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

Seat No.	

[5417]-101

F.Y. B.B.A. (CA)/F.Y. B.C.A. (I Semester) EXAMINATION, 2018

101 : MODERN OPERATING ENVIRONMENT AND MS-OFFICE

(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 neat diagrams wherever necessary.

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

(*a*) State different types of software.

(*b*) Which function is performed by ALU ?

(*c*) Write any *two* examples of impact printers.

(*d*) Write any *two* differences between RAM and ROM.

(*e*) Define algorithm.

(*f*) Define operating system.

(*g*) Write any *two* names of topology used in network.

(*h*) Write any *two* statistical functions in MS-Excel.

(*i*) Define assembler.

(*j*) Write full form of :

(1) SRAM

(2) DRAM

P.T.O.

2. Attempt any *four* : [16]

(*a*) Explain various generations of computers.

(*b*) Draw and explain block diagram of computer.

(*c*) List output devices. Explain any *one* output device.

(*d*) Write a note on hard disk.

(*e*) Write an algorithm to find out sum and average of N numbers.

3. Attempt any *four* : [16]

(*a*) Explain different features of LINUX operating system.

(*b*) Differentiate between LAN and WAN.

(*c*) Write a note on MS-Access.

(*d*) Differentiate between compiler and interpreter.

(*e*) Write any *two* advantages and disadvantages of Internet.

4. Attempt any *four* : [16]

(*a*) Explain compact disk in detail.

(*b*) Write a note no Scanner.

(*c*) Write a note on PowerPoint.

(*d*) Write a note on batch operating system.

(*e*) What are the features of MS-Office.

5. Attempt any *four* : [16]

(*a*) Write a note on MS-Word.

(*b*) Write a note on Coaxial cable.

(*c*) What is flowchart ? Explain advantages of flowchart.

(*d*) What are different functions of an operating system ? Explain any *two* of them in detail.

(*e*) Write a note on Laser printer.

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

Seat No.	

[5417]-102

B.C.A./B.B.A. (CA) (I Semester) EXAMINATION, 2018

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. What is Financial Accounting ? Distinguish between Accounting and Book-keeping. [16]

Or

What do you mean by Accounting Standards ? Explain the objectives and benefits of Accounting Standards.

2. Journalise the following transactions in the books of M/s Sachin Joshi, Pune for March, 2018 : [16]

March 2018

1 Purchased Goods for cash ₹ 10,000.

5 Paid electricity charges ₹ 250.

7 Received ₹ 1,000 from Poonawala as Commission.

11 Sold a scooter to Lokhandwala for ₹ 1,500.

P.T.O.

18 Received ₹ 300 from Virat.

23 Paid Transport charges ₹ 700 to Diksha.

27 Purchased machinery ₹ 9,200 from Shah Bros on credit.

31 Deposited ₹ 1,200 in Bank of Maharashtra.

3. Record the following transactions in the Cash and Bank column Cash Book of M/s Malpani for the month of January 2018 : [16]

Date	**Details**	**Amount (₹)**
January 2018		
01	Bank Balance	32,500
01	Cash Balance	12,300
03	Purchased Goods by cheque	5,300
08	Goods Sold for cash	9,500
10	Purchased Typewriter by Cheque	5,400
15	Sold Goods and received Cheque (Deposited on the same day)	7,900
17	Purchased Stationery by Cheque	1,000
20	Cash deposited into bank	10,000
22	Paid Cartage	500
24	Cheque given to Mudit	7,000
28	Rent paid by Cheque	3,000
30	Paid Salary	3,500

4. The following balances were extracted from the books of Priyanka on 31st March, 2018. You are required to prepare a Trading and Profit and Loss Account and Balance Sheet on that date : [16]

Trial Balance

Particulars	**Dr. (₹)**	**Cr. (₹)**
Opening Stock	16,000	
Capital		45,000
Salaries	13,000	
Drawings	4,000	
Carriage Inwards	500	
Carriage Outwards	1,000	
Sales Return	1,000	
Purchase Return		700
Loan to Mr. X	11,000	
Loan from Mr. Y		7,000
Rent	1,300	
Rent Outstanding		200
Purchase	40,000	
Sales		73,100
Debtors	25,000	
Creditors		8,000
Bad Debt	800	
Reserve for Bad Debt		1,200
Discount Allowed	600	

Furniture	11,700	
Wages	500	
Insurance Premium	1,200	
Rent by Sub-letting		800
Cash	700	
Bank	8,000	
Total	**1,36,300**	**1,36,300**

Adjustments :

(1) Closing Stock ₹ 10,500 but the market value of closing stock was ₹ 9,500.

(2) Insurance premium prepaid ₹ 200.

(3) Loan to Mr. X, given at 10% interest p.a. and loan taken from Mr. Y carries 9% interest p.a.

(4) Depreciation is to be provided at 5% on furniture.

(5) Goods worth ₹ 500 have been taken by the proprietor for private use.

(6) Bad and doubtful debts are to be provided at 10%.

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

(*i*) Limitations of Computerized Accounting

(*ii*) Company Final Accounts

(*iii*) Accounting Package Tally ERP 9.0

(*iv*) Accounting Policies

(*v*) User of Accounting Information

(*vi*) Accounting Estimates.

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

Seat No.	

[5417]-103

B.B.A.(CA)/B.C.A. (I Semester) EXAMINATION, 2018

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 (*All*) : [8×2=16]

(*a*) Explain space complexity.

(*b*) What is big O Notation ?

(*c*) What is Flowchart ?

(*d*) What is Leap Year ?

(*e*) Explain an array.

(*f*) What is Matrix ?

(*g*) What is bubble sort ?

(*h*) What is palindrome number ?

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

(*a*) Explain time complexity with an example.

(*b*) Write an algorithm to determine given number is positive or negative.

P.T.O.

(*c*) Write an algorithm to find factorial value of given number.

(*d*) Draw a flow chart to find minimum of an array.

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

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

(*a*) Explain any *two* sorting techniques with example.

(*b*) What is dimension and index of an array.

(*c*) Draw a flowchart to find sum of first N even numbers.

(*d*) Write an algorithm to find the given year is leap year or not.

(*e*) Explain characteristics of an algorithm.

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

(*a*) Explain recursion with example.

(*b*) Write an algorithm to print factors of a given number.

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

(*d*) Explain types of array with an example.

(*e*) Write an algorithm for addition and multiplication of two numbers.

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

(*a*) Draw a flowchart to check entered number is prime or not.

(*b*) Write an algorithm to print fibonacci series upto '*n*' numbers.

(*c*) Write advantages and disadvantages of recursion.

(*d*) Sort the following numbers using bubble sort :

(500, 150, 40, 1, 13)

(*e*) Write an algorithm for addition of two matrices.

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

Seat No.	

[5417]-104

B.C.A. (I Semester) EXAMINATION, 2018

BUSINESS COMMUNICATION

(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 the term 'Communication'. What are the barriers to communication ? [15]

Or

What do you mean by 'Oral Communication' ? Explain its advantages and limitations. [15]

2. Define the term 'listening'. What are its barriers ? [15]

Or

Write a detailed note on components and layout of business letter. [15]

3. (*a*) Enumerate the advantages of teleconferencing. [7]

(*b*) Draft a suitable reply to a customer who has complained about the poor service of a car supplied by you. [8]

Or

(*a*) Explain the effective presentation skills. [7]

(*b*) Draft a sales letter introducing pocket size TV. [8]

P.T.O.

4. Highlight the do's and don'ts to be followed in group discussion. [15]

Or

Enumerate the advantages and limitations of internet and social media sites. [15]

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

(*a*) Objectives of communication

(*b*) Signs and symbols

(*c*) The art of listening

(*d*) Process of communication

(*e*) Advantages of written communication

(*f*) Principles of effective oral communication

(*g*) Interview skills.

