg's Theory of Motivation.

OR

Explain the need and principles of an effective control system.

Q4) What is strategy? Explain the various types of strategies.

OR

Write notes on -

a) Stress Management
b) Leadership Qualities.

Q5) Write short notes on (any four) :

a) Resistance to change.
b) Management of crisis.
c) Nature of Direction.
d) Staffing
e) Limitations of TQM.
f) Management as an Art.

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Total No. of Questions : 5]

SEAT No. :

P664

[Total No. of Pages : 2

[4668]-103

B.C.A. (Semester - I)

PRINCIPLES OF PROGRAMMING AND ALGORITHM (113)

(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) Answer the following: (All) **[8 × 2 = 16]**

a) What is 'C' Character set?
b) What is operator precedence?
c) What is Big-oh notation?
d) Write syntax and usage of gets( ) function.
e) What is difference between getch( ) and getchar( )?
f) What is escape sequence?
g) What is variable?
h) What is actual parameter?

Q2) Answer the following : (Any four) **[4 × 4 = 16]**

a) Explain the concept of header files with example.
b) Explain goto statement with the help of example.
c) Explain various types of 'C' statements.
d) Write a 'C' program to find reverse of given number by using user defined function.
e) Write a 'C' program to find whether given number is positive or negative.

Q3) Answer the following : (Any four) **[4 × 4 = 16]**

a) Explain logical and Arithmetic operators.
b) What is storage class? Explain advantages and limitations of register storage class.
c) What is problem solving? Explain various steps in problem solving.
d) Write a 'C' program to print the following pattern.

```
A
B  B
C  C  C
```

e) Write a 'C' program to find maximum of three distinct numbers.

P.T.O.

Q4) Answer the following : (Any four) **[4 × 4 = 16]**

a) Explain any two preprocessor directives.

b) Explain block scope and file scope of variable with example.

c) Distinguish between break and continue statement.

d) Trace the following output and explain.

```
main ( )
{
      int a = 1;
      switch (a)
      {
         case 0 : printf (“ln A”);
         case 1: Printf (“ln B”);
      }
}
```

e) Trace the following output and explain

```
main ( )
{
      Float a = 12.31, b = 14.60;
         if (a = b)
Printf      (“equal”);
else
Printf      (“not equal”);
}
```

Q5) Answer the following : (Any four) **[4 × 4 = 16]**

a) Explain the format specifiers used with printf and scanf functions.

b) Explain syntax and usage of for loop with example.

c) What is Recursion? Explain its advantages and disadvantages.

d) Write an algorithm for swapping two numbers without using third variable.

e) Draw a flowchart to accept a number and check whether it is palindrome or not.

Total No. of Questions : 5]

SEAT No. :

P666

[Total No. of Pages : 4

[4668]-105
F.Y. B.C.A. (Semester - I)
(115) : BUSINESS ACCOUNTING
(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) A) Fill in the blanks : **[5]**

a) In every business transaction at least _____ parties are involved.

b) All real accounts always have _____ balances.

c) Left hand side of a Ledger is called _____ side.

d) The Asset that can be seen and touched is _____ Assets.

e) Trial Balance is a _____ but not an account.

B) State whether the following statements are True or False: **[5]**

a) Accountancy is a wider term as compared to book-keeping.

b) Nominal Accounts are the Accounts of Assets.

c) The Gross profit is transferred to profit and loss A/c.

d) Cash discount is an incentive to the customer.

e) Purchase Book is used to record all credit-purchases of Goods only.

C) Match the following : **[5]**

'A'	'B'
a) Accounting standard	i) Good Physical Health
b) Art of recording	ii) Disclosure of Accounting Policies
c) Non Financial Factor	iii) Approved Guide Lines
d) As - 1	iv) Book-keeping
e) Art of Summarizing Classifying and Interpreting Transactions	v) Accounting

P.T.O.

D) Classify the following accounts into Personal Account, Real Account and Nominal Account : **[5]**

a) Furniture Account

b) Prepaid Rent Account

c) Capital Account

d) Cash Account

e) Salary Account

Q2) What is Accounting standard? Explain advantages of Accounting standards and also arguments against setting accounting standards. **[12]**

OR

What is book keeping? State the difference between book keeping and Accounting.

Q3) A) Journalize the following transactions in the book of L. singh for the month of December, 2013 **[8]**

1. Purchased Goods for cash Rs. 11,500

3. Paid electricity charges Rs. 150

5. Received commission Rs. 600

7. Sold a scooter to Vikas for Rs. 9,100

9. Received Rs. 1000 for Vikas

11. Paid transport charges Rs. 350 to Shankar

13. Purchased Machinery Rs. 7,200 from Ambani bros

15 Deposited Rs. 1,200 in Bank of Maharashtra.

17 Paid Fire Insurance premium to Insurance company.

B) If a machine costs Rs. 1,20,000 on 1-4-2005 has a salvage value at Rs. 20,000 and a Life of 10 years, assuming the accounting year ends on 31st March 2006. What will be the amount of depreciation to be charged annually? **[8]**

Q4) Prepare a cash Book with Cash and Discount columns of Mahesh Trading Co. Mumbai for April 2014 from the following transactions. **[16]**

1. Cash on hand Rs. 15,000
2. Received from Manish Rs. 1350 for sale of Goods.
5. Purchased furniture from Metro Furnitures for Rs. 1400 for cash @ 5% cash Discount.
7. Paid to Manik Rs. 1200 for salary.
10. Withdrew Rs. 500 from Bank for office use.
13. Supplied to Mohan Goods costing Rs. 2,000 @ 15% Trade Discount and 5% Cash Discount for cash.
15. Monthly rent paid for residential Quarter @ Rs. 6,000 p.a. to the land coard Manwani.
18. Deposited Rs. 3,000 into Bank Fixed Deposit.
22. Paid to Manoj Rs. 1,220 in full settlement of his account Rs. 1,250 for Goods purchased from him during last month.
25. Paid Rs. 350 as commission to Mithun.
28. Sold old machinery for Rs. 750 and allowed a discount of Rs. 15
30. Paid to Mukesh Rs. 790 in part payment of Rs. 850.

