

Total No. of Questions : 3]

SEAT No. :

**P2121**

[Total No. of Pages : 2

[5803]-101

**First Year B.B.A. (Computer Application)**  
**CA-101 : BUSINESS COMMUNICATION SKILLS**  
**(2019 CBCS Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1) A) Fill in the blanks (Attempt any five out of Six):**

**[5]**

- a) The term “communis” derived from\_\_\_\_\_word.
  - i) Greek
  - ii) Latin
  - iii) Chinese
  - iv) English
- b) Communication means \_\_\_\_\_ information, feeling and thoughts, with others.
  - i) To receive
  - ii) Exchange of
  - iii) Conveying
  - iv) All of the above
- c) \_\_\_\_\_ should not be included in the physical appearance of the Business letter.
  - i) Margin
  - ii) Date
  - iii) Folding
  - iv) Typing
- d) The purpose of interview is to assess the\_\_\_\_\_.
  - i) Candidate
  - ii) External personality.
  - iii) Background
  - iv) Status
- e) Video conferencing makes it easier to access expert in\_\_\_\_\_.
  - i) Medical Environment
  - ii) Medical storage
  - iii) Medical stock
  - iv) Relevant
- f) Voicemail is also known as\_\_\_\_\_.
  - i) Voice male
  - ii) Voice bank
  - iii) Voice tank
  - iv) Voice communication

**P.T.O.**

- B) Match the following: [5]
- |                           |                                                |
|---------------------------|------------------------------------------------|
| 1) External Communication | a) Direct Communication                        |
| 2) Presentation requires  | b) Official communication                      |
| 3) Memo                   | c) Inward or outward communication             |
| 4) Gesture                | d) The media through which message is conveyed |
| 5) Channel                | e) Right attitude                              |
- C) True or False (Attempt any four out of five) [4]
- Grapevine communication is associated with Horizontal communication.
  - Voice mail is a computer based system.
  - Orders and directives are the example of downward communication.
  - Warren Buffet invented the WhatsApp.
  - When business letter is written in brief it is said that it has followed the principle of consciousness.

**Q2) Short Answer (Attempt any three out of four) [3×8=24]**

- Explain in detail the Need for effective communication.
- Write is Non-Verbal communication. State importance & Merits Non-Verbal communication.
- Explain Need of Business correspondence in detail.
- Write short note on tele conferencing with merits and demerits.

**Q3) Long answer (Attempt any two out of four) [2×16=32]**

- Define communication. Explain barriers of communication and suggest the remedies to overcome the barriers.
- What is Oral communication? Differentiate between oral and written communication.
- Explain written communication? Explain types of written communication in detail with their merits.
- State and explain different media of communication in detail.



Total No. of Questions : 3]

SEAT No. :

**P2122**

[Total No. of Pages : 2

[5803]-102

**First Year B.B.A.**

**CA-102 : PRINCIPLES OF MANAGEMENT**

**(CBCS 2019 Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1) a) Fill in the blanks (any 5).**

**[5 × 1 = 5]**

- i) \_\_\_\_\_ is concerned with study of movement of workers, Parts, materials and eliminates unnecessary movements.
- ii) \_\_\_\_\_ refers to centralised control in decentralised structure
- iii) \_\_\_\_\_ referes to issuing orders & instructions to subordinates
- iv) The achievement motivation theory was given by \_\_\_\_\_
- v) \_\_\_\_\_ means diffusion of Authority
- vi) \_\_\_\_\_ is a sequence of suddenly disturbing events which have negative impact on organisation.

**b) Match the following.**

**[5×1=5]**

**A**

**B**

- |                             |                               |
|-----------------------------|-------------------------------|
| i) Change                   | a) Hierachy of needs          |
| ii) Evolution of management | b) Art of getting things done |
| iii) Motivation             | c) results from stimuli       |
| iv) Planning                | d) Schools of thought         |
| v) Management               | e) countinuous in Nature      |

***P.T.O.***

- c) State True or False. [4×1=4]
- i) Problem solving teams are temporary in nature.
  - ii) The third function of management is directing.
  - iii) Scientific management is based on the principles of direction.
  - iv) Forecasting is subset of planning.
  - v) Simulation refers to how a company with limited resources make optimum use of resources.

**Q2)** Answer any 3. [3×8=24]

- a) Explain principles of direction.
- b) Elaborate on role of managers in management.
- c) What are the various causes of Workstress?
- d) Explain relation between planning and decision making.

**Q3)** Answer any 2. [2×16=32]

- a) Explain & define forecasting. Explain techniques of forecasting with diagram.
- b) Explain 14 principles of management by Henry Fayol.
- c) What is management? Explain various functions of management.



Total No. of Questions : 5]

SEAT No. :

**P2123**

[Total No. of Pages : 2

[5803]-103

**First Year B.B.A. (C.A.)**

**CA-103 : C LANGUAGE**

**(CBCS 2019 Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Figures to the right indicate full marks.*
- 3) *Questions : Total Number of Questions are : 5*

**Q1)** Attempt any Eight of the following (Out of Ten)

**[8×2=16]**

- a) Define identifier.
- b) Explain continue statement.
- c) Define for loop.
- d) What is C character set?
- e) Define Associativity.
- f) Define if-else statement?
- g) Define printf()
- h) What do you mean by static variable?
- i) Define pointer in C.
- j) Give the syntax of malloc()

**Q2)** Attempt any four of the following (Out of Five)

**[4×4=16]**

- a) Differentiate between entry control and exit control loop.
- b) Define structure. Give suitable example.
- c) What is a 1-D Array? How to represent 1 D array in memory.
- d) Write an algorithm and draw flow chart to find minimum of two numbers.
- e) Write a program to find the sum of digits of a number using function.

**Q3)** Attempt any Four of the following (Out of Five).

**[4×4=16]**

- a) Define operator. List and explain any four categories of operators in C.
- b) What is string? Explain any four functions of string.
- c) Explain call by value and call by reference with example.
- d) Write a program to find the given number is armstrong or not.
- e) Write a C program to add two matrices.

**P.T.O.**

**Q4)** Attempt any Four of the following (Out of Five)

**[4×4=16]**

- a) What is function? Explain types of function.
- b) What is storage class? Explain types of storage classes.
- c) Explain switch statement with example.
- d) Write a program to print Fibonacci series up to n numbers.
- e) Trace the output

```
i) int main()
    {
        char str 1[]="Hello";
        chr str2[]="Hello";
        if(str1==str2)
            printf("string are equal");
        else
            printf("string are not equal");
        getch();
    }
```

```
ii) int main()
    {
        float a[]={12.4,2.3,5.6,7.8};
        printf("%d',sizeof(a)/sizeof(a[0]));
        getch();
    }
```

**Q5)** Write a short note on any two of the following (Out of Three)

**[2×3=6]**

- a) strcat()
- b) *Data type*
- c) break statement



Total No. of Questions : 5]

SEAT No. :

**P2124**

[Total No. of Pages : 4

[5803]-104

**First Year B.B.A. (CA)**

**CA-104 : DATABASE MANAGEMENT SYSTEM**

**(CBCS 2019 Pattern) (Semester -I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following:

**[16]**

- a) Enlist four basic file operations.
- b) Define Data and Information.
- c) Define the term Cardinality.
- d) Explain the use of COUNT () with example.
- e) What is Insertion Anomaly?
- f) Write two categories of Data Models.
- g) Explain character data type of SQL.
- h) Define Candidate key.
- i) Write two advantages of Sequential file organization.
- j) Define Functional Dependency.

**Q2)** Attempt any Four of the following:

**[16]**

- a) Explain sequential file organization.
- b) Write a note on Data Dictionary
- c) Explain object oriented model.
- d) Explain aggregate function in SQL with example.
- e) List various DDL command. Explain any one with example.

*P.T.O.*

**Q3)** Attempt any Four of the following:

**[16]**

a) Consider the following Entities and Relationships & solve the queries:

**Department** (dept\_no, dept\_name, location)

**Employee** (emp\_no, emp\_name, address, salary, designation)

Relation between Department and Employee is **One to Many**

**Constraint:** Primary key, salary should be > 0

- Find total salary of all computer department employees.
- Find the name of department whose salary is above 10000.

b) Consider the following Entities and Relationships & solve the queries:

**Book** (Book\_no, title, author, price, year\_published)

**Customer** (cid, cname, addr)

Relation between Book and Customer is **Many to Many**.