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

Seat No.	

[5417]-105

BCA/BBA (CA) (I Semester) EXAMINATION, 2018

105 : PRINCIPLES OF MANAGEMENT

(2013 PATTERN)

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

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

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

1. What is Management ? Describe nature of management.

Or

Explain principles and techniques of scientific management.

2. What is Planning ? Explain process of planning.

Or

Explain various techniques of decision making.

3. Write short notes on :

(*a*) Management and administration

(*b*) Management as a science

Or

What is Organising ? Explain nature of organising.

P.T.O.

4. What is delegation ? Describe the steps in delegation.

Or

What is co-ordination ? Explain types of co-ordination.

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

(*a*) Importance of controlling

(*b*) Role of strategic management

(*c*) Types of change

(*d*) Stress management

(*e*) Process of forecasting.

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

Seat No.	

[5417]-201

F.Y. B.C.A. (II Semester) EXAMINATION, 2018

201 : PROCEDURE ORIENTED PROGRAMMING USING—C

(2013 PATTERN)

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

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

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

(*iii*) Use Ansi C methods.

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

(*a*) What does static variable mean ?

(*b*) In header files whether functions are declared or defined ?

(*c*) What are enumerations ?

(*d*) What is the advantages of using UNION ?

(*e*) In C, why is the void pointer useful, when would you use it ?

(*f*) What are C identifiers ?

(*g*) What are the facilities provided by preprocessor ?

(*h*) Define string with *one* inbuilt string example.

(*i*) What do the functions atoi( ) and itoa( ) do ?

(*j*) What is the use of putchar( ) and puts( ) ?

(*k*) How is pointer variable declared and initialized ?

(*l*) What is escape sequence ?

P.T.O.

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

(*a*) The nested if-else-if statement is always equivalent to switch statement in C. Comment with proper justification.

(*b*) What is the purpose of while statement ? Explain the execution of while structure.

(*c*) List the storage classes in C. Explain any *two*.

(*d*) Define Array. Explain why array is random access in nature.

(*e*) What is dynamic memory allocation ? Why is it required ? What are the functions provided in C to perform dynamic memory allocation ?

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

(*a*) Write a C program to calculate the square root of a number and x^y using standard library functions.

(*b*) Write a C program to print the following pattern using nested loops :

1

0 1

1 0 1

0 1 0 1

1 0 1 0 1

(*c*) Write a C program to accept the characters from the keybaord till the user enters. Count the total number of uppercase alphabets, lowercase alphabets and vowels.

(*d*) Write a C program to accept information about five employees (emp_no, emp_name, emp_salary) using structure and sort the records on emp_no.

(*e*) Write a C program to read a file as source .txt typed in capital letters and convert it into lowercase and store it into target .txt file.

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

(*a*)
```
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);
    }
```

(*b*)
```
main( )
    {
    int i = – 3, j = – 7;
    jump (i, &j);
```

```
    printf ("ln i = %d, j = %d", i, j);
    }
    jump (int i, int *j)
    {
    i = i*i;
    *j = *j * *j;
    }
```

(c)
```
#include
int main( )
    {
    int a = 5;
    float b;
printf ("%d", size of (++a+b);
printf ("%d", a);
return (0);
}
```

(d)
```
main( )
    {
    int x, y;
    int *ptr;
    x = 100;
    ptr = &x;
    y = *ptr;
printf ("%d\n", y);
return (0);
}
```

(*e*)

```
main( )
    {
    int  i  =  0,  x  =  0;
    for  (i  =  1;  i  <  10;  i++)
    {
    if  {i%2  =  =  1)
    x  =  x  +  1;
    else
    x  –  –;
    printf  ("%d",  x);
    }  }
```

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

Seat No.	

[5417]-202

B.C.A./B.B.A. (C.A.) (II Semester) EXAMINATION, 2018

202 : DATABASE MANAGEMENT SYSTEM

(2013 PATTERN)

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

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

(*ii*) Draw neat diagrams wherever necessary.

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

(*a*) What are logical and physical files ?

(*b*) Explain the advantages of Network Model over Hierarchical Model.

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

(*d*) List various users of DBMS and specify their jobs.

(*e*) State and explain aggregate functions in sql.

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

(*a*) Explain select and project operations in Relational Algebra.

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

(*c*) Write a short note on Normalization.

(*d*) Explain Basic File operations.

(*e*) Explain various DML commands with examples.

P.T.O.

3. Consider the following entities and their relationship : [16]

Item (item no, name, quantity)

Sup (no, name, addr, city, phone-no)

Item and sup are related with many-to-many relationship with rate, discount.

Constraints : primary key and item qty > 5 and rate > 0

Create RDB in 3NF and write queries in sql (any *five*) :

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

(*b*) Find the rate and discount of the item mouse.

(*c*) Count the number of items supplied by supplier "Mr. Navathe".

(*d*) Display the details of all suppliers from 'Pune' city.

(*e*) Display item name in ascending order.

(*f*) Display supplier name in descending order of quantity.

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

(*a*) Explain sequential file orgnization.

(*b*) Explain dense index and sparse index.

(*c*) Explain DDL and DCL.

(*d*) Explain the terms :

(*i*) Tuple

(*ii*) Super key

(*iii*) Domain

(*iv*) Entity.

(*e*) Explain object oriented model.

5. (*a*) Attempt the following : [8]

In a milk billing system the farmers are the members of the dairy in a village. They submit the milk daily once or more than that depending upon the collected milk from cow, the dairy accepts milk and pays the bills to farmers fortnightly *i.e.*, on 15th of every month. The dairy sends the bill to the Bank located in the village.

A database should provide the following details :

(*i*) Identify all entities

(*ii*) Identify all relationship

(*iii*) Draw E-R diagram.

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

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

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

Customer and loan are related with one to many relationships.

Write relational algebraic expression of the following :

(*i*) Display customer with loan amount greater than 1,00,000.

(*ii*) List names of customer who do not have loan at the bank.

(*iii*) List loan details of customer name as "Mr. Dhumale".

(*iv*) List of the customer who have taken loan from the bank with amount more than 50,000 and city as 'Pune'.

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

Seat No.	

[5417]-203

B.C.A. (II Semester) EXAMINATION, 2018

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. Explain the nature, scope and goals of Organizational Behaviour. [15]

Or

What is 'Total Quality Management" ? Describe the goals of TQM. How is TQM implemented ? [15]

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

Or

Describe Maslow's Need Hierarchy theory of motivation. [15]

3. Define Personality. Explain determinants of personality. [15]

Or

Define Stress. Explain in detail types and sources of Stress. [15]

P.T.O.

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

Or

Define the term 'Group'. State the stages of Group Formation. Explain Formal and Informal Groups. [15]

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

(*a*) Quality Cricles

(*b*) Components of Attitude

(*c*) Locus of Control

(*d*) Stress and Personality

(*e*) Johari Window Model

(*f*) Team Building.

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

Seat No.	

[5417]-204

F.Y. B.B.A. (CA) (II Semester) EXAMINATION, 2018

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*) Write a note on fundamental principles of counting.

(*b*) In how many ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions.

(*c*) Define discrete uniform distribution. Also state its mean and variance.

(*d*) Find n if (*i*) ${}^{n}C_{n-3} = 84$, (*ii*) ${}^{n}P_{3} = 6 \times {}^{n}C_{2}$.

(*e*) Write sample space for the following experiments :

(*i*) Choosing a real number between 0 and 10.

(*ii*) Two digit number which can be formed from the digits 1, 2, 3.

(*iii*) Number of attempts required to pass an examination.

(*iv*) Blood group of a student selected at random from a particular class.

P.T.O.

