Total No. of Questions—5]　　　　[Total No. of Printed Pages—3

Seat
No.

[5517]-101

B.B.A. (C.A.)/B.C.A. (I Semester) EXAMINATION, 2019

101 : MODERN OPERATING ENVIRONMENT AND MS-OFFICE

(2013 PATTERN)

Time : Three Hours　　　　**Maximum Marks : 80**

N.B. :— (*i*)　*All* questions are compulsory.

(*ii*)　Neat diagram must be drawn wherever necessary.

(*iii*)　Figures to the right indicate full marks.

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

(*a*)　What is software ?

(*b*)　What is general purpose computer ?

(*c*)　Write the function of ALU.

(*d*)　Write full forms of :

(*i*)　VDU

(*ii*)　OCR.

(*e*)　What are the types of memory ?

(*f*)　Define interpreter.

(*g*)　Define operating system.

(*h*)　Define networking.

(*i*)　Write any *two* features of MS-Excel.

(*j*)　What is the use of MS-Access ?

2. Attempt any *four* : [16]

(*a*) Explain applications of computers in various fields.

(*b*) Explain symbols used in flow chart.

(*c*) Explain features of operating system in detail.

(*d*) Explain types of computer network in detail.

(*e*) Explain mail-merge.

3. Attempt any *four* : [16]

(*a*) What is mainframe computer ? Explain its advantages and disadvantages.

(*b*) Explain keyboard in detail.

(*c*) Write advantages and disadvantages of dot matrix printer.

(*d*) Compare between Windows and Linux operating system.

(*e*) Explain bus topology in detail.

4. Attempt any *four* : [16]

(*a*) Explain any *four* limitations of computer system.

(*b*) Define bus. Explain its types.

(*c*) What is ROM ? Explain its *two* types.

(*d*) Write an algorithm to find out factorial of a given number.

(*e*) Explain features of MS-Office.

5. Write short notes on (any *four*) : [16]

    (*a*)   Mouse

    (*b*)   Hard disk

    (*c*)   Machine language

    (*d*)   Real time operating system

    (*e*)   MS PowerPoint.

Total No. of Questions—5]   [Total No. of Printed Pages—4

Seat
No.

[5517]-102

B.B.A. (CA) (First Semester) EXAMINATION, 2019

102 : FINANCIAL ACCOUNTING

(2013 PATTERN)

Time : Three Hours   Maximum Marks : 80

N.B. :— (*i*) *All* questions are compulsory.

      (*ii*) Figures to the right indicate full marks.

      (*iii*) Use of calculator is allowed.

1.   Explain the concept of Financial Accounting and state the advantages of Financial Accounting.   [16]

Or

What do you mean by Computer ? Explain in brief the importance of a Computer in Financial Accounting.   [16]

2.   Journalise the following transactions in the books of Bhupendra for March 2018 :   [16]

    1.   Started business with Cash Rs. 56,000, Plant and Machinery Rs. 30,000 and Furniture Rs. 9,000.

    2.   Deposited in Bank of Canara Rs. 40,000.

    5.   Purchased goods from Surabhi enterprises Rs. 20,000 at 10% trade discount

    6.   Sold goods to Vinay Rs. 25,000 at 5% trade discount

8. Purchase Machinery for Rs. 5,000 and paid transport charges Rs. 300.

10. Paid Rent Rs. 500.

15. Received interest from Mahesh Rs. 1,000.

29. Withdrawn Rs. 5,000 for personal use.

3. Enter the following transactions in Rehan's Cash book with Bank and cash columns. [16]

Jan. 1 Opening cash balance Rs. 1,500 and Bank balance Rs. 12,500

Deposited cash Rs. 500 to business bank account.

Jan. 7 Purchased office furniture for cash Rs. 700; cash sales Rs. 2,000.

Jan. 9 Received from Mr. Shabir a cash for Rs. 2,550 in part payment of his account and not deposited.

Jan. 12 Paid by cheque for goods purchased, to Mr. Gulzar worth Rs. 1,000.

Jan. 18 Drew from bank for owner's domestic use Rs. 200.

Jan. 21 Sold merchandise to Zeshan Bros. for Rs. 1,500 who paid by cheque which was deposited in the bank.

Jan. 24 Paid to Mr. Salman Rs. 900 by cheque.

Jan. 28 Deposited into bank the cheque received from Mr. Shabir Rs. 2,550.

Jan. 29 Paid salaries by cash Rs. 950.

Jan. 30 Withdrawn cash from bank for office use Rs. 450.

Draw up Cash Book with Cash and Bank Columns.

4. The following is the Trial Balance extracted from books of M/s Sangeeta Masale as on 31st March, 2018. Prepare Trading, Profit and Loss Account for the year ended 31st March, 2018 and Balance sheet as on that date. [16]

Particulars	Dr.	Particulars	Cr.
Land and Building	2,30,000	Capital	4,00,000
Drawing	1,36,000	Loans	1,30,000
Plant and Machinery	1,50,000	Sales	2,00,000
Furniture and Fixture	35,000	Commission received	9,000
Purchases	50,000	Sundry creditors	1,20,000
Opening stock	50,000	Interest	26,000
Office Expenses	30,000	Rent received	4,000
Bad debts	3,000		
Wages	7,000		
Insurance	2,000		
Debtors	56,000		
Cash at Bank	30,000		
Cash in Hand	10,000		
Salaries	1,00,000		
	8,89,000		**8,89,000**

Adjustments :

1. The closing stock is valued at Rs. 64,000.

2. Outstanding wages are Rs. 1,000.

3. Prepaid insurance is Rs. 800.

4. Depreciate Land and Building and Plant and Machinery @ 10%.

5. Make a provision of 5% on debtors for bad debts.

5. Write short notes (any *four*) : [16]

    1.   Benefits of Accounting Standards

    2.   Difference between debit note and credit note

    3.   Difference between written down value method and straight line method

    4.   Accounting Policies

    5.   Need for maintaining subsidiary books

    6.   Classification of Ledger

Total No. of Questions—**5**] [Total No. of Printed Pages—**2**

Seat
No.

[5517]-103

B.B.A. (C.A.)/B.C.A. (I Semester) EXAMINATION, 2019

103 : PRINCIPLES OF PROGRAMMING AND ALGORITHMS

(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Neat diagrams must be drawn wherever necessary.

1. Answer the following : [8×2=16]

(*a*) Define an algorithm.

(*b*) What is recursion ?

(*c*) What is big 'O' notation ?

(*d*) What is searching ?

(*e*) What is leap year ?

(*f*) Explain the term upper and lower triangular matrix.

(*g*) What is space complexity ?

(*h*) Define array.

2. Answer the following (any *two*) : [4×4=16]

(*a*) Explain time complexity with example.

(*b*) Explain characteristics of an algorithm.

(*c*) Write an algorithm to check given number is palindrome or not.

(*d*) Draw a flow chart to check given number is positive or negative.

(*e*) Draw a flowchart to find factorial of given number.

P.T.O.

3. Answer the following (any *four*) : [4×4=16]

   (*a*)   Explain searching and lists the types of searching.

   (*b*)   Explain concept of problem solving.

   (*c*)   Draw a flow chart to print minimum of an array.

   (*d*)   Write an algorithm to calculate 'X' to the power 'Y'.

   (*e*)   Write an algorithm to print whether the given year is leap year or not.

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

   (*a*)   Explain Quick sort with example.

   (*b*)   Explain advantages of recursion.

   (*c*)   Draw a flow chart to calculate sum of first '*n*' numbers.

   (*d*)   Write an algorithm to print fibonacci series upto '*n*' terms.

   (*e*)   Write an algorithm to find reverse of a given number.

5. Answer the following (any *four*) : [4×4=16]

   (*a*)   Compare binary search and linear search.

   (*b*)   Explain program Development Life Cycle.

   (*c*)   Draw a flowchart to calculate area of circle.

   (*d*)   Draw a flowchart to print maximum of 3 numbers.

   (*e*)   Write an algorithm to find out given no. is even or odd.

Total No. of Questions—7]   [Total No. of Printed Pages—2

Seat
No.   **[5517]-104**

F.Y. B.C.A. (I Semester) EXAMINATION, 2019

104 : BUSINESS COMMUNICATION

(2013 PATTERN)

Time : Three Hours   Maximum Marks : 80

N.B. :— (*i*)   Answer any *five* questions.

(*ii*)   *All* questions carry equal marks.

1.   Explain oral communication with its merits and demerits.

2.   Give meaning of the term "Communication". Explain the physical
       and psychological barriers of communication.

3.   What is Listening ? Explain the principles of Good Listening.

4.   What do you mean by business letter ? Explain the importance
       of business letter.

5.   (*a*)   Write a complaint letter to the sales manager of Usha Furniture,
               Pune, for sending wrong materials.

       (*b*)   Write a circular letter to their client from Ajay and Company
               for shifting of office in new place.

6. What is media in communication ? Explain advantages and disad-vantages of media.

7. Write short notes on (any *four*) :

(*i*)   Group Discussion

(*ii*)   Body Language

(*iii*) Curriculum Vitae

(*iv*) Internet and Social Media

(*v*)   Video Conferencing

(*vi*) Agenda.