Q5) The following balances were collect from the book of S.P, Narhe as on 30th June 2014 and Balance sheet as on that date after Taking into account the following adjustments : **[16]**

Adjustments :

i) Closing stock was Rs. 1,30,000

ii) Depreciate Plant and Machinery @ 5% p.a. and Patents @ 15% p.a.

iii) Revalue Tools at Rs. 20,000.

iv) Provide 5% on Debtors for Bad and Doubtful Debts.

v) Outstanding salary amounted to Rs. 3,500

vi) Insurance was paid in Advance to the extent of Rs. 750

Trial Balance as on 30th June 2014

Particulars	Debit Rs.	Credit Rs.
SP's Capital		3,30,000
SP's Drawings	24,450	
Opening stock	2,00,000	
Bills Receivable	25,000	
Purchases	2,75,000	
Sales		4,20,000
Bills Payable		60,000
Returns outward		4,500
Returns inward	5,000	
Plant & Machinery	1,00,000	
Loose Tools	25,000	
Patents	25,000	
Sundry Debtors	1,25,000	
Sundry Creditors		1,40,000
Cash at Bank	77,550	
Salaries & wages	50,000	
Repairs & Renewals	7,500	
Insurance	3,000	
Power & Fuel	3,500	
Printing & stationery	2,000	
Miscellaneous Expenses	6,500	
	9,54,500	9,54,500

Total No. of Questions : 8]

SEAT No. :

P698

[Total No. of Pages : 1

[4668]-2003

B.C.A. (Semester - II)

ORGANISATIONAL BEHAVIOUR

(2013 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) What is Organizational Behaviour? Explain Nature, Scope and importance of Organizational Behaviour. **[16]**

Q2) What is value? State important characteristics and types of value system in an organization. **[16]**

Q3) Define Motivation. Explain in detail Theory X and Theory Y of Motivation. **[16]**

Q4) What do you mean by the term personality? Explain the self theory of personality. **[16]**

Q5) What is Stress Management? Describe the individual and Organizational Strategies for Stress Management. **[16]**

Q6) Define Conflict? Explain the Conflict Resolution Techniques. **[16]**

Q7) What is Team Building? Explain various steps to build an effective Team. **[16]**

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

a) Emerging aspect of Organisation Behaviour.

b) Changing Attitude.

c) Causes of Organisational Changes.

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Total No. of Questions : 5]

SEAT No. :

P700

[Total No. of Pages : 2

[4668]-2005
B.C.A. (Semester - II)
205: E-COMMERCE CONCEPTS
(2013 Pattern)

Time :3 Hours] ***[Max. Marks :80***

Instructions to the candidates :

1) ***Neat diagrams must be drawn wherever necessary.***
2) ***Figures to the right indicate full marks.***

Q1) Answer the following (Any Eight) : **[16]**

a) What is B2C?

b) What is mean by Electronic cheque.

c) What is E-commerce.

d) State types of domain.

e) What is web promotion?

f) What is internet?

g) Define virus.

h) What is digital certificate?

i) What is hacking?

j) What is online banking?

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

a) Explain domain name registrars.

b) Explain working of E-business.

c) What is internet service provider? Explain it with it's types.

d) What is phishing? Explain techniques of phishing.

e) Explain goals of E-commerce.

P.T.O.

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

a) What is E-mail? Explain features of E-mail.

b) Explain applications of extranet.

c) Explain advantages of E-commerce to organizations.

d) Explain disadvantages of internet.

e) Explain any four reasons for building our own website.

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

a) Explain procedure for registering a domain name.

b) What is E-cash? Explain advantages of E-cash.

c) Explain Cryptography in detail.

d) Explain various technical components of E-commerce.

e) Differentiate between intranet & extranet.

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

a) Digital signature.

b) ATM

c) Shopping bots.

d) WWW

e) Banner Exchange.

Total No. of Questions : 4]

SEAT No. :

P669

[Total No. of Pages : 3

[4668]-203
F.Y. B.C.A. (Semester - II)
(213) 'C' PROGRAMMING
(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) Answer the following (any ten) : **[10 × 2 = 20]**

a) What do you mean by file Inclusion.

b) What do you mean by subscript of an array?

c) What is the use of strcnp ( ).

d) Define structure. Give example.

e) List any four file opening modes.

f) What is the limitation of scanf ( )

g) Write the syntax of fopen ( ).

h) List the different Bitwise operators.

i) What is use of command line argument.

j) What is difference between fprintf ( ) and fscanf ( ).

k) What is pointer? Give example.

l) What is the use of indirection and address operators.

Q2) Answer the following (Any four) : **[4 × 5 = 20]**

a) Write a short note on Dynamic Memory Allocation.

b) Define 2 dimensional array? Explain how to initialize 2 - dimensional array with example.

P.T.O.

c) List the differences between structure and union with an example.

d) Compare Macros and Functions.

e) What is a File? Explain Text File and Binary Files.

Q3) Attempt the following (any four) : **[4 × 5 = 20]**

a) Write a 'C' program to accept 10 numbers and display in descending order.

b) Write a 'C' program to accept rollno, branch and percentage and display it (using structures)

c) Write a 'C' program to check whether character entered is small case letter or not using Macro.

d) Write a 'C' program to copy contents of one file to another.

e) Write a 'C' program to check whether string is palindrome or not.

Q4) Answer the following (any four) Trace output and justify. **[4 × 5 = 20]**

a)
```
main ( )
{
   static int sub [5] = {2,3,4,5,6};
   int i ;
   for (i = 0; i < = 4 ; i ++)
      {
         if (i < = 4)
        {
           sub [i] = i * i ;
           printf ("%d\n", sub [i]);
        }
      }
 }
```

b)
```
main ( )
{
   static char str [ ] = "shall we tell the Deputy";
   printf ("%s\n % s\n", str, str + 6);
}
```

c)
```
main ( )
{
   struct emp
   {
      char ename [20];
      int age;
   };
      struct emp e;
      strcpy (e. name, “John”);
      e.age = 25;
      printf (“\n % s % d”, e.name, e.age);
}
```

d)
```
# define CUBE (x) (x * x * x)
   main ( )
{
   int a ;
   a = 27/CUBE (3);
   printf (“%d”, a);
}
```

e)
```
main ( )
{
   int num [26], temp;
   num [0] = 10;
   num [25] = 20;
   temp = num [25];
   num [25] = num [0];
   num [0] = temp;
   printf (“%d %d”, num [0], num [25]);
}
```

Total No. of Questions : 5]

SEAT No. :

P671

[Total No. of Pages : 4

[4668]-205
B.C.A. (Semester - II)
COST ACCOUNTING
(2008 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) a) Fill in the blanks : **(Any Five)** **[5]**

i) Fixed cost per unit _____ with increase in the size of output.

ii) P/V Ratio is the Ratio of _____ to Sales.

iii) _____ Control is broader term than budgeting.

iv) At Breakeven point sales is equals to _____.

v) _____ is the application of costing & cost accounting principles

vi) _____ = Total cost - Fixed cost.

b) Indicate whether the following Statements are true or false : **(Any Five)[5]**

i) Contribution is the difference between the selling price & variable cost.

ii) Prime Cost is includes all indirect costs.

iii) A cost Unit is a location, person or item of equipment for which cost may be ascertained & used for the purpose of control.

iv) Job Cost is suitable for special order.

v) Semi-fixed costs are partly controllable & partly uncontrollable.

vi) Prime costs are identifiable.

Q2) Define "Costing" & differentiate between Financial & Cost Accounting.**[15]**

OR

What do you mean by Elements of Cost? Explain different elements of cost with suitable examples.

P.T.O.