**Constraint:** Primary key, price should be >0.

- Display author wise details of book.
- Display customer name that has purchased more than 3 books.

c) Consider the following Entities and Relationships & solve the queries:

**Musician** (mno, mname, addr, phno)

**Album** (title, copy\_right\_date, format)

Relation between Musicians and Album is **One to Many**.

**Constraint:** Primary key.

- Display all albums composed by 'A R Rehman'.
- Display musician details who have composed Audio album.

d) Consider the following Entities and Relationships & solve the queries:

**Sailor** (sid, sname, age)

**Boats** (bid, bname, color)

Relation between Sailer and Boats is **Many to Many**



**Constraint:** Primary key, age should be  $> 0$ .

- Display details of all boats sailed by sailor 'Ram'.
- Display Sailor names working on blue boat.

e) Consider the following Entities and Relationships & solve the queries:

**Account** (ano, branchname, balance)

**Customer** (cust\_no, cust name, street, city)

Relation between Account and Customer is **Many to Many**.

**Constraint:** Primary key, balance should be  $> 500$ .

- Display customer details with balance between 100000 and 200000.
- Display customers having more than two accounts in Chinchwad branch.

**Q4)** Attempt any Four of the following:

**[16]**

- Explain dense index and sparse index.
- Explain with example the Degree of Relationship Set
- Explain the following aggregate functions:
  - SUM()
  - MIN()
- Consider the following Entities and Relationships & solve the queries:

**Property** (pno, desc, area, rate)

**Owner** (owner\_name, addr, phno)

Relation between owner and Property is **One to Many**.

- Display property owned by Mr.Patil'.
- Display all properties with owner name that located in Chinchwad area.

e) Consider the following Entities and Relationships & solve the queries:

**Branch** (bname, bcity, assets)

**Loan** (loan no, amount)

Relation between Branch and Loan is **One to Many**

- Display total loan amount given by ABC branch.
- Find the name of branch that have assets located in Mumbai.

**Q5)** Write short notes on any Two of the following:

**[6]**

- a) Advantages and Disadvantages of RDBMS.
- b) Normalization
- c) Generalization in ER Modelling.



Total No. of Questions : 5]

SEAT No. :

P3012

[Total No. of Pages : 4

[5803]-105

F.Y. B.B.A.(CA)

CA 105 : BUSINESS STATISTICS

(2019 Pattern) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Notations and abbreviations have their usual meaning.
- 4) Simple calculator is allowed.

Q1) A) Fill in the blanks :

[10]

- i) \_\_\_\_\_ makes clear presentation of data.
- ii) \_\_\_\_\_ is a value which is typical or representative of a set of data.
- iii) \_\_\_\_\_ is a statistical tool used to measure the relationship between two sets of variables.
- iv) \_\_\_\_\_ is the simplest absolute measure of dispersion which shows the difference between the highest and the lowest value in a series.
- v)  $\frac{\sigma}{\bar{X}} \times 100 = \underline{\hspace{2cm}}$ .

B) True or false :

[6]

- i) The sum of all the observation divided by Number of observation is mean.
- ii) The value of correlation coefficient in perfect degree lies between +1 and -1.
- iii) Cumulative frequency polygon is also called absicca.

P.T.O.

**Q2)** Attempt any 4 out of 6 :

**[16]**

- a) Write meaning and definition of statistics. Explain the importance of statistics.
- b) Calculate combined mean for the following data :
- $$N_1 = 50 \quad N_2 = 40$$
- $$\bar{X}_1 = 63 \quad \bar{X}_2 = 54$$
- c) Find standard deviation : 8, 10, 15, 24, 28.
- d) Prepare Histogram from the following data :
- $$\begin{array}{cccccc} X: & 5 & 10 & 15 & 20 & 25 \\ f: & 10 & 20 & 30 & 10 & 05 \end{array}$$
- e) The coefficient of correlation between two variable X, Y is 0.6. Their covariance is 18. The variance of X is 25. Find variance of Y series.
- f) From the following data calculate Quartile Deviation X = 4, 9, 14, 19, 24, 29, 34, 39, 44, 49 and 54.

**Q3)** Attempt any 4 :

**[16]**

- a) Explain the properties of Karl Pearson's coefficient of correlation.
- b) Calculate Mean, Median and Mode for :
- $$12, 13, 15, 12, 17, 12, 13$$
- c) The following is the distribution of height of students in a class of secondary school.
- $$\begin{array}{cccccc} \text{Height in cm :} & 130-134 & 135-139 & 140-144 & 145-149 & 150-154 & 155-159 \\ \text{No. of students :} & 5 & 15 & 28 & 24 & 17 & 11 \end{array}$$
- i) State the type of classification.
- ii) Find the class mark of 3<sup>rd</sup> class.
- iii) How many students have height less than 145 cm?
- iv) How many students have more than 150 cm height?

- d) What is the meaning of classification? Define its various types.
- e) Construct the frequency distribution table for the data on weights (in kg) of 20 students of a class using intervals 30-35, 35-40, and so on  
40, 38, 33, 48, 60, 53, 31, 46, 34, 36, 49, 41, 55, 49, 65, 42, 44, 47, 48, 39.
- f) Find average wages of 10 workers :
- |                        |   |   |    |    |    |       |
|------------------------|---|---|----|----|----|-------|
| Daily wage :<br>(in ₹) | 4 | 6 | 10 | 11 | 14 | Total |
| No. of workers :       | 2 | 1 | 4  | 2  | 1  | 10    |

**Q4) Attempt any four :**

**[16]**

- a) Find median for average life of a particular brand of T.V. sets from the following data :
- |                 |     |      |       |       |       |       |       |       |
|-----------------|-----|------|-------|-------|-------|-------|-------|-------|
| Life in years : | 0-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 |
| No. of sets :   | 2   | 16   | 26    | 39    | 43    | 21    | 8     | 4     |
- b) Calculate coefficient of variation of the following data :
- |                   |     |     |     |     |      |      |      |
|-------------------|-----|-----|-----|-----|------|------|------|
| Weekly Rent :     | 400 | 700 | 800 | 950 | 1000 | 1200 | 1450 |
| (in ₹)            |     |     |     |     |      |      |      |
| No. of Persons    |     |     |     |     |      |      |      |
| Paying the Rent : | 11  | 13  | 34  | 39  | 18   | 8    | 2    |
- c) Find combined standard deviation :
- Group I -  $\bar{X}_1 = 2100$   $n_1 = 100$   $\sigma_1 = 10$
- Group II -  $\bar{X}_2 = 1500$   $n_2 = 200$   $\sigma_2 = 12$
- d) Explain the methods of calculation of Arithmetic mean.
- e) The following information is given to find the two regression lines
- Y on X
  - X on Y
- $\bar{X} = 10, \bar{Y} = 90, \sigma_x = 3, \sigma_y = 12$  and  $\gamma = 0.8$ .
- f) Calculate Karl Pearson's coefficient of correlation for the following data :
- |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| X: | 4  | 7  | 11 | 14 | 19 | 15 |
| Y: | 18 | 16 | 17 | 19 | 19 | 21 |

Q5) Attempt any one :

[6]

a) Draw the less than and greater than Ogives for the following data :

Class Interval	Frequency
20-30	04
30-40	06
40-50	13
50-60	25
60-70	32
70-80	19
80-90	08
90-100	03

b) From the data given below, find the regression equations :

Marks : 25 28 35 32 31 36 29 38 34 32

(Economics)

Marks : 43 46 49 41 36 32 31 30 33 39

(Statistics)



Total No. of Questions : 7]

SEAT No. :

**P2125**

**[5803] - 201**

[Total No. of Pages :3

**First Year B.B.A.**

**CA-201 : ORGANIZATIONAL BEHAVIOUR & HUMAN  
RESOURCE MANAGEMENT  
(2019 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Q.1 & Q.2 are compulsory.*
- 2) *Solve any 3 questions from Q.3 to Q.7.*
- 3) *Figures to the right side indicate full marks.*

**Q1) Select the correct option. [16]**

- a) The basic foundation of \_\_\_\_\_ lies on management's building a feeling of partnership with employees.
  - i) Autocratic model
  - ii) Custodial model
  - iii) Collegial model
  - iv) Supportive model
- b) Which of the following discipline is contributing to the organisational Behaviour?
  - i) Social Psychology
  - ii) Economics
  - iii) Anthropology
  - iv) All of the above
- c) Which of the following is NDT external influencing factor for organisational change?
  - i) Market situation
  - ii) Social changes
  - iii) Political changes
  - iv) Changes in managerial personnel
- d) Unfreezing changing & refreezing are the steps in the process of\_\_\_\_\_.
  - i) Organisational change
  - ii) Stress management
  - iii) Conflict management
  - iv) None of the above
- e) Positive stress is called as\_\_\_\_\_.
  - i) Distress
  - ii) Eustress
  - iii) Both i & ii
  - iv) None of the above
- f) The Process of improving, molding the skills, knowledge & abilities of employees for present & future job is a \_\_\_\_\_ function.
  - i) Human Resource Development
  - ii) Compensation
  - iii) Employment
  - iv) Human Relations