Total No. of Questions—5]   [Total No. of Printed Pages—1

[5517]-105

B.C.A. (Sem. I) EXAMINATION, 2019
105 : PRINCIPLES OF MANAGEMENT
(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (i) *All* questions are compulsory.
         (ii) Figures to the right indicate full marks.

1. Discuss in detail Management is an art, science as well as profession. [15]

Or

Explain Elton Mayo's Hawthorne Experiment. [15]

2. What is Planning ? Explain the advantages and limitations of planning. [15]

Or

What is Forecasting ? Explain the techniques of forecasting. [15]

3. Define Leadership. Explain the qualities and functions of a leader. [15]

Or

Define controlling. Discuss the techniques of controlling. [15]

4. What is Decision-Making ? Explain the various steps involved in the process of decision-making. [15]

Or

What is Strategic Management ? Discuss strategic management practices in India. [15]

5. Write short notes on (any *four*) :   [4×5=20]
   (a) Nature of management
   (b) Delegation of authority
   (c) Nature of direction
   (d) Importance of motivation
   (e) Total quality management
   (f) Stress management.

Total No. of Questions—4]   [Total No. of Printed Pages—3

Seat
No.

[5517]-201

B.C.A./B.B.A. (C.A.) (Sem. II) EXAMINATION, 2019
201 : PROCEDURE ORIENTED PROGRAMMING USING 'C'
(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*)   *All* questions are compulsory.
          (*ii*) Neat diagrams must be drawn wherever necessary.
          (*iii*) Using Ansi C library.

1. Answer the following (any *ten*) :   [10×2=20]
   (*a*) What is the scope of the variable ?
   (*b*) What are the repetitive statements used in C ?
   (*c*) State *two* advantages of 'C' over other higher level languages.
   (*d*) What is Automatic storage class ?
   (*e*) Write down all unary operators available in 'C'.
   (*f*) Define keywords.
   (*g*) State the basic data types used in 'C'.
   (*h*) List the decision-making statements in 'C'.
   (*i*) Define file. State types of file.
   (*j*) What is generic pointer in 'C' ?
   (*k*) There is difference between 'A' and "A". Comment.
   (*l*) Define recursion and give its advantage.

2. Answer the following (any *four*) :   [4×5=20]
   (*a*) Explain use of the following functions :
          fgetc(), fgets(), getc(), gets().
   (*b*) Write a short note on 'C' preprocessor.
   (*c*) How is a structure declared and initialized ? Give an example.
   (*d*) Define an array. Explain why arrays are random access in
          nature ?
   (*e*) What is meant by recursion ? Explain with suitable example.

P.T.O.

3. Answer the following (any *four*) : [4×5=20]

    (*a*) Write the program to print the pattern using nested loop :

$$
\begin{array}{ccccc}
 & & 1 & & \\
 & & 2 & 2 & \\
 & 3 & 3 & 3 & \\
4 & 4 & 4 & 4 & \\
5 & 5 & 5 & 5 & 5
\end{array}
$$

    (*b*) Write a recursive program to compute m × n for two integers *m* and *n*.

    (*c*) Write a C program to multiply two matrices of 4 × 4.

    (*d*) Write a C program to swap the two numbers using pointers.

    (*e*) Write a 'C' program to concatenate two files. The program should accept 3 filenames as command line arguments and concatenate the contents of 2nd file to 1st file and write the result into 3rd file.

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

    (*a*)
```
# define SQR (X) (X * X)
int main()
{
int a, b = 3;
a = SQR (b + 2);
printf("%d\n", a):
return(0);
}
```

    (*b*)
```
main()
{
char str[] = "Bookstand";
char *s;
```

```
        S = & str [6] − 6;
        while (*S)
        printf("%C", *S++);
        }
(c)     # include <stdio.h>
        main()
        {
        int Z = 2;
        printf("%d", printf("%d%d", z,z,))
        }
(d)     # include <stdio.h>
        main()
        {
        int z = 5, j = 7, k;
        k = i− − + ++j;
        printf("\n x=%d", k);
        }
(e)     # include <stdio.h>
        main()
        {
        int i = 3, k,l;
        k = add (++i);
        l = add (i++);
        printf("i=%d, k=%d, l=%d; i,k,l);
        }
                int add(x)
                {
                ++x;
                return(x);
                }
```

Total No. of Questions—**5**]   [Total No. of Printed Pages—**3**

Seat
No.

[5517]-202

B.C.A./B.B.A. (C.A.) (Sem. II) EXAMINATION, 2019

202 : DATABASE MANAGEMENT SYSTEM

(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Draw neat diagram wherever necessary.

1. Answer the following (any *four*)   [4×4=16]

(*a*) What is file organization ? Explain the indexed file organization.

(*b*) Explain advantages and disadvantages of DBMS.

(*c*) State and explain aggregate functions in SQL.

(*d*) What do you mean by Data Model ? Explain network model with example.

(*e*) Explain the normalization process.

2. Answer the following (any *four*) :   [4×4=16]

(*a*) What is relational algebra ? Explain UNION and CARTESIAN PRODUCT operation with example.

(*b*) Explain primary key and foreign key with suitable example.

(*c*) Explain basic file operations.

(*d*) Explain various DML commands with example.

(*e*) Explain various users of DBMS and specify their jobs.

3. Attempt the following : [16]

Consider the following entities and their relationship

Movie (movie_no, movie_name] release year)

Actor (Actno, Actname).

Movie and Actor are related with many to many relationship (any *five*) :

(*a*) Insert a row in Actor table.

(*b*) Display all the actor details of movie 'PK'.

(*c*) Add 'Actor_Address' column in Actor table.

(*d*) Display all movies of actor 'Amir Khan'.

(*e*) Count all movies names released in the year 2000.

(*f*) Change the actor name from 'Ranbir' to 'Amir'.

4. Write short notes on the following (any *four*) : [4×4=16]

(*a*) Generalization and specialization

(*b*) Sparse index and dense index

(*c*) Logical file and physical file

(*d*) Super key, weak entity, Tuple, Domain.

(*e*) DDL and DCL.

5. Attempt the following : [8]

(*a*) In a nursery, the plants are sold to the customers, these plants are flowering and non-flowering only. Nutrients are given to the plant with some quantity. Nutrients include pesticides, watering.

(*i*) Identify all entities

(*ii*) Identify all relations

(*iii*) Draw ERD.

(*b*)   Consider relational database :   [8]

Write Relational Algebraic Expression for the above.

Supplier (Supno, Sname, Saddress)

Item (Itemno, Iname, stock)

Supp-Item (Supno. Itemno, rate).

(*a*)   List all suppliers from 'Banaras' city who supplies Long
Book.

(*b*)   Display all suppliers who supply WATERCOLOR.

(*c*)   Change supplier names to upporcase.

(*d*)   List all suppliers supplying ROTOMAC PENS from 'Pune'
city.

Total No. of Questions—5]   [Total No. of Printed Pages—1

Seat
No.

[5517]-203

B.C.A. (Sem. II) EXAMINATION, 2019
ORGANISATIONAL BEHAVIOUR
(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*)   *All* questions are compulsory.
        (*ii*) Figures to the right indicate full marks.

1. Define 'Organizational Behaviour'. Why is it important ? Explain the fundamental concepts of Organizational Behaviour.   [15]

   Or

   Explain models of Organizational Behaviour.   [15]

2. What is meant by "Values" ? Explain various types of values and organizational values.   [15]

   Or

   Define 'Motivation'. Explain the characteristics and process of motivation.[15]

3. Define the term 'Personality'. Explain any *two* theories of personality. [15]

   Or

   What are the various strategies adopted by manager to reduce stress occurring at organizational level.   [15]

4. Define the term Conflict. Explain types of Conflict.   [15]

   Or

   What is Resistance to Change ? Explain its types.

5. Write short notes on (any *four*) :   [4×5=20]
   (*a*)   TQM
   (*b*)   Self Actualization
   (*c*)   Locus of Control
   (*d*)   Psychological effects of Stress
   (*e*)   Positive effects of Stress
   (*f*)   Types of Group.

Total No. of Questions—**5**]　　　　[Total No. of Printed Pages—**5**

Seat
No.

[5517]-204

F.Y. B.C.A. (Sem. II) EXAMINATION, 2019
204 : COMPUTER APPLICATIONS IN STATISTICS
(2013 PATTERN)

Time : Three Hours　　　　　　　　**Maximum Marks : 80**

N.B. :—　(*i*)　*All* questions are compulsory.

　　　　(*ii*)　*All* questions carry equal marks.

　　　　(*iii*)　Figures to the right indicate full marks.

　　　　(*iv*)　Use of calculator is allowed.

1.　Attempt any *four* of the following :　　　　　[4×4=16]

　(*a*)　Define permutation and combination. State the formula of ^nP_r and ^nC_r.

　(*b*)　A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw ?

　(*c*)　Define simulation. State advantages of simulation.

　(*d*)　If $^{18}C_{r+2} = {}^{18}C_{2r-5}$, then find the value of $^{3r}C_{20}$.

　(*e*)　Determine which of the following are deterministic or non-deterministic experiments :

　　　(*i*)　Winning team of a 'C' programming competition out of 10 teams.

　　　(*ii*)　Sex of a new born baby.