(*f*) How many numbers between 100 and 1000 can be formed with the digits 3, 4, 5, 6, 7, 0 ?

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

(*a*) Write a note on Bernoulli distribution. Also state its additive property.

(*b*) A box contains 3 white balls, 4 black balls and 3 red balls. Find the number of ways in which 3 balls can be drawn from the box so that (*i*) at least one of the balls is black, (*ii*) all the balls are of different colours.

(*c*) If A and B are two events defined on sample space S such that P(A) = 0.7, P(B) = 0.5 and P(A $\cap$ B) = 0.4, find (*i*) P(A′ $\cup$ B′), (*ii*) P(A′ $\cap$ B′), (*iii*) P(A′ $\cap$ B), (*iv*) P(A $\cap$ B).

(*d*) What do you mean by sample space ? Explain types of sample space.

(*e*) In the old days, there was a probability of 0.8 of success in any attempt to make a telephone call. Calculate the probability of having more than 8 successes in 10 attempts using binomial distribution.

(*f*) Explain mutually exclusive events and exhaustive events with suitable examples.

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

(*a*) Consider an experiment of rolling of a true dice once. Identify the distribution of point that can appear on the uppermost face of the dice. Also find its mean and variance.

(*b*) Explain the concept of combination with suitable example.

(*c*) Generate a random sample of size 4 using linear congruential generator $X_{i+1} = (3X_i + 4) \bmod 5$, with $X_0 = 2$.

(*d*) Out of 7 men and 2 ladies, a committee of 4 is to be formed. Find the probability that the committee consists of at least one lady.

(*e*) Define the following terms :

(*i*) Complement of an event

(*ii*) Equally likely events

(*iii*) Sure event

(*iv*) Elementary event.

(*f*) In a group of 10 men, 6 are graduates. If 3 men are selected at random, find the probability that :

(*i*) all will be graduate

(*ii*) at the most two will be graduate.

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

(*a*) Write a note on pseudo random number generator.

(*b*) A random variable X follows B(n, p). If n = 10 and mean = 6, find p and variance of binomial distribution.

(*c*) Define Bernoulli distribution. State its mean and variance.

(*d*) Define binomial distribution. Also state its mean and variance.

(*e*) Let A and B be two events defined on sample space S with P(A) = 0.3, P(A $\cup$ B) = 0.5 and P(B) = p. Find p if (*i*) A and B are independent and (*ii*) A and B are mutually exclusive.

(*f*) Determine which of the following are deterministic and non-deterministic experiments :

(*i*) Finding an area of a circle with radius 5 cm.

(*ii*) Life of an electronic component.

(*iii*) Tossing of a coin.

(*iv*) Number of misprints on a page.

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

(*a*) The probability distribution of rainfall is as follows :

Rainfall (X)	**Probability P(X)**
No rain	0.5
1 cm rain	0.25
2 cm rain	0.15
3 cm rain	0.05
4 cm rain	0.03
5 cm rain	0.02

Simulate the rainfall condition for 8 days using random numbers :

0.67, 0.63, 0.39, 0.55, 0.29, 0.78, 0.7, 0.06

(*b*) The number of TV sets sold by a salesman pay day is a discrete uniform random variable taking values 0, 1, 2, 3, 4. Simulate number of TV sets sold in 8 days using the following random numbers :

0.35, 0.32, 0.48, 0.28, 0.3, 0.04, 0.46, 0.8

(*c*) Suppose X denotes the number of customers who are not satisfied with the service given by the vendor which follows B(5, 0.2). Simulate number of customers not receiving satisfactory service from the vendor for 8 days.

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

Seat No.	

[5417]-205

B.B.A. (CA) (II Semester) EXAMINATION, 2018

205 : E-COMMERCE CONCEPTS

(2013 PATTERN)

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

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

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

1. Answer the following : [8×2=16]

(*a*) Define website.

(*b*) Define Intranet.

(*c*) What is B2B ?

(*d*) What is threat ?

(*e*) What is encryption ?

(*f*) What is smart card ?

(*g*) What is hacking ?

(*h*) What is meant by electronic cheque ?

2. Attempt any *four* : [4×4=16]

(*a*) Explain technical limitations of E-Commerce.

(*b*) Explain how to promote a website.

(*c*) Explain public key encryption using digital signatures.

(*d*) Explain components of Intranet Information Technology structure.

(*e*) Explain dimensions of security.

P.T.O.

3. Attempt any *four* : [4×4=16]

(*a*) Explain disadvantages of E-money.

(*b*) Explain electronic business opportunities.

(*c*) Explain banner exchange in detail.

(*d*) Explain process of creating digital envelope.

(*e*) Explain signs of E-mail phishing.

4. Attempt any *four* : [4×4=16]

(*a*) Explain Barter system of value exchange.

(*b*) What is ATM ? Explain its advantages.

(*c*) Explain any *four* reasons for building our own website.

(*d*) Explain need of E-payment.

(*e*) Explain Cyber Vendalism.

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

(*a*) Shopping bots

(*b*) Extranets

(*c*) Technical Components of E-commerce

(*d*) B2C

(*e*) Paperless billing.

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

Seat No.	

[5417]-301

S.Y. B.C.A./B.B.A. (CA) (Third Semester) EXAMINATION, 2018

301 : RELATIONAL DATABASE MANAGEMENT SYSTEM

(2013 PATTERN)

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

N.B. **:—** (*i*) *All* questions are compulsory.
(*ii*) *All* questions carry equal marks.
(*iii*) Draw a neat labelled diagram, if necessary.

1. Attempt *all* the following : [8×2=16]

(*a*) What is RDBMS ? List the different products of RDBMS.

(*b*) Define transaction.

(*c*) What is lock ?

(*d*) Define :

(*i*) Upgrading

(*ii*) Downgrading

(*e*) What is schedule ? List the types of schedule.

(*f*) Define :

(*i*) Redo

(*ii*) Undo.

(*g*) What is PL/SQL ? Draw a block diagram.

(*h*) List the failure type.

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

(*a*) Explain remote backup system in detail.

(*b*) What is cursor ? Describe different types of cursor.

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

(*d*) Differentiate between DBMS and RDBMS.

(*e*) Explain data types in PL/SQL.

P.T.O.

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

(*a*) Explain the properties of transaction.

(*b*) Explain log-based recovery in detail.

(*c*) What is deadlock ? Explain deadlock detection.

(*d*) What is serializability ? Explain types with example.

(*e*) What is trigger ? Describe types of trigger.

4. Attempt any *four* : [4×4=16]

Consider the following relational database :

Movie(mno, mname, releaseyear)

Actor(Ano, Aname)

Create the database in 3NF

Relation between Movie and Actor is Many to Many.

(*a*) Create or replace procedure, details of all movies of actor 'AKSHAY KUMAR' should be displayed.

(*b*) Write a cursor to display the moviename with their actorname.

(*c*) Write a trigger to restrict that movie release year must be entered after 2000.

(*d*) Write a function to find total number of movies acted by 'AISHWARYA RAI'.

(*e*) Write a package which includes *one* procedure and *one* function :

(*i*) Write a function to calculate number of movies released in year 2005.

(*ii*) Write a procedure to display details of actor having actor no. is 1001.

5. Attempt any *four* : [4×4=16]

(*a*) Consider the following transaction. Find out two non-serial schedules serializable to serial schedule :

T_1	T_2	T_3
Read (A)	Read (C)	Read (B)
A = A + 500	Read (B)	Read (C)
Write (A)	B = B + C	B = B + 450
Read (B)	Write (B)	Write (B)
B = B – 500	Read (A)	C = C + B
Write (B)	A = N – C	Write (B)
	Write (A)	

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

T_1	T_2
Read (*x*)	Read (*x*)
x = *x* + 1000	*x* = *x* – 1000
Write (*x*)	Write (*x*)
Read (*y*)	Read (*y*)
Read (*z*)	*y* = *y* – 2000
y = *y* + 2000	Write (*y*)
Write (*y*)	
z = *z* + 3000	
Write (*z*)	

(*c*) The following is the list of events in an interleaved execution of set T_1, T_2, T_3 and T_4 assuming 2 PL. Is there a deadlock ? If yes, which transactions are involved ?