Q3) Write short notes: **(Any Three)** **[15]**

a) Normal Loss and Abnormal Loss

b) Features of Process Costing

c) Operating Cost

d) Profit Volume Ratio

e) Contract Costing

Q4) The following information has been obtained from Kajal Company Ltd. Surat for a quarter ending 31-3-2009 **[16]**

Stock of raw materials on 1-1-2009	1,00,000
Stock of raw materials on 31-3-2009	74,000
Purchases of raw material	6,00,000
Travelling Expenses	5,000
Carriage Inward	10,000
Carriage Outward	15,000
Depreciation on plant	18,000
Factory rent	12,000
Office rent	10,000
Bad debt	7,000
Productive Wages	20,000
Traveller's Salaries and Commission	4,000
Expenses regarding purchases of material	4,000
Gas, Fuel and Water	8,000
Manager's Salaries	9,000
(he devotes 2/3 of his time to factory)	
Sales	10,48,000

Prepare a cost sheet showing :

i) Cost of material consumed

ii) Prime cost

iii) Work cost

iv) Cost of production

v) Total cost

Q5) a) A company has prepared the following budget estimate for the following year 2012-2013 : **[12]**

Sales	15000 units
Fixed Cost	Rs. 34000
Sales Value	Rs. 150000
Variable Cost	Rs. 6

You are required to calculate :-

P/V ratio

BEP (Sales)

Margin of Safety

b) The statement given below gives the Flexible Budget at 60% capacity of Mahesh Limited. Prepare a tabulated statement giving the budget figures at 75% and 90% capacity where no indication has been given. Make your own classification of expenses between fixed, variable and semi-variable expenses. **[12]**

Particulars	**60% capacity Rs.**
Prime cost materials	1,60,000
Depreciation	60,000
Productive wages	40,000
Rent	12,000
Indirect materials	48,000
Insurance of machinery	12,000
Indirect labour	40,000
Electric power (40% fixed)	8,000
Repairs and maintenance (60% Fixed)	20,000

OR

b) The Standard and actual Labour cost is given for Ram traders, Delhi you are required to calculate labour variance and verify the results : **[12]**

Standard time for a job	1000 hours
Standard rate per hour	Rs. 5.00
Actual time taken on the job	950 hours
Total wages	Rs. 4560

Total No. of Questions : 5]

SEAT No. :

P701

[Total No. of Pages : 4

[4668]-3001

S.Y. B.C.A. (Semester - III)

301: RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

(2013 Pattern)

Time :3 Hours] *[Max. Marks :80*

Instructions to the candidates :

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

Q1) Attempt all : **[16]**

a) What is RDBMS? List any two products of RDBMS.

b) What is cursor? List the attributes of cursor.

c) What is schedule? Give types of schedule.

d) Define Lock. List different types of lock.

e) List different types of storage.

f) What is a precedence graph.

g) Define :

i) W-timestamp ii) R-timestamp

h) Write syntax and example of while loop in PL/SQL.

Q2) Attempt any four : **[16]**

a) Differentiate between DBMS and RDBMS with example.

b) Explain different data types in PL/SQL.

c) Explain ACID properties of transaction in detail.

d) What is deadlock? Explain how deadlock is recovered.

e) What is the difference between function and procedure, explain it with example.

Q3) Attempt any four : **[16]**

a) Explain different types of failures.

b) What is exception handling? Explain user defined exception with example.

c) Explain recoverable schedule and cascadeless schedule with example.

d) Explain two phase locking protocol with example.

e) Explain Log-based recovery.

P.T.O.

Q4) Attempt any four : **[16]**

a) Consider the following Relational Database :

Employee (eno, ename, city, deptname)

Project (pno, pname, status)

Emp-proj (eno, pno, no-of-days)

Write a cursor which will display project wist list of employee.

b) Consider the following Relational Database :

Dept (deptno, deptname, location)

Emp (empno, empname, sal, comm, designation, deptno)

Write a procedure to increase salary of given employee by 5% and display updated salary.

c) Consider the following Relational Database :

Movie (mno, mname, relyear)

Actor (ano, aname)

Mov-act (mno, ano)

Define a trigger before insert or update of each row of movie that movies released after 2010 be entered into movie table.

d) Consider the following Relational Database :

Politician (pno, pname, desig, partycode)

Party (partycode, partyname)

Write a function to return total number of politicians of a given party.

e) Write a package which consist of one procedure and one function. Consider relation person.

Person (pno, pname, paddr, pcity, phno)

Procedure of a package will display details of given person. Function of a package will count number of person from Pune city.

Q5) Attempt any four : **[16]**

a) Consider the following transactions

T1	T2
Read (x)	Read (y)
x = x + 1000	y = y –500
Write (x)	Write (y)
Read (y)	Read (z)
y = y + 1000	z = z – 500
Write (y)	Write (z)

Give two non serial schedules that are serializable.

b) Consider the following transactions

T1	T2
Read (x)	Read (z)
Read (z)	z = z + 100
x = x + z	Write (z)
Write (x)	Read (y)
	y = y + 200
	write (y)

Give two non serial schedules that are serializable.

c) Following is the list of events in an interleaved execution of set of transaction T1, T2, T3 and T4 assuming 2PL. Is there a deadlock? If yes, which transactions are involved in deadlock?

Time	Transactions	Code
t1	T1	Lock (A, X)
t2	T2	Lock (B, S)
t3	T3	Lock (A, S)
t4	T4	Lock (D, S)
t5	T1	Lock (B, X)
t6	T2	Lock (C, X)
t7	T3	Lock (D, S)
t8	T4	Lock (C, X)

d) Following is the list of events in an interleaved execution of set of transaction T1, T2, T3 and T4 assuming 2PL. Is there a deadlock? If yes, which transactions are involved in deadlock?

Time	Transactions	Code
t1	T1	Lock (A, X)
t2	T2	Lock (A, S)
t3	T3	Lock (A, S)
t4	T4	Lock (B, S)
t5	T1	Lock (B, X)
t6	T2	Lock (C, X)
t7	T3	Lock (D, S)
t8	T4	Lock (D, X)

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

[Start-transaction, T1]
[Write-item T1, A, 10, 20]
[Commit, T1]
[Check point]
[Start-transaction, T2]
[Write-item, T2, B, 10, 15]
[Start-transaction, T3]
[Write-item, T3, C, 10, 25]
[Commit T2]
[Write-item, T3, D, 10, 30] ← system crash

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

Total No. of Questions : 5]

SEAT No. :

P702

[Total No. of Pages : 4

[4668] - 3004
B.C.A. (Semester - III)
(304) BUSINESS MATHEMATICS
(2013 Pattern) (Theory)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) A) Attempt any one of the following : **[6]**

a) The sum of present ages of three persons is 75 years. Five years ago their ages were in the ratio 4 : 5 : 6. Find their present ages.

b) The ratio of two numbers is 4 : 7. The bigger number is 147. Find the smaller number.

B) Attempt any two of the following : **[10]**

a) If x is proportional to y and $x = 3$ when $y = 7$. Find value of x when $y = 28$.

b) Define continued proportion. If 8, x, 50 are in continued proportion, then find x.

c) In a school, there are 12% girls. If 5 boys and 15 girls are newly admitted to the school, the percentage of girls becomes 15. What is the total strength of the school.

Q2) A) Attempt any one of the following : **[6]**

a) Explain the following terms.

i) Cost price

ii) Market price

iii) Selling price

b) A piano is sold for Rs. 42,500 at a loss of 15%. For how much should it have been sold to earn a profit of 15%.

P.T.O.