**P.T.O.**

- g) Human Resource Management emphasis\_\_\_\_\_.
- i) development of employees
  - ii) Punishment of Employees
  - iii) Adoption of employees
  - iv) None of the above
- h) HRM is the process of\_\_\_\_\_.
- i) Acquiring employees
  - ii) Training employees
  - iii) Appraising employees
  - iv) All of the above
- i) \_\_\_\_\_is a structure & a process by which co-operative group of human beings are allocated tasks, relationships are established & activities are integrated towards achieving of common goals.
- i) Personnel management
  - ii) HRM
  - iii) Scientific management
  - iv) Marketing management
- j) Which among the following test measure self-confidence, motivation, emotional balance, etc.
- i) Intelligence test
  - ii) Preference test
  - iii) Personality test
  - iv) Interest test
- k) \_\_\_\_\_is the process of forecasting an organisations future demand for, and supply of, the right type of people in right number.
- i) Recruitment
  - ii) HR management
  - iii) Human capital management
  - iv) Human Resource Planning
- l) \_\_\_\_\_is the process of estimating the quality & quantity of people required to meet future needs of the organisation.
- i) Demand forecasting
  - ii) Supply forecasting
  - iii) Environmental forecasting
  - iv) None of the above
- m) \_\_\_\_\_test is the selection test to judge the co-ordination between eye and hands movement.
- i) Personality
  - ii) Intelligence
  - iii) Psycho- motor
  - iv) None of the above
- n) Which of the following is Not advantages of on-the-job training?
- i) Many options available
  - ii) An economical way of learning
  - iii) Immediate productivits
  - iv) Quick learning



- o) Which of the following method is Not an on-the -job Training method.
- i) Job Rotation
  - ii) Coaching
  - iii) Conference
  - iv) Job instruction
- p) Training occurs as a result of\_\_\_\_\_.
- i) Instruction
  - ii) Education
  - iii) Development
  - iv) All of the above

**Q2) Write short notes on (Any four) [24]**

- a) Types of interview
- b) E-Selection
- c) Strategies to over come stress
- d) Supportive model
- e) Importance of HRM
- f) Distinguish between Training & Development

**Q3) Define T.Q.M. Explain its dimensions in detail. [10]**

**Q4) What do you mean by Human Resource Planning? Explain the process of Human Resource Planning. [10]**

**Q5) Explain the various sources of Recruitment state merits & demerits of Internal sources of Recruitment. [10]**

**Q6) Define Human Resource Management Explain the functions of Human Resource Management. [10]**

**Q7) What is Training Explain its importance in detail. [10]**



Total No. of Questions : 4]

SEAT No. :

**P2126**

[5803] - 202

[Total No. of Pages : 4

**First Year B.B.A. (Computer Application)**  
**CA-202 : FINANCIAL ACCOUNTING**  
**(2019 CBCS Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instruction to the candidates:*

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

**Q1) A) i) Fill in the blanks. [5]**

- 1) \_\_\_\_\_ is a language of business.
  - a) Accounting
  - b) Bookkeeping
  - c) Auditing
  - d) Taxation
  
- 2) Tally ERP 9 is an example of\_\_\_\_\_.
  - a) Manual Accounting
  - b) Computerized Accounting
  - c) Automated Accounting
  - d) Non-Automated
  
- 3) Bad debts are deducted from\_\_\_\_\_.
  - a) Creditors
  - b) Debtors
  - c) Capital
  - d) Loans
  
- 4) Trading Account shows\_\_\_\_\_.
  - a) Gross Profit
  - b) Net Profit
  - c) Net Loss
  - d) Capital
  
- 5) Interest earned is\_\_\_\_\_.
  - a) Real account
  - b) Nominal account
  - c) Personal account
  - d) Trading Account

***P.T.O.***

- ii) State whether the following statements are True or False. [5]
- a) The money withdrawn from the business or goods taken for personal use by the proprietor is referred to as drawings.
  - b) Goodwill, Patents, Trademark are examples of nominal accounts.
  - c) According to the business entity concept, owner and business organization are two different entities.
  - d) A journal is called a book of original entry.
  - e) Balance sheet is an account.

- iii) Match the following pairs. [5]

Group A

Group B

- |                          |                          |
|--------------------------|--------------------------|
| a) Current Asset         | i) Branch of Accounting  |
| b) Tally ERP 9.0         | ii) Primary Book         |
| c) Management Accounting | iii) Accounting software |
| d) Journal               | iv) Intangible Asset     |
| e) Goodwill              | v) Cash and Stock        |

- B) Write short notes (Any Three) [15]

- a) Scope of financial accounting
- b) Accounting Process
- c) Importance of Bank Reconciliation Statement
- d) Accounting Software Packages
- e) Role of computers and Financial application

**Q2)** Journalise the following transactions in the books of M/s Poonawale, Pune for March 2022. **[12]**

March 2022

- 1 Mr. Poonawala started business with cash Rs. 150,000.
- 2 Purchased machinery for cash Rs. 70,000.
- 8 Bought goods for cash Rs. 20,000 and for credit Rs. 10,000 from KK retail store.
- 14 Sold goods to JK Brothers Rs. 18,000 and cash sales Rs. 8,000.
- 18 Withdrew Rs. 20,000 for personal use.
- 22 Paid Rs. 10,000 to KK retail store.
- 26 Received Rs. 18,000 from JK Brothers.
- 30 Paid salaries Rs. 5,000.

**Q3)** From the following particulars prepare a Bank Reconciliation Statement to find out the causes of difference in two balances as on March 31,2022 for Star Ltd. **[12]**

	Rs.
a) Bank Overdraft as per Bank Statement	34,000
b) Check issued but not encashed during the August	4,400
c) Dividends on shares collected by banker	4,600
d) Interest charged by the bank recorded twice in the Cash Book	1,000
e) Check deposited as per Bank Statement not entered in Cash Book	6,800
f) Credit side of the Bank column in Cash Book cast short	2,000
g) Clubs dues paid by bank as per standing instruction not recorded in Cash Book	2,400
h) Uncredited check due to outstation	7,800

**Q4)** Following is the Trial Balance extracted from books of M/s Sahil as on 31<sup>st</sup> March 2022. Prepare Trading, profit and Loss Account for the year ended 31<sup>st</sup> Mar. 2022 and Balance sheet as on that date. **[16]**

Particulars	Dr.	Particulars	Cr.
Land and Building	1,15,000	Capital	2,00,000
Drawing	68,000	Loans	65,000
Plant and Machinery	75,000	Sales	1,00,000
Furniture and Fixture	17,500	Commission Received	4,500
Purchases	25,000	Sundry creditors	60,000
Opening stock	25,000	Interest	13,000
Establishment charges	15,000	Provision for bad debts	2,000
Bad debts	1,500		
Wages	3,500		
Insurance	1,000		
Debtors	28,000		
Cash at Bank	15,000		
Cash in Hand	5,000		
Salaries	50,000		
	4,44,500		4,44,500

Adjustments:

- a) The closing stock is valued at Rs. 32,000
- b) Outstanding wages are Rs. 500
- c) Prepaid insurance is Rs. 400
- d) Depreciation Land and Building and Plant and Machinery @ 10%
- e) Make a provision of 5% on debtors for bad debts.



Total No. of Questions : 5]

SEAT No. :

**P2127**

[Total No. of Pages : 3

**[5803]-203**

**F.Y. B.B.A. (C.A.)**

**CA-203 : BUSINESS MATHEMATICS**

**(2019 Pattern) (Semester - II)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer all questions.*
- 2) *Figures to the right indicate full marks.*

**Q1) A.** Fill in the blanks.

**[5×2=10]**

- a) The column, which is introduced in the transportation Matrix to balance the rim requirements, is known as \_\_\_\_\_.

(Key column, Idle column, Dummy column)

- b) The variables that help to decide the outcome are called \_\_\_\_\_.

(Decision variables, Dependent variables)

- c) If A and B matrices are of some order and  $A+B=B+A$ , this law is known as \_\_\_\_\_.