　　　(*iii*)　Addition of the numbers 23 and 34.

　　　(*iv*)　Number of defective articles in a lot of 100 articles.

　(*f*)　A discrete random variable X follows B (5, 0, 6). Find :

　　　(*i*)　P(X < 2)

　　　(*ii*)　P(X > 2).

2. Attempt any *four* of the following : [4×4=16]

    (*a*)   Define discrete uniform distribution. State its mean and variance.

    (*b*)   In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together ?

    (*c*)   Let A and B be two events on Ω such that P(A) = 0.8, P(B) = 0.4, P(A$\cup$B) = 0.7. Find P (A$\cap$B) and P (A$\cap$B').

    (*d*)   Define the following terms :

        (*i*)   Random experiment

        (*ii*)   Sample space

        (*iii*)   Elementary event

        (*iv*)   Impossible event.

    (*e*)   In a school, 60% of pupils have access to the internet at home. A group of 8 students is chosen at random. Find the probability that :

        (*i*)   exactly 5 have access to the internet

        (*ii*)   At least 6 students have access to the internet.

    (*f*)   State the probability mass function of Bernoulli distribution. Also state relationship between Bernoulli and binomial distribution.

3. Attempt any *four* of the following : [4×4=16]

    (*a*)   If a random variable X has discrete uniform distribution with parameter *n*, find the value of *n* if E(X) = V(X). Also find its mean and variance.

    (*b*)   Define binomial distribution. State its mean and variance.

    (*c*)   Generate a random sample of size 4 using Linear Congruential Generator :

$$X_{i+1} = (5X_i + 7) \bmod 8 \text{ with } X_0 = 3.$$

(*d*) In a group of 40 people, 10 are healthy and every person of the remaining 30 has either high blood pressure or a high level of cholesterol or both. If 15 have high blood pressure and 25 have high level of cholesterol, and if a person is selected randomly from this group, what is the probability that he/she has :

(*i*) High blood pressure.

(*ii*) High level of cholesterol.

(*iii*) High blood pressure and high level of cholesterol.

(*iv*) Either blood pressure or high level of cholesterol.

(*c*) Explain the procedure of model sampling from binomial distribution.

(*f*) How many words can be formed with the letters of the word 'OMEGA' when :

(*i*) 'O' and 'A' occupying end places.

(*ii*) 'E' being always in the middle.

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

(*a*) Explain the following terms :

(*i*) Mutually exclusive events

(*ii*) Exhaustive events.

(*b*) If the chance that a vessel arrives safely at a port is 9/10, then what is the chance that out of 5 vessels at most 3 will arrive safely ?

(*c*) Write down sample spaces for the following :

(*i*) Student ticks a single correct answer to an objective question which has 4 multiple choices A, B, C, D.

(*ii*) A coin is tossed till head appears.

(*iii*) Number of customers visiting to the departmental store is noted down.

(*iv*) The life of an electronic component.

(*d*) Let A and B be two events with P(A) = 0.3, P(A∪B) = 0.5, P(B) = p, Find 'p' if :

(*i*) A and B are independent

(*ii*) A and B are mutually exclusive.

(*e*) A roulette wheel is divided into 25 sectors of equal area numbered from 1 to 25. Let X be the number that occurs when the wheel is spun. Find :

(*i*) Probability mass function of X

(*ii*) P (X > 20).

(*f*) Explain the concept of random number generator.

5. Attempt any *two* of the following : [2×8=16]

(*a*) A pair of fair dice is tossed. Find the probability :

(*i*) That the minimum of the two numbers is less than 3.

(*ii*) Of getting even number on first dice and 4 on the second dice.

(*iii*) That sum of points is 9.

(*iv*) Of getting an odd number on one and multiple of 3 on other.

(*b*) The number of cars sold by a salesman per day is a discrete uniform random variable taking values 0, 1, 2, 3, 4. Simulate the number of cars sold in a week.

[Use the random numbers 0.24, 0.65, 0.97, 0.32, 0.51, 0.86, 0.96].

(*c*)   Simulate a project completion time for the 8 projects if the probability distribution of time required to complete the project is as follows :

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

[Use random numbers 0.18, 0.22, 0.17, 0.90, 0.83, 0.14, 0.17, 0.79].

Total No. of Questions—5]

[Total No. of Printed Pages—2

Seat No.

[5517]-205

B.B.A.(CA)/B.C.A. (Sem. II) EXAMINATION, 2019
205 : E-COMMERCE CONCEPTS
(2013 PATTERN)

Time : Three Hours   Maximum Marks : 80

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Neat diagrams must be drawn wherever necessary.

(*iii*) Figures to the right indicate full marks.

1. Answer the following (any *eight*) :   [4×4=16]

(*a*) What is P2P E-Commerce ?

(*b*) Define Website.

(*c*) What is Extranet ?

(*d*) Write types of Payment.

(*e*) Define digital certificate.

(*f*) What is cluster virus ?

(*g*) What is bandwidth of website ?

(*h*) Defien virtual private network.

(*i*) What is phishing ?

(*j*) Define E-learning.

2. Attempt any *four* :   [4×4=16]

(*a*) Explain E-commerce framework elements.

(*b*) Explain the steps of registering a domain name.

(*c*) Explain disadvantages of internet.

(*d*) Explain working of digital cash in detail.

(*e*) What is digital signature ? How is it beneficial for business.

P.T.O.

3. Attempt any *four* : [16]

   (*a*)   What is malicious code ? Explain its types.

   (*b*)   Explain technical components of E-Commerce.

   (*c*)   Explain benefits of website.

   (*d*)   Explain any *four* internet services.

   (*e*)   What is credit card ? Explain types of credit card payments.

4. Attempt any *four* : [4×4=16]

   (*a*)   Explain disadvantages of secret key encryption.

   (*b*)   Explain Deniel of Service (DoS) attacks in detail.

   (*c*)   Explain web promotion in detail.

   (*d*)   What is banner ? Explain its types.

   (*e*)   Explain architecture of extranets.

5. Write short notes on (any *four*) : [16]

   (*a*)   WWW

   (*b*)   C2G

   (*c*)   Shopping bots

   (*d*)   Types of Intranet

   (*e*)   Paperless bill.

Total No. of Questions—5]　　　　　[Total No. of Printed Pages—5

Seat
No.

[5517]-301

S.Y. B.C.A./S.Y. B.B.A. (C.A.) (Third Semester)

EXAMINATION, 2019

301 : RELATIONAL DATABASE MANAGEMENT

SYSTEM (RDBMS)

(2013 PATTERN)

Time : Three Hours　　　　　**Maximum Marks : 80**

N.B. :— (*i*)　Neat diagrams must be drawn wherever necessary.

(*ii*)　Figures to the right indicate full marks.

(*iii*)　*All* questions carry equal marks.

(*iv*)　*All* questions are compulsory.

1.　Attempt *all* :　　　　　[8×2=16]

(*a*)　What is difference between DBMS and RDBMS ?

(*b*)　Define Transaction.

(*c*)　Define lock. State types of lock.

(*d*)　What is timestamp ?

(*e*)　List states of transaction.

(*f*)　Explain advantages of concurrent execution.

(*g*)　List the failure types.

(*h*)　Write the syntax for trigger.

2. Answer the following (any *four*) :   [4×4=16]

   (*a*) List and explain properties of transaction.

   (*b*) Explain % type and % row type with an example.

   (*c*) What is deadlock ? Explain any *two* methods to prevent deadlock.

   (*d*) Explain remote backup system with the help of a diagram.

   (*e*) What is function ? Explain with an example.

3. Answer the following (any *four*) :   [4×4=16]

   (*a*) What is exception handling ? Explain system defined exceptions.

   (*b*) Explain two-phase locking protocol in detail.

   (*c*) Explain problems of concurrent execution of transaction.

   (*d*) What is schedule ? Explain its types.

   (*e*) List RDBMS packages. Explain any *one* in detail.

4. Consider the following entities and their relationships :

   Employee(empno, ename, sal, designation)

   Department(deptno, dname, loc)

   The relationship between employee and department is many_to_one. Create RDB in 3NF and write PL SQL block for the following (any *four*) :   [4×4=16]

   (*a*) Write a procedure which displays employee details who are working in 'Pune' location.

(b) Write a function which accepts department number and returns number of employees working in that department.

(c) Write a trigger that restricts insertion or updation of employees sal less than zero.

(d) Write a cursor which displays departmentwise details of employees.

(e) Write a package which consist of one procedure and one function. Pass empno as a parameter to a function and return salary of that employee. Pass a department number to a procedure and will displays name of the department.

5. Answer the following (any *four*) :   [4×4=16]

(a) The following is the list of events in an interleaved execution of sets T_1, T_2, T_3 and T_4 assuming 2PL. 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, S)
t_3	T_3	Lock (C, S)
t_4	T_4	Lock (A, S)
t_5	T_1	Lock (C, S)
t_6	T_2	Lock (B, X)
t_7	T_3	Lock (D, X)
t_8	T_4	Lock (D, S)

(b)   The following are the log entries at the time of system crash :

[Start Transaction, T_1]

[Read_item, T_1, A]

[Write_item, T_1, 200]

[Commit T_1]

[Start Transaction, T_2]

[Read_item, T_2, B]

[Write item, T_2, 400]

[Checkpoint]

[Start Transaction, T_3]

[Read_item, T_3, A]

[Write item, T_3, 600]

[Commit]

[Write item T_3, B, 600] $\leftarrow$ System Crash.