B) Attempt any two of the following : **[10]**

a) The rate of commission is increased 5% to 7% still income of salesman remains same. Find the percentage change in his sales.

b) A product is sold for Rs. 6,720. If retailer earns 12% profit then what is cost price of the product?

c) A house is sold at 25% profit. The amount of brokerage at 1% comes to Rs. 7,000. Find the cost of house.

Q3) A) Attempt any one of the following : **[6]**

a) Find value of x if $\begin{vmatrix} 5 & 5 & x \\ x & 5 & 5 \\ 5 & 5 & 4 \end{vmatrix} = 0$

b) Define the following terms. Illustrate it by giving examples.

i) Square Matrix

ii) Unit Matrix

iii) Symmetric Matrix

B) Attempt any two of the following : **[10]**

a) Find the values of a and b if

$$\begin{bmatrix} 3 & 2 \\ 1 & 5 \end{bmatrix}\begin{bmatrix} a & 1 \\ b & 2 \end{bmatrix} = \begin{bmatrix} 8 & 7 \\ 7 & 11 \end{bmatrix}$$

b) Find inverse of the following matrix.

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

c) Solve the following system of linear equations using matrix method.

$2x + 3y = 9$
$-x + y = -2$

Q4) A) Attempt any one of the following : **[6]**

a) Solve the following LPP graphically.

$$\text{Minimize } Z = 2x_1 + 4x_2$$

$$\text{Subject to } 6x_1 + x_2 \geq 18$$
$$x_1 + 4x_2 \geq 12$$
$$2x_1 + x_2 \geq 10$$
$$x_1, x_2 \geq 0$$

b) Explain the following terms.

i) Decision variables

ii) Feasible solution

iii) Optimal solution

B) Attempt any two of the following : **[10]**

a) Let A and B are two types of fertilizers available at Rs. 30 per kg and Rs. 50 per kg respectively. Fertilizer A contains 20 units of potash, 10 units of nitrogen and 40 units of phosphorus. Fertilizer B contains 15 units of potash, 20 units of nitrogen and 10 units of phosphorus. The requirement of potash, nitrogen and phosphorus is atleast 1800, 1700, 1600 unit. Formulate the problem as LPP in order to minimize the total purchasing cost.

b) What sum will amount to Rs. 12,167 in 5 years at 4% p.a. compound interest?

c) A sum of money doubles itself in 6 years. Find the rate of simple interest.

Q5) A) Attempt any one of the following : **[6]**

a) Obtain the initial basic feasible solution to the following transportation problem by using Vogel's Approximation method.

Plants	Warehouses				Supply
	1	2	3	4	
I	3	4	9	2	23
II	6	5	8	8	27
Demand	12	13	15	10	50

b) The difference between the simple and compound interest on a certain sum of money for 4 years at 6% p.a. is Rs. 168.75. What is the sum?

B) Attempt any two of the following : **[10]**

a) Obtain the initial basic feasible solution to the following transportation problem by using Matrix Minima Method.

Sources	Destinations				Supply
	I	II	III	IV	
1	2	6	3	10	100
2	4	3	1	9	200
3	5	3	2	4	200
Demand	50	175	125	150	500

b) Obtain initial basic feasible solution to the following transportation problem by North West Corner Method.

Plants	Warehouses				Supply
	W_1	W_2	W_3	W_4	
P_1	2	3	11	7	6
P_2	1	0	6	1	1
P_3	5	8	15	9	10
Demand	7	5	3	2	17

c) What sum will amount to Rs. 2,000 in 3 years at 6% p.a. compound interest?

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Total No. of Questions : 5]

SEAT No. :

P703

[Total No. of Pages : 2

[4668] - 3005
S.Y. B.C.A. (Semester - III)
SOFTWARE ENGINEERING
(2013 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) Attempt the following (Any Eight) : **[16]**

a) Define Software Engineering.

b) What are open and closed systems?

c) Define the term coupling.

d) What is a Pseudo Code?

e) Who is a System Analyst?

f) Define the term system.

g) Name any two Data Capture methods.

h) State any two advantages of Prototype model.

i) Name the four fact gathering techniques.

j) Define the term Relationship.

Q2) Answer the following (Any four) : **[16]**

a) Explain the spiral model in detail with diagram.

b) Explain Integration testing in detail.

c) Explain Software characteristics in detail.

d) Explain Normalization and explain notations of E-R diagrams.

e) Explain test characteristics in detail.

f) State and explain the qualities of good design.

P.T.O.

Q3) a) Design an O/P screen for Performance report of salesman. **[8]**

b) A Co-operative bank grants loan under following conditions. **[8]**

i) If customer has account with bank and has no loan outstanding loan will be granted.

ii) If customer has account but some amount is outstanding from previous loans, loan will be granted under special management approval.

iii) Reject loan applications in all other cases.

Draw decision tree and table for above case.

Q4) Write short notes (Any Four) : **[16]**

a) White box testing

b) Structure chart

c) Mc Call's Quality factors

d) System characteristics

e) Data Dictionary

Q5) Consider an "Airline Reservation System". Identify all the Entities and draw a **[16]**

a) Context level diagram (DFD).

b) 1st level DFD for the above case.

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Total No. of Questions : 5]

SEAT No. :

P672

[Total No. of Pages : 4

[4668] - 301

S.Y. B.C.A. (Commerce Faculty) (Semester - III)

NUMERICAL METHOD

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

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

i) Draw the graph of function $f(x) = x^2 - 6x + 9 = 0, x \in R$

ii) Evaluate $\lim_{x \to 2} \left[\frac{x^2 - 5x + 6}{x(x-2)} + \frac{x^2 - 4}{4} \right]$.

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

i) Find $\frac{dy}{dx}$ of function $y = \frac{x^3 - 2x^2 - 8x}{3x}$ at $x = 4$.

ii) Evaluate $\int_0^2 \frac{x^2 - 2x}{x} dx$.

iii) Explain terms :

a) Identity function.

b) Constant function.

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

i) Find root of equation $x^3 - 9x + 1 = 0$ by bisection method corrected up to two decimal places lying between 8 and 9.

ii) Explain least square method to better fit polynomial of second degree $y = a + bx + cx^2$.

P.T.O.

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

i) By Newton Raphson method find root of equation $x^3 - 2x^2 + x - 4 = 0$. Attempt 3 iterations.

ii) Find cube root of 25 corrected up to two decimals.

iii) Define terms :

a) Forward difference.

b) Backward difference.

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

i) Find missing term of following data :

x	–1	0	1	2	3	4
y	–2	0	---	10	30	68

ii) From following data find number of students who optained less than 35 marks.

Marks range	20-30	30-40	40-50	50-60	60-70
No. of Students	31	42	51	35	31

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

i) Evaluate $\left(\frac{\Delta^2}{E}\right)\left(x^4\right)$, take h = 1.

ii) Represent the function $f(x) = 2x^4 - 5x^3 + 6x^2 - 3x + 4$ in to it's factorial notation.

iii) If $f(0) = 0, f(1) = 0, f(3) = 24, f(4) = 60$. By using Lagranges interpolation formula find $f(2)$.