Time	Transaction	Code
t_1	T_1	Lock (P, X)
t_2	T_2	Lock (Q, S)
t_3	T_3	Lock (P, S)
t_4	T_4	Lock (Q, S)
t_5	T_1	Lock (Q, X)
t_6	T_2	Lock (R, X)
t_7	T_3	Lock (U, S)
t_8	T_4	Lock (D, X)

(*d*) The following is the list of events in an interleaved execution of set of transaction T_1, T_2, T_3 with two phase locking protocol. Construct the wait-for-graph. Is there a deadlock ? If yes, specify which transactions are involved :

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

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

[Start-transaction, T_1]

[Read item, T_1, U]

[Write-item, T_1, U, 40]

[Commit, T_1]

[Checkpoint]

[Start-transaction T_2]

[Read-item, T_2, Q]

[Write-item, T_2, Q, 32]

[Start-transaction, T_3]

[Write-item, T_3, P, 40]

[Read-item, T_2, U]

[Write-item, T_3, U, 45] ← System crash

If deferred technique used, what will be a recovery procedure ?

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

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[5417]-302

S.Y. B.B.A. (CA) (III Semester) EXAMINATION, 2018

DATA STRUCTURE USING C (302)

(2013 PATTERN)

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

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

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

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

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

(*a*) What is Self Referencial Structure ?

(*b*) What is spanning tree ?

(*c*) What is sorting ? State the techniques of sorting.

(*d*) What are the applications of queue ?

(*e*) What is Adjacency Matrix ?

(*f*) What is Space and Time Complexity ?

(*g*) What are the advantages of linked list over an array ?

(*h*) Difference between array and structure.

(*i*) What is non-primitive data structure ?

(*j*) What is Polynomial ? How is it represented ?

P.T.O.

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

(*a*) Write a function to create Doubly Linked List.

(*b*) Explain DFS with an example.

(*c*) Explain Heap Sort technique with an example.

(*d*) Write an Algorithm to convert given infix expression to prefix expression.

(*e*) What is Queue ? Explain its types in detail.

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

(*a*) Write a function to delete last node from Singly Linked List.

(*b*) Sort the following data by using quick sort tecniques :
48, 29, 8, 59, 72, 88, 34, 47

(*c*) What is Doubly Circular Linked List ? Explain its node structure.

(*d*) Write a function to display Singly Linked List in reverse order.

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

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

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

(*b*) What is Graph ? Explain its representation techniques in detail.

(*c*) Write a function to remove First Node singly linked list and add it at the end of linked list.

(*d*) Sort the following data by using selection sort techniques :
45, 85, 96, 78, 34, 12, 49, 38, 18

(*e*) Write a function for Dynamic Implementation of stack.

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

(*a*) Define the following terms :

(*i*) Balance Factor

(*ii*) Leaf Node

(*iii*) Degree of Node

(*iv*) Cyclic Graph

(*b*) Write a function to sort given Singly Linked List.

(*c*) Explain different types of Dynamic Memory Allocation Functions.

(*d*) Explain Kruskal's algorithm for minimal spanning tree.

(*e*) Write an algorithm for evaluation of Postfix Expression.

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

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[5417]-303

B.C.A./B.B.A. (C.A.) (III Semester) EXAMINATION, 2018

303 : INTRODUCTION TO OPERATING SYSTEM

(2013 PATTERN)

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

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

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

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

(*a*) Define the term Operating System.

(*b*) What is meant by Deadlock ?

(*c*) Define the term Dispatcher.

(*d*) What is the Race condition ?

(*e*) What is meant by Waiting Time ?

(*f*) What is meant by multiprocessing system ?

(*g*) What is Context switch ?

(*h*) What is meant by Address Binding ?

(*i*) What do you mean by Seek Time in Disk Scheduling ?

(*j*) List various operations on files.

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

(*a*) List and explain services provided by operating system.

(*b*) Explain Resource Allocation Graph in detail.

P.T.O.

(*c*) What is Fragmentation ? Compare Internal and External Fragmentation.

(*d*) Write a short note on File Directories.

(*e*) Consider the following set of processes :

Processes	**CPU Burst Time (in milliseconds)**	**Arrival Time**
P1	28	3
P2	7	1
P3	9	2

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

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

(*a*) Explain Process Control Block (PCB) in detail with the help of diagram.

(*b*) What is CPU Schedular ? State the criteria of CPU scheduling.

(*c*) Describe in detail the 'Dinning Philosopher Problem' synchronization problem.

(*d*) Explain Indexed Allocation briefly.

(*e*) What do you mean by Paging ? List the advantages and disadvantages of Paging.

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

(*a*) Describe process state with suitable diagram.

(*b*) Explain medium term scheduler in detail.

(*c*) Define the terms :

(*i*) Logical Address

(*ii*) Physical Address.

(*d*) List and explain necessary conditions for Deadlock occurrence.

(*e*) Assume there are total 200 tracks present on each surface of the disk, if request queue is 57, 60, 41, 20, 92, 162, 152, 40, 186.

Initial position of head is at 99 track. Apply FCFS disk scheduling Algorithm and calculate total head movement ?

5. Attempt any *four* of the following :

(*a*) What are the differences between Preemptive and Non-preemptive Scheduling ?

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

9, 2, 3, 4, 2, 5, 2, 6, 4, 5, 2, 5, 4, 3, 4, 2, 3, 9, 2, 3

The number of frames are 4. Calculate the page faults for the following page replacement schemes :

(*i*) FIFO

(*ii*) Optimal.

(*c*) What is meant by free space management ? Define Bit vector and Grouping.

(*d*) Describe the application of I/O Interfaces in detail.

(*e*) Consider the following snapshot of system :

	Allocation	**MAX**	**Available**
	ABC	ABC	ABC
P0	010	753	332
P1	200	322	
P2	302	902	
P3	211	222	
P4	002	433	

Is the system safe ? Justify.

If yes, give safe sequence.

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

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[5417]-304

BCA (Third Semester) EXAMINATION, 2018

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 dealer purchased two machines for Rs. 22,000. He sold one of them at a gain of 5% and the other at a loss of 5%. He found that he has neither gain nor loss in the total transaction. Find C.P. of the machines.

(*b*) Three scooters were sold through an agent for Rs. 30,000, Rs. 21,000 and Rs. 15,000 respectively. The rate of commission was 15% on the first and 12% on the second. If on the whole the agent received a commission of 14%, find the commission received by him on the third scooter.

P.T.O.

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

(*a*) (*i*) $x : 2 = (x + 4) : 4$, find x.

(*ii*) $x + y : x - y = 5 : 2$, find $x : y$.

(*b*) Explain the terms :

(*i*) Direct proportion

(*ii*) Marked price.

(*c*) A television set costing Rs. 52,000 was sold for Rs. 48,400 after one year. Find the percentage loss.

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

(*a*) In an examination a student got 28% of total marks and failed as he got 80 marks less than the total required. Another student passed by securing 38% of the total marks, when he had scored 20 marks more than the required total. How many marks were required for passing ?

(*b*) What sum will amount to Rs. 6,000 in 3 years at 5% p.a. compound interest ?

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

(*a*) How long would a sum of money take to double itself at simple interest 7½% p.a.