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

(c)   The following are the log entries as the time of system crash :

[Start Transaction, T_1]

[Write item, T_1, A, 500]

[Commit, T_1]

[Start Transaction, T_2]

[Write item, T_2, B, 200]

[Commit, T_2]

[Checkpoint]

[Start Transaction, T_3]

[Write item, T_3, C, 100]

[Write item, T_3, C, 200] $\leftarrow$ System Crash.

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

(d) Give two non-serial schedule that are serializable. Consider the following transactions :

T_1	T_2
Read (Q)	Read (R)
Q = Q + 100	R = R + 200
Write (Q)	Write (R)
Read (R)	Write (P)
R = R + 250	
Write (R)	

(e) The following is the list representing the sequence of events in an interleaved execution of set of transaction T_1, T_2, T_3 and T_4 with two-phase locking protocol :

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

Is there is a deadlock ? If yes, which transaction are involved in deadlock ?

Total No. of Questions—**5**] [Total No. of Printed Pages—**3**

Seat
No.

[5517]-302

B.B.A. (C.A.) (III Semester) EXAMINATION, 2019

302 : DATA STRUCTURE USING C

(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) *All* questions carry equal marks.

1. Attempt any *eight* of the following : [8×2=16]

(*a*) What is self referential structure ?

(*b*) How to measure performance of an algorithm ?

(*c*) What is polynomial ? How is it differ from structure ?

(*d*) What are the different types of graph ?

(*e*) What is balance factor ? How is it calculated ?

(*f*) What are the applications of stack ?

(*g*) What are Abstract Data types ?

(*h*) List out different types of tree.

(*i*) List out different types of data structures.

(*j*) What is priority queue ?

2. Attempt any *four* of the following : [4×4=16]

(*a*) Explain different types of AVL rotations with an example.

(*b*) Construct Binary search tree of following data :

DEC, MAR, APRIL, JAN, JUN, AUG, SEPT, NOV

(*c*) What is an algorithm ? Explain its characteristics.

(*d*) Explain BFS with an example.

(*e*) Write a function to delete first node from singly linked list.

3. Attempt any *four* of the following : [4×4=16]

(*a*) Explain selection sort technique with an example.

(*b*) Write a function to add node at given position in singly linked list.

(*c*) Write a 'C' program for evaluation of polynomial.

(*d*) Explain different types of asymptotic notations in detail.

(*e*) Write a 'C' program for dynamic implementation of stack.

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

(*a*) Write a function to traverse a graph using DFS technique.

(*b*) Explain heap sort technique with an example.

(*c*) Write a function to reverse a string using stack.

(*d*) Write a function to create doubly circular linked list.

(*e*) What is circular queue ? How is it differ from static queue ?

5. Attempt any *four* of the following :   [4×4=16]

   (*a*) Explain different types of dynamic memory allocation functions.

   (*b*) Explain minimal spanning free with an example.

   (*c*) Explain Binary search method with an example.

   (*d*) Write a function to remove last node from doubly linked list.

   (*e*) Write a function to add node at the beginning of circular singly linked list.

Total No. of Questions—5]   [Total No. of Printed Pages—3

Seat
No.

[5517]-303

B.B.A. (C.A.)/B.C.A. (III Semester) EXAMINATION, 2019

303 : INTRODUCTION TO OPERATING SYSTEM

(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :—   (i)   *All* questions are compulsory.

(ii)   Neat diagrams must be drawn wherever necessary.

1.   Attempt any *eight* of the following :   [8×2=16]

(a)   Define Race Condition.

(b)   Define Dispatch Latency Time.

(c)   Round Robin algorithm is non-preemptive. Comment.

(d)   Define request and claim edge.

(e)   What is demand paging ?

(f)   List any *four* attributes of files.

(g)   Define critical section problem and list its solutions.

(h)   What is the role of MAX and NEED array used in Banker's
Algorithm.

(i)   Which scheduler controls the degree of multiprogramming ?
How ?

(j)   Wait for graph is used for deadlock avoidance in the system.
True/False. Justify.

2. Attempt any *four* of the following : [4×4=16]

(*a*) Write the steps to calculate the physical address by operating system. Explain with example.

(*b*) Explain process Control Block with a diagram.

(*c*) Explain Reader's writer's problems.

(*d*) Write a note on interrupts.

(*e*) Calculate average turn around time and average waiting time for all set of processes using Non-preemptive SJF algorithm. Draw Gantt chart :

Process	Burst Time	Arrival Time
P_1	5	0
P_2	4	2
P_3	2	1
P_4	9	3

3. Attempt any *four* of the following : [4×4=16]

(*a*) List and explain *four* criteria for computing various scheduling algorithms.

(*b*) Explain semaphores and its types in detail.

(*c*) Write a short note on medium-term scheduler.

(*d*) What is DMA ? When is it used ?

(*e*) Consider the following page reference string :

5, 4, 3, 2, 5, 4, 6, 5, 4, 3, 2, 6

The number of frame is 3. Show page trace and calculate page fault for the following page replacement schemes :

(*i*) Optimal.

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

   (*a*)   Explain advantages and disadvantages of Linked Allocation Method.

   (*b*)   Explain WAIT and SIGNAL semaphore operations.

   (*c*)   List and explain necessary conditions for deadlock.

   (*d*)   List *two* types of multiprocessor. Explain both in detail.

   (*e*)   Assume there are total 0 – 199 tracks that are present on each surface of the disk. If request queue is :

              84, 145, 89, 168, 93, 128, 100, 68

      and initial position of the head is **125**. Apply SCAN disk scheduling algorithm and calculate total head movement.

5. Attempt any *four* of the following :   [4×4=16]

   (*a*)   Write a note on file protection.

   (*b*)   What is a page fault ? Explain the different steps in handling a page fault.

   (*c*)   Explain client-server system in detail.

   (*d*)   Explain various types of system program.

   (*e*)   Consider the five processes P_0, P_1, P_2, P_3, P_4 and three resources A, B, C :

	Allocation			MAX			Available		
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
P_0	0	3	2	6	5	4	3	4	4
P_1	1	2	0	4	4	4			
P_2	0	0	0	0	0	1			
P_3	3	3	2	3	9	3			
P_4	1	4	3	2	5	3			

      Answer the following questions using Banker's Algorithm :

      (*i*)   What is the contents of need matrix ?

      (*ii*) Is the system in a safe state ? Find the safe sequence.

Total No. of Questions—**5**]   [Total No. of Printed Pages—**6**

Seat
No.

[5517]-304

B.C.A. (Third Semester) EXAMINATION, 2019

304 : BUSINESS MATHEMATICS

(2013 PATTERN)

Time : Three Hours   Maximum Marks : 80

N.B. :—   (*i*)   *All* questions are compulsory.

(*ii*)   Figures to the right indicate full marks.

(*iii*)   Use of non-programmable scientific calculator is allowed.

(*iv*)   Symbols have their usual meaning.

1.   (A)   Attempt any *one* of the following :   [6]

(*a*)   A forex agent purchased pounds at ₹ 78 per pound worth ₹ 14,040 and sold it at ₹ 81 per pound. He got 2% commission in both transactions. What is the total commission he earned ?

(*b*)   An article when sold at 12.5% profit fetches ₹ 72.75 more than when sold at 8.25% profit. Find cost price of the article.

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

(*a*)   Find x if :

(*i*)   6 : 8 :: 10 : x

(*ii*)   4 : x :: x : 9

(b) Define the terms :

(i) Inverse proportion

(ii) Selling price.

(c) Sand and cement are in the ratio 6 : 5 in a mixture weighing 671 kg. How much sand must be added to the mixture so as to make the ratio 8 : 5 ?

2. (A) Attempt any *one* of the following : [6]

(a) Find the rate of compound interest at which sum of money triples itself in 10 years.

(b) Find EMI if loans of ₹ 2,00,000 at the rate of 12% per annum on reducing balance is to be repaid in equal monthly installment in 10 years.

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

(a) Monthly incomes of Ajay and Vijay are in the ratio 6 : 5 and those of Vijay and Radha are in the ratio 5 : 3. If Ajay earns ₹ 42,000 find the incomes of Vijay and Radha.

(b) What is the purchase price of perpetuity of ₹ 2,550 per annum at 12% p.a.

(c) Find the compound interest on ₹ 6,000 at 5% p.a. in the second year.

3. (A) Attempt any *one* of the following : [6]

(*a*) Find inverse of the following matrix :

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

(*b*) Define the following terms :

(*i*) Unit matrix

(*ii*) Transpose of a matrix

(*iii*) Non-singular matrix.

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

(*a*) Find the values of x and y if :

$$\left\{ 3 \begin{bmatrix} 1 & -1 & 3 \\ 2 & 1 & 0 \end{bmatrix} - 2 \begin{bmatrix} -3 & 1 & -1 \\ 1 & 0 & 1 \end{bmatrix} \right\} \begin{bmatrix} 1 \\ -1 \\ 2 \end{bmatrix} = \begin{bmatrix} x \\ y \end{bmatrix}.$$

(*b*) Solve the system by matrix method :

$$2x - y = 4$$

$$x + 3y = -5.$$

(*c*) Let :

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

Find $A^2 - 2I$.