(Commutative law, Associative law, Cramer's law)

- d) The price at which the articles are sold is called the \_\_\_\_\_ price.

(Cost, Selling, Purchase)

- e) If the interest is calculated on the principal alone, then it is known as \_\_\_\_\_.

(Simple interest, Compound Interest, Annuity)

**P.T.O.**

B) State whether the following statement are true OR False. [3×2=6]

- a) The zero matrix is not the additive identity for the matrices.
- b) The inverse ratio is the ratio in reverse order of the original ratio.
- c) Market value of the share is the current price at which the share is being treated in stock market.

**Q2)** Attempt any four of the following. (4 out of 6) [4×4=16]

- a) Define the term matrices?
- b) What are the components of linear programming?
- c) Find the number whose 30% is 360.
- d) A TV set is sold for ₹ 36,375 at a loss of 15%. find the purchase price of the TV set.
- e) Find the simple interest on Rs. 7,000 at  $\frac{50}{3}\%$  for a 9 months.
- f) Find fourth proportional to 6,8,10.

**Q3)** Attempt any four of the following. (4 out of 6) [4×4=16]

- a) Find out the total income received from the investment OF Rohit invested Rs. 99,000 in  $7\frac{1}{2}\%$  stocks at Rs.  $81\frac{1}{2}$  plus Brokerage of ₹1.
- b) What is transportation model?
- c) An amount of ₹1,200 is deposited in a bank paying an annual interest rate of 5% compounded yearly. Find the balance after 2 years.
- d) What we mean by objective function in LPP.
- e) Find  $A+B=B+A$  when matrices

$$A = \begin{bmatrix} 1 & 2 \\ 2 & -1 \end{bmatrix}, B = \begin{bmatrix} 3 & 1 \\ -1 & -2 \end{bmatrix}$$

- f) What is percentage and how it is calculated.

**Q4)** Attempt any four of the following. (4 out of 6)

**[4×4=16]**

- Explain the North West Corner Method (NWCM) method of TP?
- Write the steps of LPP formulation?
- Alfred buys an old scooter for Rs. 4,700 and spend Rs. 800 on its repairs. If he sells the scooter for Rs. 5,800 his gain percent is what?
- What is the 20% of 150?
- A person invests his money in bank worth ₹24,000. It is increasing at the rate of 5% every year. What will be the growth in his investment after 3 years?
- At what price will ₹4,250 buy shares worth ₹5,000? (They are ₹100 shares)

**Q5)** Attempt any one out of two.

**[1×6=6]**

- Compute the inverse of A:-

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

OR

- Determine an initial basic feasible solution to the following transportation problem by using VAM method.

		Destination				Supply
		D1	D2	D3	D4	
Source	A	11	13	17	14	250
	B	16	18	14	10	300
	C	21	24	13	10	400
	Demand	200	225	275	250	





Total No. of Questions : 5]

SEAT No. :

P4033

[Total No. of Pages : 3

[5803]-204

F.Y. B.B.A. (CA)

CA - 204 : RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)  
(2019 Pattern) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Total number of questions are 5.
- 2) Figures to the right indicate full marks.

**Q1) Attempt any EIGHT of the following (Out of TEN) :** [8 × 2 = 16]

- a) What is difference between DBMS and RDBMS?
- b) What is timestamp?
- c) Define Transaction.
- d) What is cursor?
- e) Define serializability.
- f) What is deadlock?
- g) What is atomicity?
- h) What is procedure?
- i) What is trigger?
- j) What are operators in PLSQL?

**Q2) Attempt any FOUR of the following (Out of FIVE) :** [4 × 4 = 16]

- a) Explain % type and % row type with an example.
- b) List and explain properties of transaction.
- c) What is deadlock? Explain methods to prevent deadlock.
- d) Explain two-phase locking protocol in detail.
- e) Explain RDBMS packages in detail.

**P.T.O.**

**Q3) Attempt any FOUR of the following (Out of FIVE) : [4 × 4 = 16]**

- a) What is function? Explain with an example.
- b) What is exception handling? Explain predefined exceptions.
- c) Explain PL SQL block in detail.
- d) Explain failure classification in detail.
- e) What is log? Explain log based recovery.

**Q4) Attempt any FOUR of the following (Out of FIVE) : [4 × 4 = 16]**

- a) Consider following relational database.

Doctor (dno, dname, dcity)

Hospital (hno, hname, hcity)

Doct-Hosp (dno, hno)

Write a function to return count of number of hospitals located in Kolkatta City.

- b) Consider the following transaction. Give two non-serial schedules that the serializable :

T1	T2
Read(A)	Read(B)
A = A - 1000	B = B + 100
Write(A)	Write(B)
Read(B)	Read(C)
B = B -100	C = C + 100
Write(B)	Write(C)

- c) Consider the following relational database :

Customer (cno, cname, city)

Account (ano, acc-type, balance, cno)

Define a trigger that restricts insertion or updation of account having balance less than 100.

d) Consider the following related database :

Customer (cno, cname, city)

Loan (lno, lamt, no\_of\_years, cno)

Write a procedure to display total loan amount from Delhi City.

e) Following is the list of events in an interleaved execution of set T1,T2, T3 and T4. Assuming 2PL (Two Phase Lock). Is there a deadlock? If yes, which transactions are involved in deadlock?

Time	Transaction	Code
t <sub>1</sub>	T1	Lock(A,X)
t <sub>2</sub>	T2	Lock(B,S)
t <sub>3</sub>	T3	Lock(A,S)
t <sub>4</sub>	T1	Lock(C,X)
t <sub>5</sub>	T2	Lock(D,X)
t <sub>6</sub>	T1	Lock(D,S)
t <sub>7</sub>	T2	Lock(C,S)

**Q5) Write a short note on ANY TWO of the following (Out of THREE) :**

**[2 × 3 = 6]**

- a) Characteristics of RDBMS.
- b) Control Statements in PLSQL.
- c) Concurrent Execution.



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2128**

**[5803]-205**

**F.Y. B.B.A. (CA)**

**CA-205 : WEB TECHNOLOGY (HTML,JS,CSS)**

**(2019 Pattern) (Semester - II)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any eight of the following (out of Ten)

**[8×2=16]**

- a) What is WWW?
- b) Define HTML.
- c) What is stylesheet?
- d) What is JavaScript?
- e) Write any two HTTP request methods.
- f) Explain Marquee with two attributes.
- g) Explain <table> tag with example.
- h) Write any two attributes of <list> tag.
- i) Explain any two Dialog Boxes used in JavaScript.
- j) Explain <body> tag.

**Q2)** Attempt any four of the following. (out of five)

**[4×4=16]**

- a) Explain event handling in JavaScript.
- b) Explain HTML form element with example.
- c) Explain array in JavaScript.
- d) Explain physical and logical HTML.
- e) Explain CSS with its types.

**Q3)** Attempt any four of the following. (out of Five)

**[4×4=16]**

- a) What are the different points to be considered while choosing the color for websites?
- b) Describe the importance of sitemap in website.
- c) Explain any 4 predefined functions used in JavaScript.

**P.T.O.**

- d) Write a Javascript program to display current day, date, Month, year and time on the web page.
- e) Write HTML code to design the following output for table.

Train Time - Table			
T. No.	T Name	Arrival Time	Departure Time
T 101	Express	04.00 AM	04.00PM
T105	Rajdhani	06.15PM	06.00 AM

**Q4)** Attempt any four of the following. (out of Five) **[4×4=16]**

- a) Explain control structure in JavaScript.
- b) Explain any 4 operators used in JavaScript with example.
- c) Create HTML page with following specification.
  - i) Title should be about your car.
  - ii) Color the background by red color.
  - iii) Add any image at bottom.
  - iv) Add scrolling text about your car.
- d) Design an HTML form to take the information of a customer for booking a travel plan consisting of fields such as name, address, contact no., gender etc. you should provide button to submit contents.
- e) Write a JavaScript code to accept a number from user and display its factorial.

**Q5)** Attempt any two of the following. (out of Three) **[2×3=6]**

- a) Explain types of Images.
- b) Define
  - i) `< br >` tag
  - ii) `< td >` tag
  - iii) `< width >` tag
- c) Explain HTML structure.



Total No. of Questions : 5]

SEAT No. :

**P2129**

[Total No. of Pages : 2

**[5803]-301**

**S.Y. B.B.A. (Computer Application)  
CA 301 : DIGITAL MARKETING  
(2019 CBCS Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following.