(*b*) If x varies directly to y and y varies directly to z and $x = 12$ when $y = 10$ and $z = 15$. Find x when $z = 30$.

(*c*) What is purchase price of a perpetuity of Rs. 1,500 per year at 10% p.a.

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

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

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

(*b*) Define the following terms. Illustrate by giving example :

(*i*) Singular matrix

(*ii*) Transpose of a matrix

(*iii*) Inverse of a matrix.

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

(*a*) Solve the following system of linear equations using matrix method :

$$3x - y = 3$$

$$2x - 3y = -5$$

(*b*) Find matrix X if :

$$\begin{bmatrix} 2 & -2 \\ 1 & 4 \end{bmatrix} + 2X = \begin{bmatrix} 1 & -3 \\ 2 & 1 \end{bmatrix}.$$

(*c*) If

$$A = \begin{bmatrix} 1 & -1 \\ 2 & 6 \end{bmatrix}$$

find $|A - 2I|$.

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

(*a*) Solve the following LPP graphically :

Minimize $Z = 2x_1 + 4x_2$

Subject to $6x_1 + x_2 \geq 18$

$x_1 + 4x_2 \geq 12$

$x_1 + 2x_2 \geq 10$

$x_1, x_2 \geq 0$

(*b*) A manufacturing company produces two types of batteries of low volt and medium volt. A low volt battery requires one hour processing time on machine and two hours of labour time. A medium volt battery requires 2 hours of processing time on machine and 1.5 hours of labour time. In a week, processing machine is available for 70 hours and available labour time is 60 hours. The profit due to each of the low volt battery is Rs. 60 whereas due to medium volt battery is Rs. 75. Formulate the problem as LPP.

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

(*a*) Explain the following terms :

(*i*) Feasible solution

(*ii*) Scalar matrix

(*iii*) Simple interest.

(*b*) The difference between the simple and compound interest at 15% p.a. on Rs. 1,000, for 3 years.

(*c*) A student finishes a book by reading 30 pages per day in 16 days. If he wants to finish the book in 12 days, how many pages should be read everyday ?

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

(*a*) Obtain the initial basic feasible solution using VAM for the following transportation problem :

		Stores				**Supply**
		S_1	**S_2**	**S_3**	**S_4**	
Warehouses	**W_1**	50	150	70	60	50
	W_2	80	70	90	10	60
	W_3	15	90	80	80	40
	Demand	20	70	50	10	150

(*b*) Find value of x if :

$$\begin{vmatrix} 2+x & 3+x & 4+x \\ 1 & 2 & -1 \\ 2 & 1 & 3 \end{vmatrix} = 0 .$$

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

(*a*) Using North-West corner rule, determine an initial basic feasible solution to the following transportation problem :

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

(*b*) Obtain the initial basic feasible solution to the following transportation problem using matrix minima method :

	To				**Supply**
From	3	4	9	2	23
	6	5	8	8	27
Demand	12	13	15	10	50

(*c*) By selling a plot through an agent, the owner received Rs. 7,12,500 net. If the agent charged commission at 5%, what was the cost of the land ?

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

Seat No.	

[5417]-305

S.Y.B.C.A. (III Semester) EXAMINATION, 2018

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 Interface concept of system with example.

(*b*) What are the different types of Interviewing ?

(*c*) What is System Design ?

(*d*) Justify software does not wear out.

(*e*) State limitations of SDLC.

(*f*) Define an entity.

(*g*) Define Stamp Coupling.

(*h*) What is integration testing ?

(*i*) State the advantages of spiral model.

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

(*a*) Explain the types of formal information system.

(*b*) Explain fact finding technique in detail.

(*c*) Discuss Software Qualities Factors (McCall's Quality Factors).

(*d*) Explain Waterfall Model in detail.

(*e*) Define module. Explain types of modules.

(*f*) Explain testing principles and objectives.

P.T.O.

3. (*a*) Design an I/P Screen Layout form to maintain 'order detail information'. [8]

(*b*) Material is issued to the department by considering whether the Material Requisition Note (MRN) is signed or not. It contains valid items or not and it is given within 8 Hours or not. Draw Decision Tree and Decision Tabel for the above case. [8]

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

(*a*) Expert System

(*b*) Requirement Anticipation

(*c*) RAD Model

(*d*) Quality of a Good Design

(*e*) Black Box Testing

5. **Case Study :** [16]

Consider a system for swimming tank management. Applicant fill the admission form containing details like address, date of birth, age, father's/gardian's name and also submit two photographs, medical certificate and fees. Then swimming tank management issues I-card to the applicant.

(*a*) Identify all Entities

(*b*) Draw Context Level diagrams

(*c*) First Level DFD for the system.

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

Seat No.	

[5417]-401

B.B.A. (C.A.)/B.C.A. (IV Semester) EXAMINATION, 2018

(401) 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 encapsulation ?

(*b*) What is void pointer ?

(*c*) Define the following terms :

(*i*) Identifier

(*ii*) Constant.

(*d*) What is function prototype ?

(*e*) Define destructor.

(*f*) What is polymorphism ?

(*g*) What is virtual function ?

(*h*) Write uses of get( ) and put( ).

(*i*) Define the following :

(1) tellg( )

(2) tellp( )

P.T.O.

(*j*) Define :

(1) class template

(2) function template.

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

(*a*) Differentiate between object oriented programming and procedure oriented programming.

(*b*) Write a note on memory management operators in C++.

(*c*) What is inheritance ? Explain its *three* types.

(*d*) Write a C++ program to find maximum and minimum of two integers and two float numbers by using function template.

(*e*) Write a program to append contents of one file to another file.

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

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

(*b*) What is inline function ? Write difference between macro and inline function.

(*c*) Write a program to overload unary operator ! (NOT).

(*d*) Write a C++ program to find reverse of a number using friend function.

(*e*) Write a program which will implement the concept of virtual base class.

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

(*a*) Explain rules for overloading operators.

(*b*) Explain parametrized constructor with a suitable example.

(*c*) Explain functions for error handing during file operation.

(*d*) Write a program to calculate area and circumference of a circle using inline function.

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

```
#include <iostream.h>
class Base1 {
   public :
      ~ Base1 ( )
      {
         cout << "Base1's destructor" << endl;
      }
   };
   class Base2 {
   public :
      ~ Base2 ( )
      {
         cout << "Base 2's destructor" << endl;
      }
   };
class Derived : public Base1, Public Base2
```

```
{
    public :
        ~ Derived ( )
        {
            cout << "Derived's destructor" << endl;
        }
    };
int main ( )
    {
    Derived d;
    return 0;
    }
```

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

(*a*) What is static data member ? Explain its characteristics.

(*b*) Explain scope resolution operator with an example.

(*c*) What is implicit and explicit type conversion ?

(*d*) Write a program which accepts *n* no. of student details like rollno, name, address, percentage. Write a function which sort students according to percentage. Display students data before and after sorting.

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

```
void position (int & C1, int C2 = 3)
```

```
{
    c1+ = 2;
    c2+ = 1;
}
int main ( )
{
    int P1 = 20, P2 = 4;
    Position (P1);
    Cout << P1 << "," << P2 << endl;
    Position (P2, P1);
    Cout << P1 << "," << P2 << endl;
}
```

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

Seat No.	

[5417]-402

S.Y. B.B.A. (C.A.) (IV Semester) EXAMINATION, 2018

402 : 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 wherever necessary.

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

(*a*) Property to set timer control.

(*b*) Property to place picture on command button.

(*c*) Property used to type multiline text in textbox.

(*d*) Property used to create a Horizontal Scroll Bar.

(*e*) Property used to draw square from the shape control.

(*f*) Property used to set value of check box.

(*g*) Property to count number of items in the listbox control.

(*h*) Property used to hide a control at runtime.