4. (A) Attempt any *one* of the following : [6]

(*a*) Solve the following LPP graphically :

Max. $Z = 30x + 25y$

Subject to $4x + 3y \leq 150$

$x + 2y \leq 80$

$x, y \geq 0$

(*b*) Define the following :

(*i*) Feasible solution

(*ii*) Constraints

(*iii*) Objective function.

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

(*a*) A dealer wishes to purchase fans and sewing machines. He has only ₹ 57,600 to invest and has space for 40 items.

A fan costs ₹ 960 and a sewing machine ₹ 1,600. He can sell a fan at a profit of ₹ 40 and a sewing machine at a profit of ₹ 200. Assume that he can sell all the items he buys.

Formulate the problem as LPP.

(*b*) The cost price of an article is $\dfrac{5}{6}$ of its selling price. Find the percentage profit.

(*c*) A sum of money doubles itself in 5.5 years at a certain rate of interest. Find the rate of simple interest.

5. (A) Attempt any *one* of the following : [6]

(a) Find the solution for the following transportation problem using VAM :

		Stores		Supply
		S_1	S_2	
	W_1	30	15	3
Warehouses	W_2	20	30	5
	W_3	40	40	8
	W_4	45	60	2
	Demand	10	8	

(b) Prove that :

$$\begin{vmatrix} x^2 & x & 1 \\ y^2 & y & 1 \\ z^2 & z & 1 \end{vmatrix} = (x - y)(y - z)(z - x).$$

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

(a) Using matrix minima method find the initial basic feasible solution of the transportation problem :

		To		Supply
	2	7	3	5
	3	4	1	8
From	5	4	7	7
	3	5	6	14
Demand	7	9	18	

(*b*)   Using North West corner rule, find the initial basic feasible solution of the transportation problem :

	To				Supply
	10	23	12	5	120
From	12	5	21	3	80
	15	32	8	13	40
Demand	70	40	30	100	

(*c*)   Calculate simple interest on ₹ 4,380 borrowed for 105 days at 9% p.a.

Total No. of Questions—**5**] [Total No. of Printed Pages—**2**

Seat
No.

[5517]-305

S.Y. B.C.A. (Sem. III) EXAMINATION, 2019
305 : SOFTWARE ENGINEERING
(2013 PATTERN)

Time : Three Hours Maximum Marks : 80

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) *All* questions carry equal marks.

1. Attempt the following (any *eight*) : [8×2=16]

(*a*) Define open and closed system.

(*b*) What is system Analyst ?

(*c*) Define software Engineering.

(*d*) State stages in SDLC.

(*e*) What is Pseudocode ?

(*f*) What is Efferent Module ?

(*g*) Define unit testing.

(*h*) Define questionnaire. Give its types.

(*i*) Define data dictionary.

2. Answer the following (any *four*) : [4×4=16]

(*a*) Explain feedback control mechanism in detail.

(*b*) Discuss different fact finding techniques.

(*c*) Explain various characteristics of software engineering.

(*d*) Explain prototype model in detail.

(*e*) What is coupling ? Explain different types of coupling.

(*f*) Differentiate between White-Box and Black-Box Testing.

3. (*a*) Design an Input form for "Employees Salary Slip" details of the computer. [8]

(*b*) If the volume of sales is greater than Rs. 10,000 and advance collected is 70% or more then commission is 20%. If advance collected is less than 70%, then it is 15%. For sales Rs. 10,000 irrespective of the advance collected commission is 12%.

For sales less than Rs. 10,000, commission is 10% or 9% based on whether advance collected is 70% more or less respectively. Draw decision table and decision tree for the above case. [8]

4. Write short notes on any *four* : [4×4=16]
(*a*) Element of System
(*b*) Role of system Analyst
(*c*) Maintenance of System
(*d*) Structured chart
(*e*) McCall's quality factors.

5. Case Study :
Indian Bank provides Fixed deposit schemes through which people can deposit money for a certain period of time. The bank pays interest for this period and returns money when FD period is over interest rate depends upon the period.
The depositor may get loan against deposits. A maximum of 75% of the deposit amount as laon amount.
(*a*) Identify all entities
(*b*) Draw context level diagrams
(*c*) Draw First level DfD for system. [16]

Total No. of Questions—**5**] [Total No. of Printed Pages—**5**

Seat
No.

[5517]-401

B.C.A./B.B.A. (CA) (Sem. IV) EXAMINATION, 2019
OBJECT ORIENTED PROGRAMMING USING C++
(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) *All* questions carry equal marks.

(*iv*) Neat diagrams must be drawn wherever necessary.

(*v*) Assume suitable data if necessary.

1. Attempt any *eight* of the following : [8×2=16]

(*a*) What is data abstraction ?

(*b*) What is return by reference ?

(*c*) Define :

(*i*) Dynamic binding

(*ii*) Message Passing.

(*d*) Explain structure of C++ program.

(*e*) What is this pointer ?

(*f*) Explain const arguments.

(*g*) Define pure virtual function.

(*h*) Explain break, continue statements.

(*i*) What is static data member ?

(*j*) What is setf() function ?

2. Attempt any *four* of the following : [4×4=16]

   (*a*) Explain array of object with diagram.

   (*b*) What is tokens in C++ ? Explain in detail.

   (*c*) Explain function overloading with example.

   (*d*) Write a C++ program to read contents of a text file and count number of characters, words and lines in a file.

   (*e*) Write a C++ program using friend function to calculate sum of digits of a number.

3. Attempt any *four* of the following : [4×4=16]

   (*a*) What is friend function ? Which are the features of friend function ?

   (*b*) What is inheritance ? Explain it with its types.

   (*c*) Explain virtual base class with suitable diagram.

   (*d*) Write a template program to sort integer and float array elements of size five.

   (*e*) Design a C++ program to create two base classes personnel (name, address, e-mail-id, DOB) and academic (10th std marks, 12th std marks, class obtained). Derive a class Bio_data from both these classes and prepare a bio data of a student having personal and academic information.

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

   (*a*) Explain inline function. Write the circumstances in which inline function will work like a normal functions.

   (*b*) Explain various errors handling functions used during file operations.

(*c*) Write a program for constructor with default arguments.

(*d*) Write a program to overload ....unary operator.

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

```
# include <iostreom.h>
int i, j;
class SYBCA
{
        public :
        SYBCA(int x=0, int y=0)
        {
            i=x;
            j=x;
            Display()
        }
        Void Display()
        {
            cout <<j<<" ";
        }
}
        int main()
        {
            SYBCA obj(10, 20);
            int &s=i;
            int &z=j;
            i++;
            cout << s- - << " " << ++z;
            return 0;
        }
```

5. Attempt any *four* of the following :   [4×4=16]

   (*a*)   Explain compile time polymorphism and runtime polymorphism with example.

   (*b*)   What is stream ? Explain a stream class hierarchy.

   (*c*)   Create a class time which contains data members as hours, minutes and seconds. Write a C++ program using operator overloading for the following :

      (*i*)   = = to check whether two times same or not.

      (*ii*)   >> to accept time

      (*iii*) << to display time.

   (*d*)   Write a C++ program to copy the content of one file to another file.

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

```
#include <iostream.h>
using namespace std;
Class Base1
{
       public:
       Base1()
       {
           cout << "Base1's constructor called" << endl;
       }
};
Class Base2
{
```

```cpp
        public:

        Base2()

        {

            cout << "Base2's constructor called" << endl;

        }

};

Class Derived : public Base2, public Base1

{

        public:

        Derived()

        {

            cout << "Derived's constructor called" <<endl;

        }

};

int main()

{

        Derived d;

        return 0;

}
```

Total No. of Questions—5]   [Total No. of Printed Pages—3

Seat
No.   **[5517]-402**

S.Y. B.B.A. (C.A.)/B.C.A. (Fourth Semester)

EXAMINATION, 2019

PROGRAMMING IN VISUAL BASIC

(2013 PATTERN)

Time : Three Hours   Maximum Marks : 80

N.B. :— (*i*)   *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Give illustrations whenever necessary.

(*iv*) Design proper GUI.

1.   Explain the following property setting (any *eight*) :   [8×2=16]

(*a*)   Property to display *.* type of all files from file list box control.

(*b*)   Property used to display text colour in textbox control.

(*c*)   Property used to draw oval from the shape control.

(*d*)   Property used to disable frame control.

(*e*)   Property used to align text at right in textbox.

(*f*)   Property used to hide control at runtime.

(*g*)   Property used to resize the picture to fit in the image control.

(*h*)   Property used to specify text when the mouse is paused over the control.

(*i*)   Property used to create a Vertical and Horizontal Scrollbar.

(*j*)   Property used to display picture on command button.

2. Attempt the following (any *four*) : [4×4=16]

(*a*) Differentiate between do-until loop and do-loop until statement with proper syntax and example.

(*b*) Explain briefly MDI form. How is it different from single form ?

(*c*) What is control array ? Explain with the help of suitable example.

(*d*) Explain exit for statement with syntax and example.

(*e*) Explain Date and Time function with an example.