Q4) a) Attempt any one of the following : **[1 × 6 = 6]**

i) Find first two derivatives of $f(x)$ at $x = 1$, of data.

x	–2	–1	0	1	2	3
y	2	0	0	1	6	12

ii) Evaluate $\int_5^{11} x^2\, dx$. By Simpson's $\frac{1}{3}$ rule, take h = 1.

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

i) For following data function evaluate $\int_0^{12} f(x)\,dx$, by trapezoidal rule.

x	0	2	4	6	8	10	12
$f(x)$	0	22	30	27	18	7	0

ii) Solve the following $\frac{dy}{dx} = x + y$. Subjected to the condition $y = 1$ where $x = 0$. By Picard's method, find approximate value of y when $x = 0.1$ take h = 0.05.

iii) Using Eulers method Solve $\frac{dy}{dx} = 1 + y^2$, given $y\ (0) = 0$. Take h = 0.05 and obtain $y\ (0.15)$

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

i) Explain :

a) Linear Programming Problem.

b) Transportation Problem.

ii) Solve following linear programming problem graphically.

Maximize $Z = 50x + 100y$

Such that $6x + 4y \leq 360$

$2x + 4y \leq 200$

$x \leq 50$

$y \leq 40,\ x, y \geq 0.$

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

i) Obtain initial basic feasible solution to the following transportation problem by using Leas Cost Method.

	W_1	W_2	W_3	W_4	W_5	Capacity
C_1	8	10	9	7	5	300
C_2	4	8	6	3	7	500
C_3	6	4	8	3	9	700
C_4	4	5	3	6	2	200
C_5	5	5	6	7	8	600
availibility	400	500	300	600	500	

ii) Solve following assignment problem :

Job / Eng	J_1	J_2	J_3	J_4	J_5	J_6
E_1	6	2	5	3	9	8
E_2	3	5	6	2	8	8
E_3	2	2	3	5	7	8
E_4	8	3	5	1	2	6
E_5	9	2	8	1	2	3
E_6	5	6	7	2	1	3

iii) A carpenter has 90, 80 and 50 linear meter of polywood, pine and birch respectively. Product A requires 2,1 and 1 meter of polywood, pine and birch respectively. The product B requires 1,2 and 1 meter of polywood, pine and birch respectively. If A sells for Rs 120 and B sells for 100, formulate above problem to obtain the maximum gross income.

Total No. of Questions : 5]

SEAT No. :

P675

[Total No. of Pages : 4

[4668] - 304

B.C.A. (Semester - III)

324 : MANAGEMENT ACCOUNTING

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates :

1) ***All questions are compulsory.***

2) ***Figures to the right indicate full marks.***

3) ***Use of Calculator is allowed.***

Q1) Define the term 'Management Accounting'. State its advantages and limitations. **[16]**

OR

Define 'Budget' and 'Budgetary control'. Describe the steps required to be takes in the introduction of budgetary control system in the business organisation.

Q2) Explain the following and indicate their uses as techniques for financial statement analysis : **[16]**

a) Comparative Balance Sheet

b) Common size statement

P.T.O.

OR

Following are the financial statements of XY Ltd.

Profit and Loss A/c for the year ended 31st March, 2014

Particulars	₹	Particulars		₹
To Opening stock	1,20,000	By Sales		
To Purchases	19,20,000	Credit	20,00,000	
		Cash	4,00,000	24,00,000
To Gross Profit c/fd	4,40,000	By Closing stock		80,000
	24,80,000			24,80,000
To Selling Exps.	45,000	By Gross Profit b/fd		4,40,000
To General and Admi-				
-nistration Exps.	68,000			
To Interest Expense	5,250			
To Income Tax	29,000			
To Net Profit after Tax	2,92,750			
	4,40,000			4,40,000

Balance Sheet as an 31st March, 2014

Liabilities	₹	Assets	₹
Share Capital :		Plant & Machinery	6,00,000
Eq. Shares of ₹ 10 each	4,50,000	Inventory	80,000
6% Pref. Share Capital	2,00,000	Debtors	45,000
Profit & Loss A/c	94,000	Other Current Assets	1,24,000
$5\frac{1}{4}$% Mortgage Loans	1,00,000	Investments (Long Term)	50,000
Bills Payable	25,000	Cash	50,000
Taxes Payable	15,000		
Other Current Liabilities	65,000		
	9,49,000		9,49,000

Calculate :

a) Current ratio.

b) Acid Test Ratio.

c) Operating Cost Ratio.

d) Inventory Turnover Ratio.

Q3) The data of ABC Ltd. is as under : **[16]**

a)	Production for the year	:	33,000 units
b)	Finished Goods inventory	:	2 months
c)	Raw Material inventory	:	1 month
d)	Production Process (W.I.P)	:	1½ months
e)	Credit allowed by creditors	:	1 month
f)	Credit given to Debtors	:	2 months
g)	Selling price per unit	:	₹ 145
h)	Raw Material	:	40% of selling price
i)	Direct wages	:	20% of selling price
j)	Overheads	:	20% of selling price

Additional information :

a) Wages and overheads accrue evenly. Wages are paid in the next month of accrual.

b) Material is introduced in the beginning of production cycle.

c) W.I.P. involves full unit of raw material in the beginning of manufacturing process and other costs equivalents to 50%.

d) The Bank balance is to be presumed, ₹1,71,463.

From the above facts, you are required to prepare a statement showing working capital requirements.

OR

Explain the concept of 'Working Capital'. Explain various factors affecting the need of working capital.

Q4) MPM Ltd. made sales during a certain period for ₹ 1,00,000. The Net Profit for the same period was ₹10,000 and the fixed overheads were ₹15,000. **[16]**

Find out :

a) P/V Ratio

b) Required sales to earn a profit of ₹15,000

c) Net profit from sales of ₹1,50,000

d) Break Even Point

OR

Define 'Marginal Costing'. State its advantages and limitations.

Q5) Write notes on : (Any Two) **[16]**

a) Classification of Budgets.

b) Proforma of Sources and Application of funds.

c) Importance of Cash flow statement.

d) Factors affecting working capital.

Total No. of Questions : 5]

SEAT No. :

P676

[Total No. of Pages : 5

[4668] - 305

S.Y. B.C.A. (Semester - III)

325 : RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) Attempt all : **[16]**

a) Give any two differences between DBMS & RDBMS.

b) What is cursor? List types of cursor.

c) Give proper syntax of trigger.

d) List properties of transaction.

e) What is serializability?

f) Define lock. List different types of lock.

g) Define growing phase.

h) Define starvation.

Q2) Attempt any four : **[16]**

a) Explain any four objects of oracle.

b) What is trigger? Explain any two types of trigger.

c) What is transaction? Explain states of transaction.

d) What is deadlock? How to prevent deadlock?

e) Explain log-based recovery.

P.T.O.

Q3) Attempt any four : **[16]**

a) Explain different data types in PL/SQL.

b) Explain for loop used in PL/SQL with proper example.

c) What is schedule? Explain types of schedule.

d) Explain different types of storage.

e) Explain immediate database modification technique with example.