(*i*) Property used to set special password character to TextBook.

(*j*) Property used to apply bold and italic effect on selected text of rich textbox.

P.T.O.

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

(*a*) Explain any *four* string functions with suitable example.

(*b*) Explain data types in Visual Basic.

(*c*) Explain while … wend statement with suitable example.

(*d*) Explain Integrated Development Environment (IDE).

(*e*) Differentiate between MSGBOX and Input BOX.

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

(*a*) Write a VB program to check whether a given number is Armstrong number or not.

(*b*) Write a VB program for Addition of two matrices.

(*c*) Write a VB program to check whether a year is leap year or not.

(*d*) Write a VB program to calculate Compound Interest and result on the Message Box.

(*e*) Write a VB program to calculate Reverse of a given number using user defined function.

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

(*a*) Explain ADODC ? Write the advantages of ADODC over Data control.

(*b*) Define Function. Explain date, time, function and numeric function in detail.

(*c*) Write a program in VB to accept product details from the user and store details in the DataBase and display Amount (Don't User Standard Control) Product having fields Item No, Item Name, Rate, Quantity.

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

(*a*) Menu

(*b*) Frame Control

(*c*) Message Box

(*d*) Common Dialog Box

(*e*) MDI.

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

Seat No.	

[5417]-403

B.C.A. (IV Semester) EXAMINATION, 2018

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*) Define Network Topology. List different types of Topologies. Explain any *one* in detail.

(*b*) Explain functions of each layer ISO-OSI reference model.

(*c*) Explain different components of LAN.

(*d*) What is NIC ? List types of NIC and explain any *one* in detail.

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

(*a*) Explain Firewall and its security features.

(*b*) Explain Optic Fiber Cable in detail.

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

(*d*) Explain different types of addresses.

P.T.O.

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

(*a*) Explain server based and peer to peer LAN's.

(*b*) Explain TCP/IP protocol in detail.

(*c*) What is bridge ? What are its types ? Explain any *one* in detail.

(*d*) What are different modes of communication ? Explain any *one*.

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

(*a*) Explain WWW architecture.

(*b*) Explain bluetooth in detail.

(*c*) What are different propagation methods ? Explain any *one*.

(*d*) Write a note on protocols and standards.

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

(*a*) Guided Media

(*b*) Search Engines

(*c*) SAP

(*d*) MAC sublayer with its frame format

(*e*) Intranet and Extranet.

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

Seat No.	

[5417]-404

S.Y. B.B.A. (C.A.) (IV Semester) EXAMINATION, 2018

ENTERPRISE RESOURCE PLANNING AND MANAGEMENT (404)

(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*) List the role of Enterprise.

(*b*) Define SCM.

(*c*) Define BPR.

(*d*) List the SAP tools.

(*e*) What is E-commerce ?

(*f*) What is Data Mining ?

(*g*) Define ALE Integration.

(*h*) Define IDOC Application.

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

(*a*) Explain the components of ERP Client/Server Architecture.

(*b*) Explain the future of ERP.

(*c*) Explain principles of Enterprise Redesign.

(*d*) What is Data Mining ? Explain the process of Data Mining.

(*e*) Define EDI and explain EDI Integration.

P.T.O.

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

(*a*) What is EIA ? Explain the messaging in EIA.

(*b*) Explain SAP R/3 system in detail.

(*c*) Explain the concept of hidden cost in ERP.

(*d*) Explain ALE Integration in detail.

(*e*) Explain Data Warehouse along with its architecture.

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

(*a*) Explain Stevan's model in detail.

(*b*) Discuss evolution of EDI.

(*c*) Explain various obstacles in ERP implementation.

(*d*) Define BPR. Explain the role of BPR in ERP.

(*e*) Explain the process of establishing Vendor-Enterprise Link.

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

(*a*) Jd Edwards

(*b*) EIA Products

(*c*) ERP *Vs* SCM

(*d*) OLAP

(*e*) Business Modeling.

Total No. of Questions—**6**] [Total No. of Printed Pages—**2**

Seat No.	

[5417]-405

B.B.A. (C.A.)/B.C.A. (Sem. IV) EXAMINATION, 2018

HUMAN RESOURCE MANAGEMENT

(2013 PATTERN)

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

N.B. **:—** (*i*) Question No. **6** is compulsory.

(*ii*) Attempt any *four* questions from the remaining.

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

(*iv*) Draw Figures/Charts wherever necessary.

1. Define the term HRM. Explain in detail the importance of HRM. [15]

2. What is Training ? Explain the methods of Training. [15]

3. Explain the merits and demerits of Time Rate and Piece Rate System of Wage Payments. [15]

4. What is 'Discipline' ? Explain the objectives of discipline. [15]

5. Explain the concepts E-Recruitment and E-Selection. [15]

P.T.O.

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

(*a*) Challenges before HRM

(*b*) Process of performance appraisal

(*c*) Transfer Policy

(*d*) Nature of Grievance

(*e*) E-learning

(*f*) Concept of Personnel Management.

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

Seat No.	

[5417]-501

B.C.A./B.B.A. (C.A.) (V Semester) EXAMINATION, 2018

501 : JAVA PROGRAMMING

(2013 PATTERN)

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

N.B. **:—** (*i*) *All* questions are compulsory and carry equal marks.

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

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

1. Attempt any *eight* : [8×2=16]

(*a*) Describe any *two* features of Java programming language.

(*b*) List the *three* different uses of final keyword.

(*c*) Can interface be final ? Justify.

(*d*) What are differences between String and StringBuffer class ?

(*e*) Write any *two* advantages of inner class.

(*f*) How to print "Welcome" message before main method ?

(*g*) Can we use super( ) and this( ) within same constructor ?

(*h*) Give syntax of *two* methods used with InputStream class.

(*i*) "Import statement is not essential in java." True/False. Justify.

(*j*) What is autoboxing and unboxing of primitive types.

P.T.O.

2. Attempt any *four* : [4×4=16]

(*a*) Define an abstract class Hospital with protected member id & name. Define a parameterized constructor. Define one subclass Doctor with member department. Create *n* objects of Doctor class and display all details.

(*b*) Explain the need of Garbage collection of Java.

(*c*) Explain Array in Java. How does it differ from C++ ?

(*d*) Write a note on Event Handling.

(*e*) Write a Java program to accept '*n*' numbers through command line and store all prime numbers into an array and display elements of array.

3. Attempt any *four* : [4×4=16]

(*a*) Explain ArrayList class in Collection Framework.

(*b*) Write a Java Program that displays the number of non-vowels in the given word.

(*c*) Explain how multiple inheritance is achieved in Java.

(*d*) Write a Java program to read the content of Imp.text. Display the content of file in encoded format. (Use Command Line Argument)

(*e*) Write a note on package in Java.

4. Attempt any *four* : [4×4=16]

(*a*) What is Layout Manager ? Explain any *one* in detail.

(*b*) Explain the following keywords :

(*i*) Final

(*ii*) Finally

(*iii*) Finalized.

(*c*) Write a Java program to accept string from user, if its length is less than 7, then throw user defined exception "Invalid String" otherwise display the string in upper case.

(*d*) What is Adapter class ? Explain its purpose.

(*e*) Create a package vehicle which will have two classes.—Two-wheeler and four-wheeler. Two-wheeler with method display (cc, price), four-wheeler with method display (reg-no, reg-year).

5. Attempt any *four* : [4×4=16]

(*a*) What is Interface ? Explain it with example.

(*b*) Explain each term in public static void main (string args [ ]).

(*c*) Define an Interface shape with abstract method area( ). Write a Java program to calculate an area of Circle and Rectangle (Use final keyword).

(*d*) Write a Java program to display "Hello World" with settings font—Times New Roman, Color–Blue, Background Color–Red on the frame.