3. Answer the following (any *four*) : [4×4=16]

(*a*) Write a VB program to find the roots of quadratic equations.

(*b*) Write a VB program to calculate sum of digit till it reduces a single digit of a given number (using function).

(*c*) Write a VB program for Multiplication of two matrices.

(*d*) Write a VB program to display string in reverse order using built in function.

(*e*) Write a VB program to display Multiplication table of that number into the listbox.

4. Answer the following (any *two*) : [2×8=16]

(*a*) Explain Progressbar and Statusbar control with its property and example.

(*b*) Describe the following VB controls with their properties and methods :

(*i*) Timer

(*ii*) Frame

(*iii*) Shape

(*iv*) PictureBox.

(*c*) Write a VB program to accept the details of Doctor from user and store that details into the database. (Don't use standard control) doctor having Doctor_id, Doctor_name, Doctor_address, Doctor_phoneno.

5. Write short notes on (any *four*) :   [4×4=16]

(*a*) Listbox control

(*b*) Drive listbox control

(*c*) ADO Data Control

(*d*) Event Driven Programming

(*e*) Menu and types of Menu.

Total No. of Questions—5] [Total No. of Printed Pages—2

Seat
No.

[5517]-403

B.C.A. (IV Semester) EXAMINATION, 2019

COMPUTER NETWORKING

(2013 PATTERN)

Time : Three Hours Maximum Marks : 80

N.B. :— (i) *All* questions are compulsory.

(ii) Neat diagrams must be drawn wherever necessary.

1. Attempt any *three* of the following : [3×5=15]

(a) Explain wireless transmission. Explain any *one* media in detail.

(b) Explain IEEE 802.11 in detail.

(c) Define the Bridge. Explain types of Bridges.

(d) Compare connection oriented and connectionless Network Models.

2. Attempt any *three* of the following : [3×5=15]

(a) Explain different types of web-documents.

(b) Describe the frame format and physical layer of Ethernet.

(c) Explain optic fiber cable in detail.

(d) What is Switch ? How does it differ from HUB ?

P.T.O.

3. Attempt any *three* of the following :   [3×5=15]

  (*a*)   Explain active and passive HUB.

  (*b*)   Compare ISO/OSI reference model and TCP/IP.

  (*c*)   Explain propagation method.

  (*d*)   Explain server based and peer-to-peer LANs.

4. Attempt any *three* of the following :   [3×5=15]

  (*a*)   Explain Asynchronous communication in detail.

  (*b*)   Explain HTTP in detail.

  (*c*)   Define Computer Networks. Explain goals of Computer Networks.

  (*d*)   Draw TCP/IP model and state the functions of each layer.

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

  (*a*)   Repeaters

  (*b*)   Bluetooth

  (*c*)   Web Server

  (*d*)   Intranet and Extranet

  (*e*)   Modes of Communication.

Total No. of Questions—**5**] [Total No. of Printed Pages—**2**

Seat
No.

[5517]-404

B.B.A. C.A. (Sem. IV) EXAMINATION, 2019
404 : ENTERPRISE RESOURCE PLANNING AND MANAGEMENT
(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.
  (*ii*) Neat diagrams must be drawn wherever necessary.

1. Answer in short : [8×2=16]
  (*a*) What is data warehouse ?
  (*b*) List SAP tools.
  (*c*) Define OLAP.
  (*d*) Define OCR integration.
  (*e*) Explain BPR.
  (*f*) List types of Business models.
  (*g*) Electronic data interchange.
  (*h*) Define ELA.

2. Answer the following (any *four*) : [4×4=16]
  (*a*) Explain integrated management information in detail.
  (*b*) Discuss evolution of EDI.
  (*c*) What is ERP ? Explain characteristics of ERP.
  (*d*) Explain installation process of SAP.
  (*e*) What is Customer Relationship Management ? Explain in detail.

3. Answer the following (any *four*) : [4×4=16]
  (*a*) Explain linkage of enterprise ? Explain any *one* link.
  (*b*) What is data mining ? Explain in brief.
  (*c*) Explain phased implementation.
  (*d*) Explain Generic Model of ERP system.
  (*e*) Explain any *four* limitations of ERP.

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

(*a*) Discuss various EDI services.

(*b*) Comment : "ERP and e-commerce are supplementary to each other".

(*c*) Explain the feature direction and trends in ERP system.

(*d*) Define Supply Chain Management and its benefits.

(*e*) Explain hidden cost ERP inplementation.

5. Write short notes on (any *four*) : [4×4=16]

(*a*) Evolution of ERP

(*b*) Advantages and Disadvantages of EDI

(*c*) ALE integration

(*d*) People Soft

(*e*) OLAP.

Total No. of Questions—6]   [Total No. of Printed Page—1

Seat
No.

[5517]-405

B.B.A. (C.A.)/ B.C.A. (Sem. IV) EXAMINATION, 2019
405 : HUMAN RESOURCE MANAGEMENT
(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*) Question No. **6** is compulsory.
           (*ii*) Answer any *four* from the remaining.
           (*iii*) Figures to the right indicate full marks.
           (*iv*) Draw a figure wherever necessary.

1. Define HRM. Distinguish between personal management and Human
    Resource Management.   [15]

2. Define 'Performance Appraisal'. Explain objectives and need of
    Performance Appraisal.   [15]

3. Explain in detail the various methods of wage payment.   [15]

4. What is Discipline ? Discuss the objectives and principles of
    discipline.   [15]

5. What is E-HRM ? Explain evolution of Human Resource Technology.[15]

6. Write short notes on (any *four*) :   [20]
    (*a*) Sources of Recruitment
    (*b*) Importance of Training
    (*c*) Profit Sharing
    (*d*) Grievance Procedure
    (*e*) E-Selection
    (*f*) Transfer Policy.

Total No. of Questions—**5**]

[Total No. of Printed Pages—**3**

Seat
No.

[5517]-501

B.B.A. (C.A.)/B.C.A. (V Semester) EXAMINATION, 2019

501 : JAVA PROGRAMMING

(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*)   *All* questions are compulsory.

(*ii*)   *All* questions carry equal marks.

(*iii*)   Neat diagrams must be drawn wherever necessary.

(*iv*)   Assume suitable data, if necessary.

1.   Attempt any *eight* :   [8×2=16]

(*a*)   List any *two* restriction for applet.

(*b*)   What are different ways of creating string object ?

(*c*)   Justify True/False Java is not fully object oriented.

(*d*)   Can we use super() and this() within the same constructor ?
Justify.

(*e*)   State the use of wrapper class.

(*f*)   How to create and access the package in Java ?

(*g*)   State the purpose of throw keyword.

(*h*)   State the use of jar file.

(*i*)   Which container use border layout as its default layout ?

(*j*)   Does the order of public static void matter in main method.

2. Attempt any *four* : [4×4=16]

(*a*) Write a note on event handling.

(*b*) What is Interface ? Why are they used in Java ? Explain.

(*c*) Write a java program to accept *n* names of cities from users and display them in descending order.

(*d*) What is Applet ? Explain life cycle of Applet.

(*e*) Define an abstract class shape with abstract method area() and volume(). Write a java program to calculate area and volume of cone and cylinder.

3. Attempt any *four* : [4×4=16]

(*a*) Write a package for games in java, which have two classes Indoor and Outdoor. Use a function display() to generate the list of players for specific games.

(Use parameterized constructor, finalize() method and array of objects).

(*b*) What is interface ? Why are they used in java ? Explain.

(*c*) Define collection. Explain any *two* classes used with collection.

(*d*) What is Exception ? Explain its keyword with example.

(*e*) Write a java program to accept the details of employee (Eno, Ename, Sal) from the user and display it on the next frame (Use AWT).

4. Attempt any *four* : [4×4=16]

(*a*) How to add user defined package in main class ? List the steps with suitable example.

(*b*) Write a java program to accept email address of a user and throw a user defined exception "Invalid Email Exception" if it does not contain '@' symbol.

(*c*) Write similarities and dissimilarities between Abstract Class and Interface.

(*d*) Write a java program to display the content of file in reverse order.

(*e*) Explain the use of super and final keyword with reference to inheritance.

5. Attempt any *four* :   [4×4=16]

(*a*) Explain any *four* methods of file class.

(*b*) Write a applet application in java for designing temple.
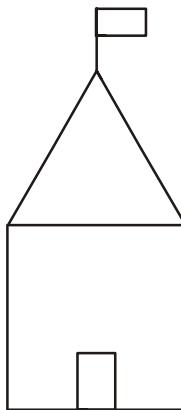
(*c*) Explain the need of garbage collection in java.

(*d*) What is jar file ? Give steps and example of creating jar file.

(*e*) Write a java program to accept the details of '*n*' employee (Ename, salary) from the user store them into the Hashtable and displays the Employee Name having maximum salary.

Total No. of Questions—**5**]　　　　[Total No. of Printed Pages—**3**

Seat
No.

[5517]-502

T.Y. B.B.A. (C.A.)/B.C.A. (V Semester) EXAMINATION, 2019

502 : WEB TECHNOLOGIES

(2013 PATTERN)

Time : Three Hours　　　　　　　**Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Draw suitable diagram.