**[8×2=16]**

- a) What is digital marketing in E-commerce?
- b) What is Internet marketing?
- c) What is Search Engine Results Pages (SERP)
- d) Which are types of internet marketing?
- e) What is Resource planning?
- f) What is CRM?
- g) What is digital marketing plan?
- h) Whta is SEO.
- i) Define cost budgeting?
- j) What is upload and download?

**Q2)** Attempt any Four of the following.

**[4×4=16]**

- a) What is social media marketing?
- b) What is difference between SEO & SEM?
- c) Explain digital marketing and list its advantages.
- d) Explain E-Marketing plan?
- e) Explain the SWOT Analysis?

**P.T.O.**

**Q3)** Attempt any Four of the following.

**[4×4=16]**

- a) Write advantages and disadvantages of CRM?
- b) Write phases in content management lifecycle?
- c) Write 5 D's of digital marketing?
- d) Write introduction of webpage?
- e) Write advantages of E-mail marketing?

**Q4)** Attempt any Four of the following.

**[4×4=16]**

- a) Write difference between traditional (Real) marketing advantages?
- b) Write CRM platform in detail?
- c) Write Video sharing-youtube?
- d) What is SEO Content?
- e) Write on types of SEO?

**Q5)** Write a short note any Two of the following.

**[2×3=6]**

- a) Stakeholders in CRM.
- b) Facebook.
- c) Twitter.



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2130**

**[5803]-302**

**S.Y. B.B.A. (CA)**

**CA - 302 : DATA STRUCTURE**

**(2019 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Questions : Total number of questions are 5.*
- 2) *Total Marks Assigned : 70*
- 3) *Time assigned : 3 Hours.*
- 4) *All questions are compulsory.*

**Q1)** Attempt any EIGHT of the following.

**[8×2=16]**

- a) What is self referential structure?
- b) What are the different types of graph?
- c) What are the applications of stack?
- d) List out different types of tree.
- e) What is searching?
- f) What is pointer to pointer.
- g) What is non-primitive data structure?
- h) Define Data structure.
- i) What is sorting? State the techniques of sorting.
- j) What is almost complete binary tree.

**Q2)** Attempt any FOUR of the following.

**[4×4=16]**

- a) What is high-balanced tree? Explain LL and LR rotations with an example.
- b) Explain selection sort technique with an example.
- c) What is stack? Explain different operations used in stack.
- d) What is Graph? Explain adjacency list of graph.
- e) Write an algorithm to convert given infix expression to postfix expression.

**P.T.O.**



**Q3)** Attempt any Four of the following. **[4×4=16]**

- a) Write a function to create and display circular singly linked list.
- b) Write a function for Dynamic Implementation of stack.
- c) Write a function to traverse a graph using DFS technique.
- d) Write a function to remove given node from singly linked list and add it at the given position in singly linked list.
- e) Write a function to check whether a given string is palindrome or not (use Stack)

**Q4)** Attempt any Four of the following. **[4×4=16]**

- a) Sort the following data by using insertion sort.  
18, 7, 22, 3, 14, 2
- b) Construct Binary search tree of following data.  
15, 30, 20, 5, 10, 2, 7
- c) Construct an AVL tree of following data.  
SRI, IND, AUS, FRA, CAN, DEN
- d) What is double ended queue? Explain it with an example.
- e) Write a 'C' Program to count the number of nodes from singly link list.

**Q5)** Attempt any TWO of the following **[2×3=6]**

- a) Convert the following expression into prefix
  - i)  $p * q - rls$
  - ii)  $(A + B) / (C + D * E)$
- b) Define the following terms.
  - i) Leaf node
  - ii) Cyclic graph
  - iii) Parent node
- c) What is degree of vertex? Find indegree & out degree of following graph for each vertex



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P6135**

**[5803]-303**

**S.Y. B.B.A. (C.A.)**

**CA - 303 : SOFTWARE ENGINEERING**

**(CBCS 2019 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any eight of the following:

**[8×2=16]**

- a) What is feasibility study?
- b) Define RAD.
- c) What is SRS?
- d) Define an Entity.
- e) What is Pseudocode?
- f) State the principles of software testing?
- g) What is Software Reengineering?
- h) What is requirement elicitation?
- i) What is prototype?
- j) What is system?

**Q2)** Attempt any four of the following:

**[4×4=16]**

- a) Explain spiral model in detail.
- b) Differentiate between White Box and Black-Box testing.
- c) What is SDLC? Describe its phases?
- d) Explain fact finding methods in brief.
- e) Define software maintenance. Explain types of software maintenance.

**P.T.O.**

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

- a) Draw decision tree for the following case. A company gives discount on the purchase of goods depending on the sales and duration of payment.
  - i) 5% discount if order amount > 50,000.
  - ii) 3% discount if order amount between 25,000 and 50,000.
  - iii) No discount if order < 10,000 or payment is not done within 8 days.
- b) Explain in detail about coupling and cohesion.
- c) Draw ER-Diagram for “Hotel Management System”.
- d) What is Decision Table? Need of Decision table.
- e) Design a screen layout for employees salary slip.

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

- a) 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 table for the above case.
- b) Draw first level DFD for customer order system.
- c) Differentiate between forward and reverse engineering.
- d) Explain elements of Data flow diagrams?
- e) What is Data Flow Diagram? Explain benefits of DFD, Advantages of DFD, Disadvantages of DFD.

**Q5) Write a short note on any two of the following. [2×3=6]**

- a) Feasibility study.
- b) Spiral model.
- c) Software maintenance.



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2131**

**[5803]-304**

**S.Y. B.B.A. (CA)**

**CA 304 : ANGULARJS**

**(2019 CBCS Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Questions Total number of questions are 5.*
- 2) *Neat diagram must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*

**Q1)** Attempt any EIGHT of the following. (out of Ten)

**[8×2=16]**

- a) What is AngularJs?
- b) What is SPA?
- c) Write a syntax of building block of AngularJs?
- d) What is data binding in AngularJs?
- e) Explain ng-bind directives with example.
- f) How to create controller in AngularJs?
- g) What is difference between \$scope and scope?
- h) Explain date filter with syntax & example.
- i) What is \$http service?
- j) What is AngularJs factory?

**Q2)** Attempt any FOUR of the following. (out of Five)

**[4×4=16]**

- a) Explain difference between angularJS and javascript.
- b) What is module? Write advantages of modules.
- c) What are different forms of form events?
- d) Write AngularJS program for multiplication of two numbers.
- e) Write a AngularJS program to create service for finding factorial of given number.

**P.T.O.**

**Q3)** Attempt any Four of the following. (out of Five)

**[4×4=16]**

- a) Explain AngularJS Data Binding?
- b) Explain scope hierarchy in detail.
- c) Create a Hello world application program using AngularJS.
- d) Explain lower-case and upper-case Filter with example.
- e) Write an AngularJS program for ng-copy and ng-paste event.

**Q4)** Attempt any Four of the following. (out of Five)

**[4×4=16]**

- a) Explain the MVC Architecture.
- b) Write an AngularJS program to demonstrate ng-init directive that initializes variable of string, number, array and object.
- c) Write Advantages and disadvantages of SPA.
- d) Explain functions of AngularJS directive life cycle?
- e) Distinguish between factory, service and provider.

**Q5)** Write a short note on any two (out of Three)

**[2×3=6]**

- a) Model
- b) Event Handling
- c) Dependency Injection



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2132**

**[5803]-305**

**Second Year B.B.A. (CA)**

**CA-304 : PHP**

**(2019 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Answer all questions.*
- 2) *Figures to the right indicate full marks.*

**Q1)** Attempt any EIGHT (out of TEN)

**[8×2=16]**

- a) What is PHP?
- b) What is difference between “echo” and “print”?
- c) What is the use of isset ( ) function?
- d) Which are the methods to submit form?
- e) Explain setcookie ( ) in PHP.
- f) What is \$\_SESSION in PHP?
- g) Explain split ( ) function in PHP.
- h) What does PEAR stands for?
- i) What is the use of print\_r ( )?
- j) What does the unset ( ) function mean?

**Q2)** Attempt any FOUR (out of FIVE)

**[4×4=16]**

- a) What are the different types of PHP variables?
- b) What is the difference between GET and POST method?
- c) Explain if ..... then ..... else in PHP.
- d) Explain cookies in PHP
- e) Explain any two string functions in PHP.