Q4) Attempt any four : **[16]**

a) Consider the following Relational Database :

Doctor (d_no, d_name, d_city)

Hospital (h_no, h_name,h_city)

Doc_Hosp (d_no, h_no)

Write a function, which will count number of doctors visiting to 'Lifeline' Hospital.

b) Consider the following Relational Database :

Book (b_no, b_name, pub_name, price)

Author (a_no, a_name)

Book-Auth (b_no, a_no)

Write a procedure to display details of all books written by 'Mr. Pawar.'

c) Consider the following Relational Database :

Customer (cust_no, cust_name, cust_city)

Loan (loan_no, loan_amt, no_of_years, cust_no)

Define a trigger that restricts updation of Loan Amount.

d) Consider the following Relational Database :

Employee (e_no, e_name, city, dept_name)

Project (p_no, p_name, status)

Emp_Proj (e_no, p_no, no_ of_days)

Write a cursor to display details of all projects having status 'Incomplete.'

e) Write a package which consists of one procedure and one function. For this consider the following Relational Database :

Customer (cust_no, cust_name, cust_city)

Account (acc_no, acc_type, balance, cust_no)

i) Pass account number as a parameter to a procedure and display account details.

ii) Pass customer number as a parameter to a function and return balance in account of given customer.

Q5) Attempt any four : **[16]**

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

T1	T2
Read (X)	Read (X)
X=X-10	X=X+10
Write (X)	Write (X)
Read (Y)	
Y=Y+10	
Write (Y)	

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

T1	T2	T3
Read (X)	Read (Z)	Read (Z)
Read (Y)	Read (X)	Read (Y)
Y=Y-X	X=X+Z	Y=Y+Z
Write (Y)	Write (X)	Write (Y)

c) Following is the list of events in an interleaved execution if transaction T1, T2, T3, T4 assuming 2PL. Is there a deadlock? If yes which transactions are involved in deadlock?

Time	Transaction	Code
t1	T1	Lock (A,X)
t2	T2	Lock (B,X)
t3	T3	Lock (C,X)
t4	T4	Lock (A,S)
t5	T1	Lock (C,S)
t6	T2	Lock (D,S)
t7	T3	Lock (D,X)
t8	T4	Lock (B,S)

d) Following is the list of events in an interleaved execution if transaction T1, T2, and T3 assuming 2PL. Is there a deadlock? If yes which transactions are involved in deadlock?

Time	Transaction	Code
t1	T1	Lock (A,S)
t2	T2	Lock (B,S)
t3	T3	Lock (C,X)
t4	T1	Lock (C,X)
t5	T2	Lock (D,X)
t6	T1	Lock (D,S)
t7	T2	Lock (A,X)
t8	T3	Lock (B,S)

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

[start-transaction, T1]

[write-item T1, A, 15]

[commit, T1]

[start-transaction, T3]

[write-item T3, B, 20]

[checkpoint]

[commit, T3]

[start-transaction, T2]

[write-item T2, B, 30]

[start-transaction, T4]

[write-item T4, D, 25]

[write-item T2, C, 25] ← system crash

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

Total No. of Questions : 5]

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P677

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B.C.A. (Semester - III)

(327) PRINCIPLES OF PROGRAMMING AND ALGORITHMS

(Old 2004 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates :

1) ***All questions are compulsory.***

2) ***Figures to the right indicate full marks.***

3) ***Neat diagrams must be drawn wherever necessary.***

Q1) Attempt any four of the following : **[4 × 4 = 16]**

a) Explain different steps involved in program execution in C.

b) Distinguish between break and continue statement.

c) What is operator? Explain arithmetic operators.

d) Explain the advantages of 'C' language.

e) What is constant? Explain two methods to declare constants.

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

a) What is an escape sequence? List and explain them.

b) Explain the following terms with suitable example.

i) Identifier ii) Keyword

c) Explain the difference between if ..... else and switch case.

d) Explain static storage class with example.

e) What are the various types of C statements.

P.T.O.

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

a) Explain any four standard library functions.

b) Explain two methods of passing arguments.

c) What is variable? Explain scope of variable.

d) Define function. What are the advantages of function?

e) Discuss various forms of increment and decrement operators.

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

a) Write a 'C' program to find factorial of a number.

b) Write a 'C' program to check whether the given number is armstrong or not.

c) Write a 'C' program to calculate maximum and minimum of three numbers.

d) Write a 'C' program to display the first n terms of the fibonacci series.

e) Write a 'C' program to check whether the given number is palindrome or not.

Q5) Trace the output (Any four) : **[4 × 4 = 16]**

a)
```
main ( )
{
    int x ;
    x = 3*4/5;
printf ( "x = %d ", x);
}
```

b)
```
main ( )
{
    int x = 5;
    x++;
printf ( "x = %d\n ", x);
    ++x;
printf ( "x = %d\n ", x);
}
```

c)
```
main ( )
{
    int i = 1;
    while (i<=5)
    {
    printf ( "\n%d",i);
    i++;
    }
}
```

d)
```
main ( )
{
    int a = 1;
    switch (a)
    {
    case 0 :
        printf ("\n club");
    case 1 :
        printf ("\n Diamond");
    }
}
```

e)
```
main ( )
{
    int x = 200;
    printf ( "\n %d",x);
}
```

Total No. of Questions : 6]

SEAT No. :

P681

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B.C.A. (Semester - IV)

HUMAN RESOURCE MANAGEMENT

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) What is HRM & Personnel Management? Differentiate between PM & HRM. **[15]**

Q2) What is 'Human Resource Planning'? Explain the objectives & importance of Human Resource Planning. **[15]**

Q3) Define the term 'Performance Appraisal'. Explain the objectives & methods of 'Performance Appraisal'. **[15]**

Q4) Define the term 'Training'. Explain the objectives, need & importance of Training. **[15]**

Q5) What is 'Organisational Behaviour'? Explain the Models & Approches of organisational Behaviour. **[15]**

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

a) Internal sources of Recruitment.
b) Challenges before HRM.
c) Wage & Salary Administration.
d) Management Development Programme.
e) Profit Sharing.
f) Selection Procedure.

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Total No. of Questions : 5]

SEAT No. :

P682

[Total No. of Pages : 4

[4668] - 405

S.Y. B.C.A. (Semester - IV)

OBJECT ORIENTED PROGRAMMING USING C++

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:-

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

Q1) Attempt Any Eight of the following : **[8 × 2 = 16]**

a) Define the following terms :

i) Dynamic Binding

ii) Message passing

b) Give any four applications of object oriented programming.

c) List any four new operators included in c++ over 'c' language.

d) Write seekg( ) function to

i) move get pointer 10 Bytes backward from end of file.

ii) move get pointer to start of file.

e) What is the difference between ios :: in and ios :: out file mode parameters?

f) What is default constructor?

g) What is an abstract class?

h) What is generic pointer?

i) List the visibility modifier provided by c++.

j) Draw structure of hierarchical and Hybrid Inheritance.

P.T.O.

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

a) Explain the structure of object oriented C++ program with the help of suitable example.

b) Write a note on polymorphism.

c) What is constructor? Explain copy constructor with the help of suitable example.

d) Consider a C++ class

```
class matrix
    {   int a[3] [3];
      public :
          //member functions;
    };
```

Write a necessary member function to accept and display matrix. Let Ml is matrix, find out - Ml(i.e overload '-' operator).

e) Write a C++ program to calculate square and cube of a given number using inline function.