(*e*) What is AWT ? How to add any component on frame using AWT ?

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

Seat No.	

[5417]-502

B.B.A. (C.A.) (V Semester) EXAMINATION, 2018

502 : WEB TECHNOLOGY

(2013 PATTERN)

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

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

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

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

(*a*) Define FTP.

(*b*) List HTML form elements.

(*c*) Give any *two* types of array in javascript.

(*d*) Explain global and local variables.

(*e*) Define associative arrays.

(*f*) List tags with example.

(*g*) List any *four* iterator function in array.

(*h*) Define $-GET and $-POST variables.

(*i*) What is the use of echo() function ?

(*j*) State the purpose of array-flip function.

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

(*a*) Which are the various types of strings in PHP ? Explain with example.

P.T.O.

(*b*) Explain Architecture of DOM.

(*c*) Explain array-keys() and array-values in PHP.

(*d*) Explain Internet.

(*e*) Explain characteristics of PHP.

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

(*a*) Explain HTML table tags with example.

(*b*) Explain string methods in javascript.

(*c*) Write a PHP script to change background color of the browser using switch statement.

(*d*) Write a javascript program to display sum of digit of a given number.

(*e*) Design a HTML page to accept string and write a PHP function to count the total number of vowels from the string.

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

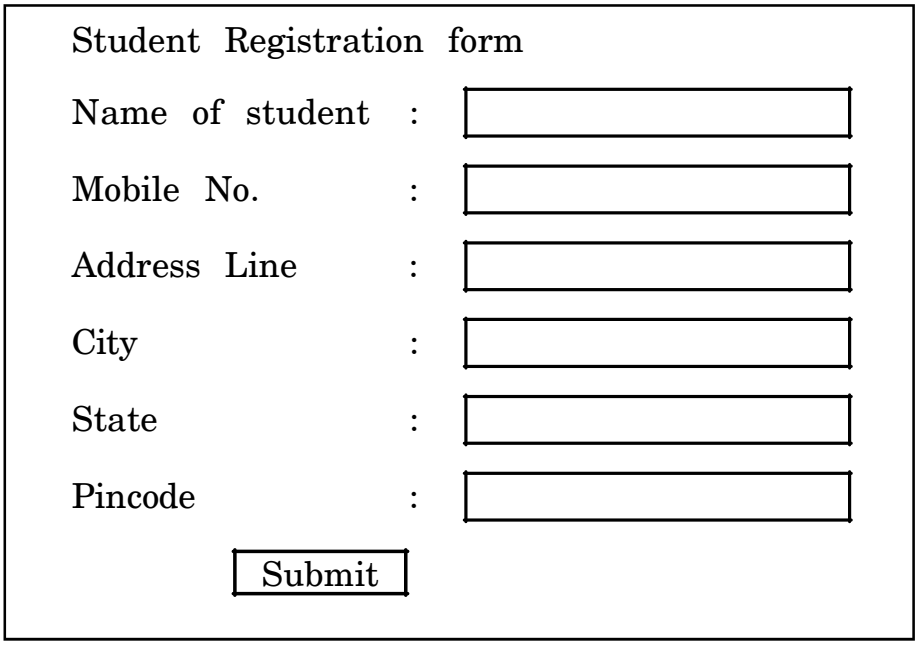
(*a*) Explain frameset tags with example.

(*b*) Explain types of CSS with example.

(*c*) Design HTML page to accept a number and write a PHP script to display that number in words *e.g.* 123 - one two three.

(*d*) Write a javascript program to check whether a given number is perfect number or not.

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



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

(*a*) Write a short note on a HTTP.

(*b*) Write a short note on Padding an Array.

(*c*) Image mapping with example.

(*d*) Explain array-walk(), array-reverse() functions.

(*e*) Explain any *two* control structures in PHP.

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

Seat No.	

[5417]-503

T.Y. B.C.A./T.Y. B.B.A. (CA) (V Semester) EXAMINATION, 2018

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.

(*iv*) Design proper GUI.

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

(*a*) What is Data Adapter ?

(*b*) Write a code to add 5 items in List Box Control.

(*c*) Enlist any *two* methods of command objects.

(*d*) What is CTS ?

(*e*) Define CLR and enlist any *two* services provided by CLR.

(*f*) What is difference between Read() and Readkey() ?

(*g*) What is the use of Val() function.

(*h*) Write any *two* properties of Data Grid.

(*i*) Define IDE.

(*j*) How to declare constant ?

P.T.O.

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

(1) Explain any *two* control structure with example.

(2) Explain interface with example.

(3) Write a VB.Net program to add two TextBoxes, two labels and one Button. Accept two numbers in TextBoxes and handle DivideByZeroException.

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

- Add 5 numbers in ListBox1 using Input-Box.
- Transfer perfect numbers from ListBox1 to ListBox2.

(5) Design GUI and write code for the following :

- Create car table (cname, price, modelname)
- Insert the records (max : 5)
- Delete the records of cars whose modelname is 'aulto'
- Display appropriate message in MessageBox

(Use MS-Access to createdb)

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

(1) Explain function overloading and function overriding with example.

(2) Explain Exception handling with example.

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

- Accept a character into TextBox
- Check whether that character is vowel or not
- Display appropriate message in MessageBox

(4) Design GUI and write a code in VB.Net using Rich TextBox :

(1) Bold

(2) Italic

(3) Exit

(5) Define Assembly and explain types of assembly.

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

(1) Explain classes of connected architecture of ADO.net in detail.

(2) Explain the architecture of Dot Net Framework in detail.

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

- Accept two strings in two TextBoxes.
- Display concatenation of those strings into third TextBox.

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

- Accept number into TextBox.
- Display square root of a given number into MessageBox.

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

- Accept the details of employee (empid, ename, salary)
- Store the details into database
- Display those records in gridview

(Use SQL-Server to createdb)

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

(1) Data Types

(2) Crystal Report

(3) Constructor

(4) MessageBox( )

(5) Keyboard and Mouse events in VB.net

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

Seat No.	

[5417]-504

T.Y. B.C.A. (V Semester) EXAMINATION, 2018

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*) Define association.

(*b*) What is Object Oriented Analysis ?

(*c*) Define Tagged values.

(*d*) What is Recursive Message ?

(*e*) What is Inception ?

(*f*) What is meant by Object Oriented Design ?

(*g*) Define Branching.

(*h*) What is Interface ?

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

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

(*a*) How to identify the element of an object model.

(*b*) Explain visibility modes along with well labelled diagrams.

P.T.O.

(*c*) Draw component diagram for online shopping.

(*d*) Describe UP phases with the help of diagrams.

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

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

(*a*) Define UML. Explain various features of UML.

(*b*) Define Relationship. Explain different kinds of relationship.

(*c*) What is Deployment diagram ? State any *four* notations of deployment diagram.

(*d*) Explain Understanding Requirement of Object Oriented Analysis.

(*e*) Discuss object oriented design process.

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

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

(*b*) Explain the concept of Aggregation with an example.

(*c*) Explain which diagrams are called as an Interaction diagram and explain these diagrams are used to model which aspect of system.

(*d*) What is meant by Object Oriented Analysis ?

(*e*) Explain System Design Process.

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

Construct a design element for point of the sale terminal management system that can be used for buying and selling of goods in the retail shop.

When the customer arrives at the post check point with the items to purchase, the cashier records each item price and add the item information to the running sales transaction. The description and price of the current items are displayed. On completion of the item entry the cashier informs the sales totals and tax to the customer. The customer chooses payment type (cash, cheque, credit/debit). After the payment is made the system generates a receipt and automatically updates the inventory, the cashier handovers the receipt to the customer. Consider above situation, draw the following UML diagrams :

(*a*) Use case diagram

(*b*) Activity diagram

(*c*) Class diagram

(*d*) Sequence diagram

(*e*) Collaboration diagram.