**P.T.O.**

**Q3)** Attempt any Four (out of FIVE)

**[4×4=16]**

- a) What are superglobals in PHP?
- b) Write the functions performed by a web browser.
- c) Write a code in PHP which accepts two strings from user and displays them after concatenation.
- d) Write a PHP function to calculate factorial of a number using recursion.
- e) Write a PHP program to print greatest number among given 3 numbers.

**Q4)** Attempt any Four of the following. (out of FIVE)

**[4×4=16]**

- a) Explain self processing form using example.
- b) How inheritance is implemented in PHP? Explain using example.
- c) Write a menu driven program in PHP to display arithmetic operations.
- d) Write a PHP program to generate random password.
- e) Write a PHP program to create login page and welcome user on next page.

**Q5)** Write a short note on any two (out of THREE)

**[2×3=6]**

- a) Form and Form elements
- b) Logical operators in PHP
- c) Validation in PHP



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2133**

**[5803]-306**

**S.Y. B.B.A. (CA)**

**CA-305 : BIGDATA**

**(2019 CBCS Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any EIGHT of the following.

**[8×2=16]**

- a) What is big data?
- b) What is Data Analytics?
- c) What is population?
- d) Define sample.
- e) What is machine learning?
- f) What is KNN?
- g) Define EM algorithm.
- h) Define market basket analysis.
- i) What is Apriori algorithm?
- j) What is R?

**Q2)** Attempt any FOUR of the following.

**[4×4=16]**

- a) Explain the types of Data Analytics.
- b) Explain correlation with its type.
- c) Explain support vector machine with example.
- d) Explain Machine learning.
- e) Explain Association rule mining.

**P.T.O.**



**Q3)** Attempt any Four of the following.

**[4×4=16]**

- a) How Naive Bayes algorithm works.
- b) Explain Decision tree with example.
- c) Explain the application of big data.
- d) Explain cluster analysis with its types.
- e) What is digital data? Explain its type.

**Q4)** Attempt any Four of the following.

**[4×4=16]**

- a) What is regression? Explain with its type.
- b) Explain the five applications of machine learning.
- c) Write an R program to find the maximum and the minimum value of a given vector.
- d) Write an R program to compare two data frames to find the elements in first data frame that are not present in second data frame.
- e) Write an R program to find Sum, Mean and Product of a Vector.

**Q5)** Write a short note on any TWO of the following.

**[2×3=6]**

- a) Population and sample.
- b) Data Visualisation.
- c) Data types in R.



Total No. of Questions : 5]

SEAT No. :

[Total No. of Pages : 2

**P2134**

**[5803]-307**

**B.B.A. (CA)**

**CA-305 : BLOCK CHAIN  
(2019 Pattern) (Semester - III)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any EIGHT of the following (Out of TEN).

**[8×2=16]**

- a) Define hashing.
- b) Define Database.
- c) Define Cryptography.
- d) What is truffle in Ethereum?
- e) What is currency?
- f) Define Digital Signature.
- g) What is cryptocurrency?
- h) What is proof of Stake?
- i) What is fork?
- j) What is smart contract?

**Q2)** Attempt any FOUR of the following. (out of FIVE)

**[4×4=16]**

- a) Explain Components of Blockchain.
- b) What is Ethereum network? Explain with diagram.
- c) What is DAO? Explain in detail.
- d) Explain life cycle of Blockchain.
- e) What is Hyperledger Fabric? Give Benefits of Hyperledger Fabric.

***P.T.O.***

**Q3)** Attempt any FOUR of the following (Out of FIVE)

**[4×4=16]**

- a) Describe DApps in details.
- b) With the help of diagram describe EVM.
- c) Explain Web3 in details.
- d) What is an EVM in blockchain? Explain EVM with example.
- e) What are the advantages of Hyperledger Fabric for blockchain networks.

**Q4)** Attempt any FOUR of the following (Out of FIVE).

**[4×4=16]**

- a) What is blockchain? Explain its Importance.
- b) What is block? Explain its structure diagrammatically.
- c) Explain Types of network.
- d) Explain Actors of Blockchain.
- e) What is gas? Why it is important in Ethereum?

**Q5)** Write a short note on any TWO of the following (Out of THREE) **[2×3=6]**

- a) Give Limitations of Blockchain.
- b) Differentiate between private key and public key.
- c) Explain working of smart contracts.



Total No. of Questions : 5]

SEAT No. :

P2135

[Total No. of Pages : 2

[5803]-401

S.Y. B.B.A. (C.A.)

CA-401 : NETWORKING

(2019 Pattern) (CBCS) (Semester - IV)

Time : 2½ Hours]

[Max. Marks : 70

*Instructions to the candidates:*

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

**Q1)** Attempt any three of the following:

[3 × 5 = 15]

- a) What is networking? Explain different types of network.
- b) Explain TCP/IP protocol in details.
- c) What is guided media? Explain types of guided media.
- d) Explain Active and Passive Hub.

**Q2)** Attempt any three of the following:

[3 × 5 = 15]

- a) What are repeaters? Explain different types of repeaters.
- b) What are different mode of communication? Explain with sketch.
- c) What is security services? Explain security mechanisms to provide the services.
- d) Explain Bluetooth in details.

**Q3)** Attempt any three of the following :

[3 × 5 = 15]

- a) What is standard? What is their needs? Explain the two types of standard.
- b) What is Fast Ethernet? Explain categories of Fast Ethernet.
- c) Explain server based and peer to peer LANS.
- d) Differentiate between fiber optic and twisted pair cable.

**P.T.O.**

**Q4)** Attempt any three of the following : **[3 × 5 = 15]**

- a) What is attack? Explain various types of attacks.
- b) Explain wireless transmission. Explain any one media in details.
- c) What is addressing? Explain different types of addresses.
- d) Explain IEEE standard 802.11 (WLAN) in details.

**Q5)** Write notes on (Any Two) : **[2 × 5 = 10]**

- a) Proxy server.
- b) Switch
- c) ISO-OSI Reference model.
- d) Line - of - sight



Total No. of Questions : 5]

SEAT No. :

P2136

[Total No. of Pages : 3

[5803]-402

S.Y. B.B.A.(Computer Application)

CA - 402 : OBJECT ORIENTED CONCEPTS THROUGH CPP  
(2019 Pattern) (Semester - IV)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

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

**Q1)** Attempt any EIGHT of the following. (Out of Ten)

[8 × 2 = 16]

- a) What is extraction and insertion operator?
- b) Explain any two manipulators.
- c) Define constructor.
- d) What is inline function.
- e) What is reference variable? What is its major use.
- f) What is Abstraction and Encapsulation.
- g) What is compile - Time polymorphism.
- h) What is default argument.
- i) What is the use of scope resolution operator.
- j) What are the access specifiers used in C++.

**Q2)** Attempt any four of the following. (Out of Five)

[4 × 4 = 16]

- a) Explain memory management operators with the help of suitable example.
- b) Explain memory allocation for objects with non-static data member and static data member.
- c) When do we make a class virtual base class? Explain it with suitable example.
- d) Explain array of object in C++ with example.
- e) Explain any four formatted input/output functions.

**P.T.O.**

**Q3)** Attempt any Four of the following. (Out of Five)

**[4 × 4 = 16]**

- a) Write a C++ program to create a class which contains two data members. Write member functions to accept, display and swap two entered numbers using call by reference.
- b) Write a C++ program to create a class Book which contains data members as B-Id, B-Name, B-Author, B- publication. Write member functions to accept and display Book information also display count of books. (Use static data member to maintain count of books)
- c) Write a C++ program to calculate square and cube of integer number by using inline function.
- d) Design C++ class which contains function display(). Write a program to count number of times display() is called. (use static data member).
- e) Write a C++ program to read contents of a text file and count number of characters. Words and lines in a file.

**Q4)** Attempt any four of the following : (out of Five)

**[4 × 4 = 16]**

- a) Can we pass class object as function arguments? Explain with the help of an example.
- b) Explain various stream classes used to perform console input/output (I/o) operations.
- c) What is class Template? Explain syntax of class template with suitable example.
- d) Write a program to perform addition of two matrices using operator overloading.
- e) Trace the output of the following program and explain it. Assume there is no syntax error.

```
# include < iostream.h>
Class abc
{
    int i;
    public :
    abc (int v = 0)
```

```
{
  Cout <<"In the constructor\n";
  i = v;
}
Void print (Void)
{
  Cout <<"The value of i is " <<<endl;
}
};
Void main ()
{
  abc a (10);
  abc b ;
  a. print ();
  b. print ();
}
```

**Q5)** Write a short note on any two of the following : (Out of three)     **[2 × 3 = 6]**

- a) Exception Handling
- b) Operator overloading
- c) Pointer to object with example.