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

a) Explain binary operator overloading with the help of suitable example.

b) Write a note on templates.

c) Write a C++ program to calculate 'x' raise to power 'y' use default value 2 for 'y' to calculate square of 'x'.

d) Define a class Employee, include data member emp-no, emp-name Emp-address & emp-sal.

Write a member function.

i) To accept information of a employee.

ii) To display information of a employee.

iii) Search details of a given employee using emp-no.

(use array of objects).

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

```
# include <iostream.h>
# include <iomanip.h>
int main( )
{
double x = 3.3985291;
for (int i = 3; i<=7 ; i++)
      {  cout. precision(i);
         cout << x << endl;
      }
}
```

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

a) Explain the use of new and delete operator with the help of suitable example.

b) Explain the difference between opening a file with a constructor function and opening a file with open( ) function.

c) Explain multiple inheritance with the help of suitable example.

d) Write a C++ program to calculate area of triangle, rectangle and circle using function overloading.

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

```
# include <iostream.h>
# include <iomanip.h>
class A
{  public : A(int i)
              {  cout << "Inside Constructor :" << i << endl;
              }
            ~ A( )
              {
                cout << "Inside Destructor :" << endl;
              }
};
Void main( )
      {   A obj1(1), obj2(2), obj3(3);
      }
```

Q5) Attempt any four of the following : **[4 × 4 = 16]**

a) What is the application of the scope resolution operator :: in C++, explain with the help of suitable example.

b) Explain with suitable example static data member and static member function.

c) Write a C++ program to find maximum of two integer numbers of two different classes using friend function.

d) Write a C++ program which will accept three file names as input through command line argument concatenate contents of second file to first file and write into third file. Display the contents of third file.

e) 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.)

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Total No. of Questions : 5] **SEAT No. :**

P683 **[Total No. of Pages : 3**

[4668] - 501
T.Y. B.C.A. (Semester - V)
(511) VB.NET PROGRAMMING
(2008 Pattern)

Time : 3 Hours] ***[Max. Marks : 80***

Instructions to the candidates:-

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

Q1) Attempt any eight of the following : **[8 × 2 = 16]**

a) List the different .Net compatible languages.

b) What are the access specifiers.

c) What is MSIL

d) Explain finally statement in VB.Net.

e) Define properties in VB.Net and its types.

f) What is the use of Timer control in VB.Net.

g) Enlist various keyboard events in VB.Net.

h) What is CLR? Enlist any two features.

i) Explain any 4 properties of form.

j) Define Delegates in VB.Net.

P.T.O.

Q2) Attempt the following **(Any four)** : **[4 × 4 = 16]**

a) Design GUI and write code for following in VB.Net:

- Add 5 elements in array.

- Display sum of elements of array in message box.

b) Design GUI and write code for following in VB.Net (ADO.Net) without wizard.

- Accept Doctor details like Doctor - No, Doctor - Name, Doctor - Address, Doctor - phno, and save these details in doctor table.

c) Design GUI and write code for following.

- Accept a no in Text Box.

- Display its multiplication table in List Box.

d) Explain Exception Handling in VB.Net.

e) What is .Net framework? Explain its architecture.

Q3) Attempt the following **(Any Four)** : **[4 × 4 = 16]**

a) Explain message Box control with its various parameters.

b) Explain constructor with example in VB.Net.

c) Explain validation control in VB.Net.

d) Design GUI and write code for following in VB.Net (ADO.Net) with wizard.

- Accept Employee details like Emp-No, Emp-Name,Emp-address, Emp-date-of-Joining, save this details in Employee table.

e) Design GUI and write code for following in VB.Net

- Add items to ListBox 1

- Transfer selected item from List Box1 to List Box2

Q4) Attempt the following **(Any Four)** : **[4 × 4 = 16]**

a) Write a program which uses a function to check whether a given number is prime or not using console application.

b) Design GUI and write code for the following in VB.Net.

- Accept two strings in Text Box

- Concatenate string

- Display result in Message Box

c) What is interface? How to implement it?

d) Explain any two control structures with example.

e) Explain Link Button Control in VB.Net

Q5) Write Short Notes : **(Any Four)** **[4 × 4 = 16]**

a) Garbage collection

b) Data adapter

c) Progress Bar

d) Data Binding

e) Basic controls in VB.Net.

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Total No. of Questions : 5]

SEAT No. :

P684

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[4668] - 502

B.C.A. (Semester - V)

INTERNET PROGRAMMING AND CYBER LAW

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:-

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

Q1) Solve any eight : **[8 × 2 = 16]**

a) What is the use of <DT> and <DD> tag?

b) List any two properties of text box in Javascript.

c) What is tampering?

d) List any four methods of Request object.

e) What is cryptography?

f) What is the use of alert dialog box in Javascript?

g) List any four margin attributes used in css?

h) What are the disadvantages of capability list?

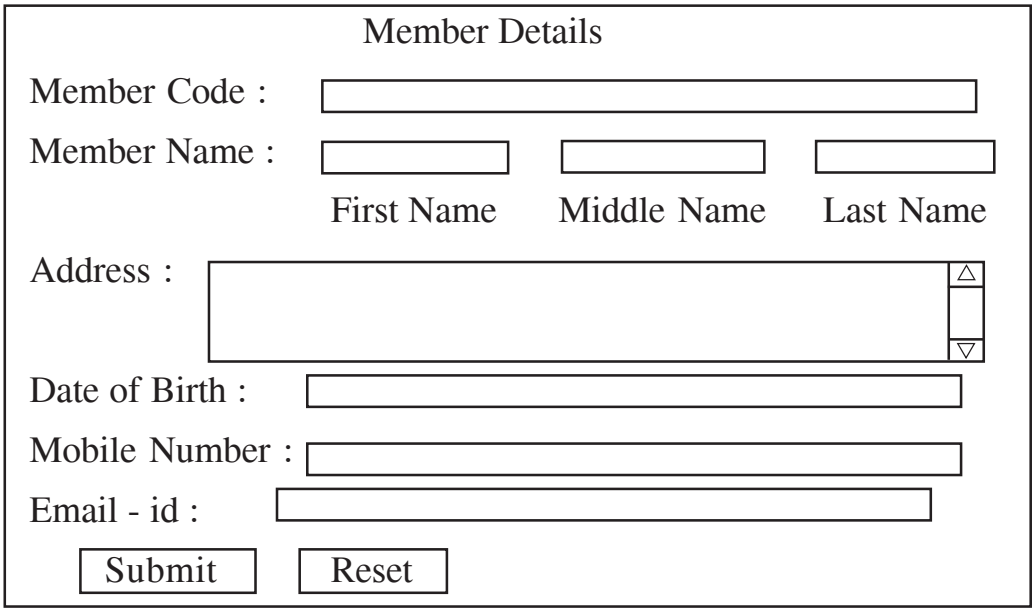
i) Define sand boxing method.

j) What is the use of <caption> tag?

P.T.O.