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

Seat No.	

[5417]-601

B.B.A. (C.A.) (VI Semester) EXAMINATION, 2018

601 : ADVANCED WEB TECHNOLOGIES

(2013 PATTERN)

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

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

(*ii*) Figures are required wherever necessary.

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

(*a*) Which *two* functions are used for serialization ?

(*b*) What is session-register() function ?

(*c*) Which are the databases supported by PHP ?

(*d*) What is the Simple XML Extension ?

(*e*) Enlist the types of web services.

(*f*) Different way to display output in JavaScript.

(*g*) What is SOAP ?

(*h*) Enlist the method of DOM parser.

(*i*) Enlist the elements of $-FILE array.

(*j*) Give any *two* applications of AJAX.

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

(*a*) Define interface with the help of example.

P.T.O.

(*b*) Explain how HTTP actually works.

(*c*) Explain the following MYSQL functions with the help of example :

(*i*) mysql – open()

(*ii*) mysql – select_db()

(*iii*) mysql – query()

(*iv*) mysql – close()

(*d*) Write a PHP program to accept two strings from user and check whether entered strings are matching or not. (Use sticky form concept)

(*e*) Write a PHP script to accept username and password. If in the first three chances, username and password entered is correct, then display second form, otherwise display error message.

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

(*a*) Explain simpleXML extension with the help of an example.

(*b*) Explain alert(), prompt() and confirm() function with example.

(*c*) Write a simple PHP program which implements Ajax for addition of two numbers.

(*d*) Write a PHP program to create a simple calculator that can accept two numbers and perform operations like add, substract, multiplication and divide (using self processing form).

(*e*) Write a script to create XML file named

"Course.xml"

<course>

<computer science>

<student name> ..... <|student name>

<class name> ..... <|class name>

<percentage> ..... <|percentage>

<|computer science>

<|course>

Store the details of 3 students who are in TYBCA.

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

(*a*) Give an example of PHP and Ajax application for searching.

(*b*) What is SOAP ? Explain different elements of SOAP.

(*c*) Explain how to link CSS to XML.

(*d*) Create employee table as follows :

BUS (bno, bname, source, designation)

Write Ajax program to select the bus name and print the selected bus details.

(*e*) Consider the following relational database :

Project (p_group_No, Project_Title)

Student (seatno, Name, Class, P_group_No)

Write a PHP script to accept project title and display list of students those who are working in particular project.

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

(*a*) Introspection

(*b*) XML parser

(*c*) Constructor

(*d*) XML document structure

(*e*) WSDL.

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

Seat No.	

[5417]-602

B.B.A. (C.A.) (VI Semester) EXAMINATION, 2018

602 : ADVANCED 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]

(*a*) What is difference between sleep() and interrupt() method ?

(*b*) What is ThreadGroup class ?

(*c*) What are the different types of servlet ?

(*d*) What is jdbc-api ?

(*e*) What is use accept() method ?

(*f*) What is introspection ?

(*g*) What is ServletConfig ?

(*h*) Which type of Exception will be thrown by forName() method ?

(*i*) What is use of getLocalHost()method ?

(*j*) What is use of DriverManager class ?

P.T.O.

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

(*a*) Explain life cycle of servlet.

(*b*) What is jar file ? How is it created ?

(*c*) Explain Synchronization with an example.

(*d*) Write a java program to update the salary of given employee and display updated details. Assume emp (eno, ename, sal) table is already created.

(*e*) Write a socket program to display date and time of server's machine on client machine.

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

(*a*) Explain the components of JSP.

(*b*) Write a java program for bouncing ball.

(*c*) Differentiate between Statement and PreparedStatement.

(*d*) Explain architecture of RMI.

(*e*) Write a java program to display all the alphabets from 'A' to 'Z' after every 3 seconds.

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

(*a*) Explain life cycle of Thread.

(*b*) Write a JSP program to display all the prime numbers between 1 to *n* in red color.

(*c*) What is bean ? Explain its advantages in brief.

(*d*) Explain JDBC process in detail.

(*e*) Write a java program for drawing flag.

5. Attempt the following : [2×8=16]

(*a*) Write a socket program for standalone chatting application. Assume Client and Server are on different machines.

Or

Write a java program to accept file name from a user, check it is available on server machine or not, if it is available then display its contents on client machine otherwise display the message "File Not Found". Assume Client and server are on different machines.

(*b*) Write servlet program to display the details of employee on browser in tabular format. Assume emp(eno, ename, sal, designation) table is already created.

Or

Write a servlet program to accept the details of student (rno, sname, per, class) and store it into the database. (Use Prepared Statement Interface).

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

Seat No.	

[5417]-603

T.Y. B.B.A. (CA)/T.Y. B.C.A. (VI Semester) EXAMINATION, 2018

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 (any *eight*) : [8×2=16]

(*a*) Define the term Metric.

(*b*) Explain the terms :

(*i*) Server

(*ii*) Client.

(*c*) Define Datawarehouse.

(*d*) Define the term plain text.

(*e*) Explain cloud computing.

(*f*) List out the methods of performing Database Replication.

(*g*) What is software prototyping ?

(*h*) What is Data cube ?

(*i*) What is Public key ?

(*j*) Define the term mobile computing.

P.T.O.

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

(*a*) Explain Software Measurement in Software Process.

(*b*) Explain Client/Server Architecture in brief.

(*c*) Explain Multidimensional Data Model.

(*d*) Define Cryptography. Explain Digital signature in brief.

(*e*) Describe cloud computing models in detail.

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

(*a*) What is green computing ? Explain needs of green computing.

(*b*) Which are the properties of Message Digest ?

(*c*) Define Data Mining. Explain functionalities of Data Mining.

(*d*) Explain types of fragmentation in distributed database.

(*e*) Differentiate between Formal communication and Informal communication.

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

(*a*) Explain Data Integration and Transformation.

(*b*) What are the other public key algorithms ?

(*c*) What is soft computing ? Describe characteristics of soft computing.

(*d*) Explain Abstract Data types.

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

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

(*a*) Explain Data Cube Techonology in detail.

(*b*) Define the terms :

(*i*) Active Attack

(*ii*) Passive Attack.

(*c*) Write a short note on One Time Pad.

(*d*) Distinguish between Soft Computing and Hard Computing.

(*e*) Explain applications of Datawarehouse.

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

Seat No.	

[5417]-604

B.C.A. (VI Semester) EXAMINATION, 2018

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]

(1) Explain the term performance testing.

(2) Define Measure in S/w Metrics.

(3) What is Debugging ?

(4) State the need of automation.

(5) What is test plain ?

(6) Explain sandwich approach.

(7) What are **3** formulae for calculating cyclomatic complexity ?

(8) Give examples of Regression testing.

(9) What is software testing ?

(10) Define Big Bang Approach.

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

(1) Explain all testing principles in detail.

(2) Explain difference between verification and validation.

P.T.O.

(3) Explain Apache jmeter tool.

(4) Explain Boundary value analysis.

(5) Explain testing cycle with diagram.

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

(1) Explain Testing-Fundamentals in detail.

(2) State and explain difference between load and stree testing.

(3) Explain the testing for real-time system in detail.

(4) Explain qualities of good test case design.

(5) Explain V-V Model of testing in detail.

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

(1) Explain difference between Alpha and Beta-testing.

(2) Explain To-down approach of integration testing with diagram.

(3) Explain objective and types of GUI.

(4) Explain Acceptance testing in detail.

(5) Explain equivalence class partitioning with example.

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

(1) Agile testing

(2) Rational Robot

(3) Load-Runner

(4) Gray-box testing

(5) System testing.