Total No. of Questions : 5]

SEAT No. :

P2137

[Total No. of Pages : 3

[5803]-403

S.Y. B.B.A.(C.A.)

CA - 403 : OPERATING SYSTEM  
(2019 Pattern) (CBCS) (Semester - IV)

Time : 2½ Hours]

[Max. Marks : 70

*Instructions to the candidates:*

- 1) Answer all questions.
- 2) Figures to the right side indicate full marks.

**Q1)** Attempt any eight of the following :

[8 × 2 = 16]

- a) Define the term operating system.
- b) What is meant by multiprocessing system?
- c) What is process?
- d) Which scheduler controls the degree of Multiprogramming?
- e) Define Burst Time.
- f) What is semaphores?
- g) What do you mean by Rollback?
- h) What is meant by Address Binding?
- i) List various operation on File.
- j) What do you mean by Seek Time in Disk Scheduling?

**Q2)** Attempt any four of the following :

[4 × 4 = 16]

- a) List and explain advantages of Multiprocessor system.
- b) Explain Process Control Block (PCB) in detail with diagram.
- c) Explain different method for recovery from a deadlock.
- d) What is Fragmentation? Explain types of fragmentation in details.
- e) Calculate average turn around time and average waiting time for all set of processes using FCFS algorithm.

**P.T.O.**

Processes	Burst Time	Arrival Time
P <sub>1</sub>	5	1
P <sub>2</sub>	6	0
P <sub>3</sub>	2	2
P <sub>4</sub>	4	0

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

- a) List and explain system calls related to Process and Job control.
- b) Explain multilevel Feedback queue Algorithm.
- c) Describe in detail the 'Dinning Philosopher Problem' Synchronization problem.
- d) Write a note on interrupts.
- e) Consider the following page reference string:  
4, 6, 7, 8, 4, 6, 9, 6, 7, 8, 4, 6, 7, 9.

The number of Frames is 3. Show page trace and calculate page Fault for the following page replacement schemes.

- i) FIFO
- ii) LRU

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

- a) What is meant by Free Space Management? Define Bit vector and Grouping.
- b) Define the terms :  
i) Logical Address                      ii) Physical Address
- c) Explain Resource Allocation Graph in detail.
- d) What are the difference between Preemptive and Non-Preemptive Scheduling.
- e) Assume there are total 0-199 tracks that are present on each surface of the disk. If request queue is 68, 172, 4, 178, 130, 40, 118 and 136 initial position of the head is 25. Apply FCFS disk scheduling algorithm & calculate total head Movement.

**Q5)** Write a short note on any two of the following :

**[2 × 3 = 6]**

- a) Write short note on solution for critical section problem.
- b) Write a short note on Medium-term scheduler.
- c) Explain Indexed Allocation briefly.



Total No. of Questions : 5]

SEAT No. :

P4035

[Total No. of Pages : 2

[5803]-404

**S.Y. B.B.A. (Computer Applications)**

**CA - 404 : NODE JS**

**(2019 Pattern) (Semester - IV)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Answer the following (Any Eight) :

**[8 × 2 = 16]**

- a) What is Node. JS?
- b) Which type of applications we build using Node. JS?
- c) What is the use of Registry?
- d) Define Anonymous function.
- e) Explain Web Server.
- f) What is Package? JS on file.
- g) Explain global package.
- h) List out the parameters of CreateConnection ( ).
- i) Write down the Syntax to Concatenate Node buffers to a Single Node Buffer.
- j) Write down the types of modules in Node. JS.

**Q2)** Answer the following (Any Four) :

**[4 × 4 = 16]**

- a) Explain Node. JS Process Model.
- b) Write down the steps to create local module.
- c) Write Node.JS program which will convert the output "SY BCA" into upper-case.
- d) Explain the use of Buffer and How to create Buffer.
- e) Explain the need of NPM.

**P.T.O.**

**Q3) Answer the following (Any Four) :**

**[4 × 4 = 16]**

- a) Write a Node. JS Script to check a given number is Perfect or Not using function.
- b) What is Module? Explain Third Party Module.
- c) What is Synchronous and Asynchronous approach?
- d) What is Event Driven Programming?
- e) Explain Anonymous function with an example.

**Q4) Answer the following (Any Four) :**

**[4 × 4 = 16]**

- a) Explain the syntax to create a text file and delete the file.
- b) Explain any two methods of EventEmitter class.
- c) Write a Node. JS Script to check a given number is even or odd using function.
- d) Write Node.JS program to count the occurrence of given word in a file and display the count on Console.
- e) Write a Program to define Module Circle. JS which exports the functions area ( ) and Circumference ( ) and display the details on console.

**Q5) Answer the following (Any Two) :**

**[2 × 3 = 6]**

- a) Which databases does Node. JS Supports.
- b) Write down the Connection String of Node.JS and MySQL.
- c) Explain the use of REPL.



Total No. of Questions : 5]

SEAT No. :

P2138

[Total No. of Pages : 2

[5803]-405

S.Y. B.B.A.(CA)

CA - 404 :ADVANCE PHP

(2019 CBCS Pattern) (Semseter - IV)

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following :

**[8 × 2 = 16]**

- a) What is the use of abstract class?
- b) What is the \$\_Server variable?
- c) Enlist XML element.
- d) What are different technologies are used in Ajax?
- e) What is Web Service?
- f) What is content Management system.
- g) Wha is Serialization?
- h) Define UDDI.
- i) What is PHP frame work.
- j) Define Template of object oriented.

**Q2)** Attempt Any four of the following :

**[4 × 4 = 16]**

- a) Explain class and object with example.
- b) What is Document object Model in PHP.
- c) What is SOAP? Explain in detail?
- d) Explain features of Joomla / Drupal.
- e) Explain with example how to connect database using PHP and Ajax.

**P.T.O.**

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

- a) Create a form to accept Employee detail and display it in next page (Use sticky form concept)
- b) Create an abstract Class shape with method area ( ) and volume ( ). Derive two classes rectangle (length, breath), Circle (radius). Calculate are and volume of all (Use Method Overriding).
- c) Write script to solve following questions (Use "Student.XML" file)
  - i) Create a DOM Document Object and load thisXML file
  - ii) Get the output of this Document to the browser. Write a script to print the names of the student Present in "Student.XML" file.
- d) Write a PHP Script to display server information in table format (Use \$\_SERVER).
- e) Write a PHP Script for the following : Design a form to accept a number from the user. To find Sum of the digits of the number (Use the concept of self processing page).

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

- a) What is Inheritance? Explain with suitable example.
- b) How articles are created in Drupal R. Joomla?
- c) Create a XML file which gives details of books availabel in "ABC Bookstore" from following.  
Categories i) Technical ii) Cooking iii) YOGA
- d) Define class Employee having private members id, name department, Salary. Define parameterized constructor. Create a Subclass called "Manager" with private member bonus. Create 6 objects of the Manager class and display the details of the Manager having the maximum total salary. (Salary + bonus)
- e) Explain setting Response Headers.

**Q5)** Wrie a short note on any two of the following : **[2 × 3 = 6]**

- a) WSDL.
- b) XML parser.
- c) XMLHTTP Request object.



Total No. of Questions : 5]

SEAT No. :

P2139

[Total No. of Pages : 2

[5803]-501

T.Y. BBA(CA)

CA - 501 : CYBER SECURITY  
(2019 Pattern) (Semseter - V)

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any EIGHT of the following (out of TEN) :

**[8 × 2 = 16]**

- a) What is CyberCrime?
- b) What is Digital Forensic?
- c) What are the two categories of CyberCrime?
- d) What is reconnaissance?
- e) What is cyber stalking?
- f) Define attack vector?
- g) What is Phishing?
- h) What is Public-Key certification in Digital Signature?
- i) Define denial - of - service (DOS) attack.
- j) What is the difference between Virus and Worm?

**Q2)** Attempt any FOUR of the following (out of FIVE) :

**[4 × 4 = 16]**

- a) Explain in brief each type of Intellectual property.
- b) Why do we need cyber laws in India?
- c) What is cyber forensics explain in details?
- d) What is proxy server? Also write the purpose of it.
- e) Explain different types of credit card frauds.

**P.T.O.**



**Q3)** Attempt any FOUR of the following (out of FIVE) : **[4 × 4 = 16]**

- a) Explain the different real life example of CyberCrime.
- b) What is Domain Name? Explain with example.
- c) Explain how botnets can be used as a fuel to Cybercrime.
- d) Describe active and passive attacks in details.
- e) What is SQL injection? Explain different methods to prevent SQL injection attack.