Q2) Solve any four : **[4 × 4 = 16]**

a) Write a HTML code to design the following output.



b) Write an ASP code to display the details of project (proj-no, proj-name, status) whose status is 'Incomplete' (Use Javascript)

c) Write an ASP code to update the balance of customers (cno, cname, acc-no, balance) by 2% whose balance is greater than 80,000/-

d) Explain symmetric key cryptography.

e) What is the essence of digital contracts?

Q3) Solve any four : **[4 × 4 = 16]**

a) Write a note on cascading style sheet.

b) Explain any four attributes of <table> with an appropriate example?

c) Discuss the scope of cyber law?

d) Write a Javascript code to find the sum of first and last digit of a number.

e) Write an ASP code to count the number of employees working in 'Computer' department. (Use Javascript)

Q4) Solve any four : **[4 × 4 = 16]**

a) Explain different technical attacks?

b) Explain different steps needs to write ASP Javascript database application.

c) What is meant by hyperlink? How it can be created in web page?

d) Write HTML and css code to generate the following output. (Use internal style sheet).

Games

1) Cricket 2) Hockey

3) Tennis 4) Chess

e) Write an ASP code to delete the details of politicians (polt_no, polt_name, party_name) of 'BJP' party.

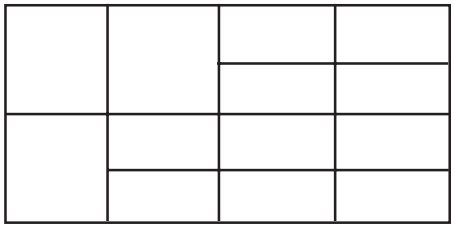
Q5) Solve any four : **[4 × 4 = 16]**

a) Discuss legal recognition of digital signature.

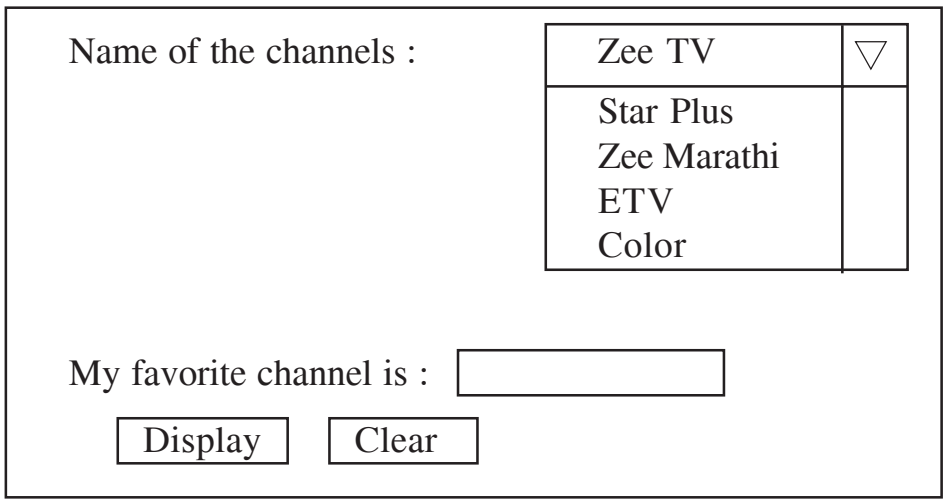
b) Explain in detail history DOM object.

c) Explain the system of digital signatures.

d) Write a HTML code to design the following output.



e) Write HTML and Javascript code to accept information and display accepted information.



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Total No. of Questions : 5]

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P685

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T.Y. B.C.A. (Semester - V)

PRINCIPLES OF MARKETING

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:-

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

Q1) Explain the importance and Functions of Marketing. **[15]**

OR

Explain the different stages of Product life cycle

Q2) Explain the types of distribution channels **[15]**

OR

Explain the bases for Market segmentation

Q3) Explain the types of Marketing Organisation **[15]**

OR

Explain the different advertising media with its advantages and disadvantages

Q4) Explain the different marketing mix **[15]**

OR

Explain the factors affecting the pricing of products

Q5) Write short note on: (Any four) **[20]**

a) Marketing
b) Trade Mark
c) Rebate
d) Warehousing
e) Public Relation
f) Marketing Organisation

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Total No. of Questions : 5]

SEAT No. :

P689

[Total No. of Pages : 3

[4668] - 603

T.Y. B.C.A. (Semester - VI)

INTRODUCTION TO SYSTEM PROGRAMMING AND OPERATING SYSTEM

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 80*

Instructions to the candidates:

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

Q1) Attempt any eight of the following : **[8 × 2 = 16]**

a) What is DMA? When it is used?

b) Define race condition.

c) Operating system is hardware components. Comment and Justify.

d) Define swap Time related to swapping.

e) What is the function of loader?

f) Define Allocation edge.

g) List types of scheduling queue.

h) Define Non-Preemptive.

i) List facilities provided by Debuggers.

j) Define Deadlock.

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

a) Explain in detail implementation of page table.

b) List and Explain pieces of information. Which are associated with an open file.

c) List and Explain system calls related to process and job control.

d) Explain semophore and its usage.

P.T.O.

e) Consider the following set of processes with the length of CPU Burst time and Arrival time given in millisecond.

Process	Burst Time	Arrival Time	Priority
P_1	4	2	1
P_2	5	0	2
P_3	2	2	1
P_4	4	1	3

Illustrate the execution of these process using Non-preemptive priority CPU scheduling Algorithm. Calculate waiting time, Turn Around time, Average waiting time and Average Turn Around time. And also draw the Gantt chart.

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

a) Explain Time sharing system.

b) Explain Linked Allocation method in detail.

c) Define the following term.

i) Dispatcher

ii) Dispatch latency

List the functions of Dispatcher.

d) What is deadlock Prevention? Explain deadlock prevention strategies.

e) Consider the following reference string
8, 6, 5, 9, 5, 8, 9, 6, 3, 4, 5, 8, 9, 8, 5
How many page faults would occur for following page replacement Algorithms assuming 3 frames.

i) LRU ii) FIFO

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

a) Explain single contiguous memory management module.

b) Explain thrashing.

c) Explain sequential Access method of file.

d) Explain the problem faced while Deciding the page size.

e) What is Process? List different types of the process states.

Q5) Attempt any four of the following : **[4 × 4 = 16]**

a) Explain segmentation with paging.

b) Explain operations on process.

c) What is page fault. Explain the different steps in handling a page fault.

d) Assume there are total 200 tracks that are present on each surface of the disk If request queue is 62, 76, 8, 84, 124, 116, 178 and initial position of the head is 84. Apply FCFS disk scheduling Algorithm and calculate total head movement.

e) Consider the following snap shot of system which has 5 processes and 3 Resources.

	Allocation	MAX	Available
	A B C	A B C	A B C
P_0	1 1 1	7 5 4	4 3 2
P_1	2 0 0	3 2 2	
P_2	3 1 2	9 1 2	
P_3	2 0 1	3 2 2	
P_4	0 0 2	4 3 3	

Answer the following question using Banker's Algorithm : -

i) What are the content of matrix need.

ii) Is the system in a safe states?

iii) If a request from process P_3 arrives for (1 0 1) can request be granted immediately?

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