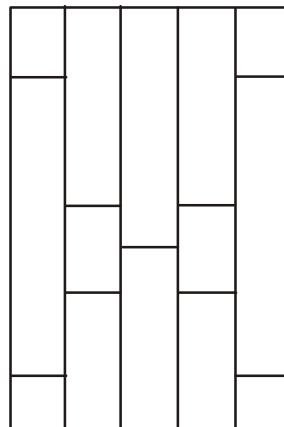**1.** Solve any *eight* on the following :　　　　[8×2=16]

(*a*) Write any *two* attributes of <table> tag.

(*b*) What is Dense Array ? Give an example.

(*c*) Explain Marquee with *two* attributes.

(*d*) Write any *two* HTTP request methods.

(*e*) Explain <pre> and <font> tag.

(*f*) What is the use of Class Attributes ? Give an example.

(*g*) Name any *two* events associated with mouse.

(*h*) Explain any *two* Dialog Boxes used in JavaScript.

(*i*) State the purpose of array-walk function.

(*j*) Define type casting.

2. Solve any *four* of the following :　　　　[4×4=16]

(*a*) Write a JavaScript program to read a number from user store its factors into the array and display the array. (Onclick Event)

(*b*)   Write a JavaScript program to design student registration form
         and perform the following validation :
         (*i*)   Check all field should not contain a NULL value.
         (*ii*)   Check name field contain only alphabets.
         (*iii*) Mobile No. field should be of 10 digits.

(*c*)   Explain CSS with an example.

(*d*)   Explain GET and POST methods with an example.

(*e*)   Which are the different data types available in PHP.

3. Solve any *four* of the following :   [4×4=16]

(*a*)   Explain the use of <frameset> tag with an example.

(*b*)   Write HTML and CSS code to generate the following output.
         (Use inline style sheet)

         INDIA
         •   Taj Mahal
         •   India Gate
         •   Bibika Makbara
         •   Mysore Palace

(*c*)   Write a HTML code to create the following frames :

(*d*) Write a PHP script to generate Fibonacci series.

(*e*) Explain client-server communication.

4. Solve any *four* of the following :   [4×4=16]

(*a*) Explain any *two* dialog boxes used in JavaScript.

(*b*) Explain ordered and unordered list.

(*c*) How can user include images as hyperlink ? Explain with example.

(*d*) Write a JavaScript program to create four color button on the web page. Clicking on button will change the background color of web page.

(*e*) Write a HTML code to design the following table :

Train Time Table			
TNO	TNAME	Arrival Time	Departure Time
101012	Nashik Express	2:00 pm	4:30 pm

5. Solve any *four* of the following :   [4×4=16]

(*a*) Date objects in JavaScript.

(*b*) Write the purpose of explode function.

(*c*) Explain type casting and type Juggling in PHP.

(*d*) Write short note on Internet.

(*e*) Explain Embedding Audio, Video in HTML.

Total No. of Questions—**5**] [Total No. of Printed Pages—**4**

Seat
No.

[5517]-503

T.Y. B.C.A./T.Y. B.B.A. (C.A.) (Fifth Semester)

EXAMINATION, 2019

503 : VB.NET PROGRAMMING

(2013 PATTERN)

Time : Three Hours **Maximum Marks : 80**

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) *All* questions carry equal marks.

(*iii*) Draw suitable diagram wherever necessary.

1. Attempt any *eight* of the following : [8×2=16]

(*a*) Explain any *two* date and time functions in VB.net.

(*b*) What is difference between Read() and Readkey().

(*c*) Write a code to add 5 items in combobox.

(*d*) What is CTS ?

(*e*) What is Dataset ?

(*f*) Define CLR. Enlist any *two* services provided by CLR.

(*g*) What is JIT compiler ?

(*h*) Enlist any *two* events of keyboard.

(*i*) Write any *two* benefits of 'Net Framework'.

(*j*) What is MSIL ?

2. Attempt the following (any *four*) : [4×4=16]

(*a*) Define inheritance. Explain its types with suitable example.

(*b*) Explain any *two* control structures in VB.net with example.

(*c*) Design GUI and write a code for the following :

— Accept a number from an user through InputBox.

— Display addition and substraction into different InputBox.

(*d*) Write a VB.Net program to check whether entered string is palindrom or not.

(*e*) Design GUI and write a code for the following :

(using ADO.net) [use MS Access to create db]

— Create table Employee (Eid, EName, Designation, dateofjoining)

— Insert records into the table.

— Display appropriate message in message.

3. Attempt the following (any *four*) : [4×4=16]

(*a*) Explain access specifiers in VB.net.

(*b*) Explain function overloading and function overriding with example.

(*c*) Write a VB.net program to move the text "Introduction to VB.net programming".

(*d*) Design GUI and write a code for the following :

— Accept number through InputBox.

— Count the even number among them and display the count by using MessageBox.

(*e*) Design GUI and write code for the following :

— Create a table student (Rollno, Sname, Class)

— Search record of students who are in 'TY' class and display result in Grid View [use SQL to create db]

4. Attempt the following (any *four*) :   [4×4=16]

(*a*) Explain MyBase and MyClass keywords in detail.

(*b*) Explain Exception with an example.

(*c*) Explain one-dimensional array with example.

(*d*) Design a GUI and write a code for the following :

— accept the details from user in TextBoxes.

— having information —   Name, Basic salary, DA, TA,
                                                        HRA, MA, PF, PT

— Clicking on submit button, Net salary should be calculated and displayed into the TextBox.

(*e*) Design GUI and write a code for the following :

— Accept sentences in TextBox.

— Count the number of words and display the count in MessageBox.

5. Write short notes on (any *four*) :   [4×4=16]

    (*a*)   Interface

    (*b*)   Data Adapter

    (*c*)   Progress Bar

    (*d*)   Ado.net Architecture

    (*e*)   IDE.

Total No. of Questions—5]   [Total No. of Printed Pages—3

Seat
No.   **[5517]-504**

T.Y. B.B.A. (C.A.)/B.C.A. (V Semester) EXAMINATION, 2019

504 : OBJECT ORIENTED SOFTWARE ENGINEERING

(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (*i*)   *All* questions are compulsory.

(*ii*)   Neat diagrams must be drawn wherever necessary.

(*iii*)   Figures to the right indicate full marks.

1.   Attempt any *eight* of the following :   8×2=16

(*a*)   What is Inheritance ?

(*b*)   Define Tagged Values.

(*c*)   What is Realization ?

(*d*)   Define Branching.

(*e*)   What is Swimlanes.

(*f*)   What is meant by concurrency ?

(*g*)   Define polymorphism.

(*h*)   What is meant by Inception ?

(*i*)   Write down the purpose of the object diagram.

P.T.O.

2. Attempt any *four* of the following : [4×4=16]

(*a*) Define UML. Explain architecture of UML.

(*b*) Define class diagram. State the purpose of class diagram with example.

(*c*) What is Interaction diagram ? Describe sequence diagram with example.

(*d*) Define UP. Explain any *two* phases in details.

(*e*) Explain Generic components of the object oriented design model.

3. Attempt any *four* of the following : [4×4=16]

(*a*) Define thing. Explain type of things in UML.

(*b*) What is Package ? Explain it with import and export stereotype.

(*c*) Draw use case diagram for Hospital Management System.

(*d*) Explain five UP work flows of UP in details.

(*e*) Describe the Rambaugh method in details.

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

(*a*) What is meant by Model and Modeling ?

(*b*) What is classfiers ? List out different classifiers in UML with diagram.

(*c*) Define the collaboration diagram. Draw collaboration diagram for ATM.

(*d*) What is meant by Iterative Development ? State its various advantages.

(*e*) Explain the system design process.

5. Attempt the following case study :

The case study titled Library Management System is Library management software for the purpose of monitoring and controlling the transactions in a library.

This case study on the library management system gives us the complete information about the library and the daily transaction done in a library. We need to maintain the record of new and retrive the details of books available in the library which mainly focuses on basic operations in a library like adding new members, new books and up new information, searching books and members and facility to borrow and return books.

If features a familiar and well thought-out, an attractive user interface, combined with strong searching insertion and reporting capabilities the report generation facility of library system helps to get a good idea of which are the books borrowed by the members, makes users possible to generate hard copy.

Consider above situation, draw the following UML diagram. : [16]

(1)   Class diagram

(2)   Sequence diagram

(3)   Use case diagram

(4)   Activity diagram.

Total No. of Questions—**5**]　　　　　[Total No. of Printed Pages—**2**

Seat
No.

[5517]-601

B.B.A. (C.A.) (VI Sem.) EXAMINATION, 2019
601 : ADVANCED WEB TECHNOLOGIES
(2013 PATTERN)

Time : Three Hours　　　　　**Maximum Marks : 80**

N.B. **:—**　　(*i*)　　*All* questions are compulsory.

　　　　　(*ii*)　　Figures to the right indicate full marks.

1.　　Attempt the following (any *eight*) :　　　　　[8×2=16]

　　(*a*)　　How to call parent class constructor in php. (Write its Syntax) ?

　　(*b*)　　What is $http_response_header ?

　　(*c*)　　Enlist all methods used by PHP for database connectivity ?

　　(*d*)　　Enlist the methods of simple XML extensions.

　　(*e*)　　Enlist the elements of SOAP message.

　　(*f*)　　Enlist different attributes for readystate.

　　(*g*)　　What is Web Services ?

　　(*h*)　　Enlist the methods of XML parser.

　　(*i*)　　What is SetCookie() function ?

　　(*j*)　　Which is special function provided by PHP to define constructor ?

2.　　Attempt the following (any *four*) :　　　　　[4×4=16]

　　(*a*)　　What is method overloading ? Explain it with the help of example.

　　(*b*)　　How to handle file upload in php ?

　　(*c*)　　What is PEAR DB ? Explain with the help of program.

　　(*d*)　　To create form that accept the user details. Write php Program to capitalize of first letter of each name and check user e-mail address contain @ symbol.

　　(*e*)　　Write PHP script to demonstrate the concept of introspection for examining object.

3. Attempt the following (any *four*) : [4×4=16]

(*a*) What is DOM ? Explain it with the help of program.

(*b*) Explain how Ajax works ?

(*c*) Create student registration from and displays details in the next page. (Use sticky form concept).

(*d*) Write a PHP script to upload the file and display its information (Use $_FILES).

(*e*) Create a XML file which gives details of books available in "ABC Bookstore" from the following categories :

(1) Technical

(2) Cooking

(3) Yoga

4. Attempt the following (any *four*) : [4×4=16]

(*a*) Explain with example how to connect database using PHP and Ajax.

(*b*) What is WSDL ? Explain it.

(*c*) Explain XML parser.

(*d*) Create student table as follows :

Student (Sno, Sname, Per).

Write Ajax program to select the student name and print the selected student's details.

(*e*) Write Ajax Program to Print Movie details by selecting and Actor's name.

Create table MOVIE and ACTOR as follows with 1:M cardinality.

MOVIE (mno, mname, release_) and ACTOR (ano, aname).

5. Write short notes on (any *four*) : [4×4=16]

(*a*) Serialization

(*b*) Redirection

(*c*) Destructor

(*d*) Header function

(*e*) Link XML to CSS.

Total No. of Questions—5]   [Total No. of Printed Pages—2

Seat
No.

[5517]-602

B.B.A. (C.A.) (VI Sem.) EXAMINATION, 2019
602 : ADVANCE JAVA
(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (i) All questions are compulsory.
            (ii) Figures to the right indicate full marks.
            (iii) Answer of sub-questions of each question should be attempted at one place. It should not be written separately.

1. Answer the following (any *eight*) :   [8×2=16]
    (i) What is jdbc-api ?
    (ii) What is Servlet Config ?
    (iii) What is accept() method in networking ?
    (iv) What is sleep() method ?
    (v) Give syntax of loading Driver Manager.
    (vi) Define Port.
    (vii) What is yield() method ?
    (viii) What is Stub and skeleton ?
    (ix) What is Scriptlet tag ?
    (x) What is builder tool ?

2. Answer the following (any *four*) :   [4×4=16]
    (a) Explain difference between Statements and Prepared Statement.
    (b) What is Thread ? Explain different ways to implement thread in program.
    (c) Explain RMI Architecture with a suitable diagram.
    (d) Write a JDBC Program to delete the record of employee using command line argument.
    (e) Write a multithreading program in Java using Runnable interface to draw temple flag on an applet container.

P.T.O.

3. Answer the following (any *four*) : [4×4=16]
- (*a*) Explain various components of JSP ?
- (*b*) What is JAR file ? Explain steps to create it.
- (*c*) Explain Inter Thread Communication in Multithreading.
- (*d*) Write a JDBC Program to Insert the record into patient table (use prepared Statement).
- (*e*) Write a JSP Program to accept user and check whether it is prime or not.

4. Answer the following (any *four*) : [4×4=16]
- (*a*) Explain different types of servlet with an example.
- (*b*) Explain Socket and Server Socket.
- (*c*) What is Beans ? Explain its advantages in brief.
- (*d*) Write a Multithreading program in Java to display all the alphabets from A to Z after 3 seconds.
- (*e*) Explain JDBC Drivers with a suitable diagram.

5. Attempt any *two* : [2×8=16]
- (*a*) Write a Socket program in Java to check whether given file is present on server or not, If it is present then display its content on the server's machine otherwise display error message.

Or

Write a Java program to accept file name from user, check if it is available on server machine or not, if it is available the display its contents on client machine otherwise display the message "File Not Found".

- (*b*) Write a JSP script to check whether given mail ID is valid or not. (Mail ID should contain one @ symbol and at least one Dot(.) symbol).

Or

Write a Servlet program to display the details of employee in tabular format. Employee table structure (eno, ename, sal, design)

Total No. of Questions—**5**]   [Total No. of Printed Pages—**3**

Seat
No.

[5517]-603

T.Y. B.B.A. (C.A.)/T.Y. B.C.A. (VI Semester) EXAMINATION, 2019

603 : RECENT TRENDS IN IT

(2013 PATTERN)

Time : Three Hours   **Maximum Marks : 80**

N.B. :— (i) *All* questions are compulsory.

(ii) *All* questions carry equal marks.

1. Attempt the following :   [8×2=16]

(a) Define the term Indicator.

(b) Define Varying Arrays.

(c) Define the term OLAP.

(d) Explain the term Cipher Text.

(e) List different models for cloud computing.

(f) What is Data Fragmentation ?

(g) List the types of software prototyping.

(h) Explain the term Data Mining.

(i) Define the term cryptography.

(j) Explain the term soft computing.

2. Attempt the following (any *four*) :   [4×4=16]

(a) Describe the role of requirement analysis in software process.

(b) Explain naming conventions for objects.

(*c*)   Describe Architecture of Data Warehouse in detail.

(*d*)   Explain message digest in cryptography.

(*e*)   What is cloud computing ? Describe its technological features in detail.

3.   Attempt the following (any *four*) :   [4×4=16]

(*a*)   What is Green Computing ? Describe the steps to take towards Green Computing.

(*b*)   Explain the following terms :

   (*i*)   Data Encryption Standard

   (*ii*)   Advance Encryption Standard.

(*c*)   Explain Data Cleaning ? What are the tools of Data Cleaning ?

(*d*)   Explain in detail, the factors affecting Software Quality.

(*e*)   What is Software Management ? Explain its types.

4.   Attempt the following (any *four*) :   [4×4=16]

(*a*)   Explain data pre-processing techniques in detail.

(*b*)   Explain symmetric key signature and public key signature.

(*c*)   Distinguish between Soft computing and Hard computing.

(*d*)   State the difference between stand alone *verses* distributed database.

(*e*)   What are the current and future trends in mobile computing ?

5. Attempt the following (any *four*) : [4×4=16]

    (*a*)   Explain Data Mining process in detail.

    (*b*)   Define the terms :

        (*i*)   Active Attack and

        (*ii*)   Passive Attack.

    (*c*)   Explain the types of cryptography in detail.

    (*d*)   Write a short note on 'One-Time-Pad'.

    (*e*)   Explain the applications of Data Warehousing in detail.

Total No. of Questions—**5**]　　　　[Total No. of Printed Pages—**2**

Seat
No.

[5517]-604

B.C.A. (Sem. VI) EXAMINATION, 2019
604 : SOFTWARE TESTING
(2013 PATTERN)

Time : Three Hours　　　　　　　Maximum Marks : 80

N.B. :— (*i*)　*All* questions are compulsory.

(*ii*)　Figures to the right indicate full marks.

1. Attempt any *eight* of the following :　　　　[8×2=16]

(*i*)　What is the difference between Tester and Debugger ?

(*ii*)　State software Testing Principles.

(*iii*)　Define Stubs and Drivers.

(*iv*)　What are the disadvantages of Big Bang Approach.

(*v*)　What is the primary objectives of GUI Testing ?

(*vi*)　What are the two main types of real-time system ?

(*vii*)　When do we need Regression Testing ?

(*viii*)　State different types of performance testing.

(*ix*)　What is test case ?

(*x*)　What is the use of Boundary value analysis testing technique ?

2. Attempt any *four* of the following :　　　　[4×4=16]

(*i*)　Explain Equivalence Partitioning in detail.

(*ii*)　Explain smoke testing in detail.

(*iii*)　Differentiate between Load and Stress testing.

(*iv*)　Explain testing of client-server architecture.

(*v*)　Explain gray box testing.

3. Attempt any *four* of the following :　　　　　　　　[4×4=16]

    (*i*)　Explain STLC (Soft, Test, Life-Cycle) in detail.

    (*ii*)　Explain Levels of Testing.

    (*iii*)　Explain Testing Documentation and help facilities.

    (*iv*)　Explain Validation Techniques.

    (*v*)　Explain Junit as a Testing tool.

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

    (*i*)　Explain types of Acceptance Testing.

    (*ii*)　Differentiate between Alpha and Beta Testing.

    (*iii*)　Explain steps in Real-Time system Testing.

    (*iv*)　What is Unit Testing ? Explain advantages.

    (*v*)　Explain Load Runner testing tool.

5. Write short notes on (any *four*) :　　　　　　　　[4×4=16]

    (*i*)　Agile Testing.

    (*ii*)　Top-Down and Bottom-up integration

    (*iii*)　Regression Testing

    (*iv*)　Testing *Vs* Debugging.

    (*v*)　Win Runner.