**Q4)** Attempt any FOUR of the following (out of five) : **[4 × 4 = 16]**

- a) Explain organizational guidelines for internet usage.
- b) Define virus. Discuss the types of viruses.
- c) Discuss how emails are used in Forensics analysis.
- d) What is CIA? Discuss three concept of CIA model.
- e) What are the challenges to Indian Law and Cybercrime scenario in India?

**Q5)** Wrie a short note on any Two of the following (out of THREE) : **[2 × 3 = 6]**

- a) The ITA 2000 sections 65, 66 and section 67.
- b) Social media marketing.
- c) Data Diddling.



Total No. of Questions : 5]

SEAT No. :

P2140

[Total No. of Pages : 2

[5803]-502

**T.Y. B.B.A. (Computer Application)**

**CA - 502 : OBJECT ORIENTED SOFTWARE ENGINEERING**

**(2019 Pattern) (Semseter - V) (CBCS)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Five of the following :

**[5 × 2 = 10]**

- a) List any two advantages and disadvantages of waterfall model.
- b) What is the use of section 9 in SRS format.
- c) Define Role Names.
- d) What is meant by Inception.
- e) Define forking.
- f) What is realization.
- g) List the types of inheritance.

**Q2)** Attempt any four of the following :

**[4 × 4 = 16]**

- a) Describe the coad and yourdon method in detail.
- b) Draw a collaboration diagram for ATM system.
- c) Explain UML architecture.
- d) What is object orientation? State various reasons for why object orientation.
- e) What is class diagram. Explain with Notations.

***P.T.O.***

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

- a) Draw the deployment diagram for railway reservation system.
- b) What is meant by Iterative development state it's various advantages.
- c) Define sequence diagram. Explain different kind of it's notations.
- d) What is association. Explain any two terms in association.
- e) Define the following terms
  - i) Transition
  - ii) Concurrency
  - iii) Actor
  - iv) Navigation.

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

- a) Explain generalization relationship along with stereotype.
- b) Write short note on Type and Roles.
- c) Explain understanding requirement of object oriented analysis.
- d) Explain which diagrams are called as on interaction diagram. Explain with example.
- e) What is package? Explain it with import and export stereotypes.

**Q5)** Attempt the following : **[12]**

- a) 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 diagram.

- i) Use case diagram.
- ii) Activity diagram.
- iii) Class diagram.



Total No. of Questions : 5]

SEAT No. :

P2141

[Total No. of Pages : 2

[5803]-503

B.B.A. (CA)

CA - 503 : CORE JAVA

(2019 Pattern) (Semseter - V)

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight :

**[8 × 2 = 16]**

- a) What is JDK? How to build and run java program?
- b) Explain Static keyword.
- c) What is use of classpath?
- d) What is collection? Explain collection frame work in details.
- e) What is the use of Reader and Writer class?
- f) What is the use of layout manager?
- g) What is difference between paint ( ) and repaint ( ).
- h) Explain Access modifiers used in Java.
- i) Define keyword throw.
- j) Define polymorphism.

**Q2)** Attempt any four :

**[4 × 4 = 16]**

- a) Explain features of Java.
- b) What is difference between constructor and method? Explain types of constructors.
- c) Differentiate between interface and abstract class.
- d) Explain the concept of exception and exception handling.
- e) Explain try and Catch with example.

**P.T.O.**

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

- a) Write a Java program to display all the perfect numbers between 1 to n.
- b) Write a Java program to calculate area of circle, Triangle and Rectangle (Use Method over loading)
- c) Write a java program to accept n integers from the user and store them in on ArrayList collection. Display elements in reverse order.
- d) Write a Java program to count number of digits, spaces and characters from a file.
- e) Create an applet that display x and y position of the cursor movement using mouse and keyboard. (Use appropriate listener)

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

- a) How a Java program is structured? Explain data types.
- b) What is applet? Explain its types.
- c) Write a java program to count number of Lines, words and characters from a given file.
- d) Write a Java program to design email registration form. (Use swing components)
- e) Create a class Teacher (Tid, Tname, Designation, Salary, Subject). Write a java program to accept 'n' teachers and display who teach Java subject (Use Array of object)

**Q5)** Wrie short note any two : **[2 × 3 = 6]**

- a) Define object.
- b) Define term finally block.
- c) What is package? Write down all the steps for package creation.



Total No. of Questions : 5]

SEAT No. :

**P6847**

[Total No. of Pages : 2

**[5803]-504**

**B.B.A. (CA)**

**CA-504 : MONGO DB**

**(2019 Pattern) (Semester - V)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Answer the following (any 8) :

**[16]**

- a) Define NOSQL database.
- b) List MongoDB data types.
- c) List MongoDB Tools.
- d) What is Document in MongoDB?
- e) Explain Aggregation in MongoDB?
- f) What are indexes in MongoDB?
- g) Write basic syntax of insert one ( ) method.
- h) Write basic syntax of remove ( ) method.
- i) What is embedding?
- j) Explain one\_to\_many relationship with example using References.

**Q2)** Answer the following (any 4) :

**[16]**

- a) Explain analogy between RDBMS & MongoDB.
- b) Explain Mongo shell commands with example :
  - i) Create database
  - ii) Delete database

**P.T.O.**

- c) Explain with syntax how to insert and save the documents.
- d) Write a note on MongoDB CRUD concerns. (Read and write operations).
- e) Explain applications of MOSQL database.

**Q3) Answer the following (any 4) :** **[16]**

- a) Explain the advantages of MongoDB.
- b) Explain MongoDB Architecture.
- c) Explain Types of Aggregation in detail.
- d) Write a note on MongoDB monitoring tools.
- e) Explain how to export and import data to and from MongoDB.

**Q4) Solve the following :** **[16]**

- a) Create a collection 'Shopping'.
- b) Create a new document in 'Shopping' collection having ID = 01.
- c) Write a command to show the details of 'Shopping'.
- d) Show the details of 'Shopping' by 'FIND' command.
- e) Display the details of 'Shopping' by 'FINDONE' command.
- f) Display the detail of 'Shopping' whose price is greater than 3000.
- g) Display ID, shopping item, price, use 'PRETTY( )'.
- h) Display details of shopping having price 500 and delivery in 3 days.

**Q5) Solve the following (any 2) :** **[6]**

- a) Explain Backup and Recovery methods used for MongoDB.
- b) Why MongoDB is the best MOSQL database?
- c) Which languages can we use with MongoDB?



Total No. of Questions : 5]

SEAT No. :

**P2142**

[Total No. of Pages : 2

**[5803]-505**

**BBA(CA)**

**CA-504 : PYTHON**

**(2019 Pattern) (Semester - V)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All question is compulsory.*
- 2) *Figures to the right indicate full marks.*

**Q1)** Attempt any Eight of the following :

**[8 × 2 = 16]**

- a) What are the properties of a Dictionary?
- b) Write the use of an import statement with an example.
- c) Differentiate between Python list and NumPy array.
- d) What is scikit-learn?
- e) Write the definition of class method.
- f) Write the syntax of the Raise statement & explain it.
- g) List out Geometry Management methods.
- h) What is Tkinter in Python?
- i) Break and pass statement in Python.
- j) Write any two common exceptions in Python.

**Q2)** Attempt any Four of the following :

**[4 × 4 = 16]**

- a) What is Python? What are the benefits of using Python?
- b) Name any five built in modules in Python.
- c) Write in brief anonymous functions.
- d) What is inheritance? Write its benefits and syntax.
- e) Explain frame widget in Tkinter with an example.

**P.T.O.**



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

- a) What are lists and tuples? What is the key difference between the two?
- b) What are the common built in data types in Python?
- c) Which are built in exceptions in Python?
- d) Write the principles of keras.
- e) Write a Python program to display current date and time.

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

- a) Which are the built in exceptions in Python?
- b) Explain the features of pandas in Python?
- c) Define an abstract class shape and its subclass (square / circle). The subclass has an init function which takes an argument (length/radius) Both classes have an area & volume function which can print the area and volume of shape where the area of shape by default 0.
- d) Write a Python program to check whether a number is in a given range.
- e) Write a Python class to find the validity of a string of parentheses, '(', ')', '{', '}', '[', ']', ' '. These brackets must be closed in the correct order for example "()" and "( ) [ ] { }" are valid but "[ ]", "{( )}" and "{ { { " are invalid.

**Q5) Write a short note on Any Two of the following :** **[2 × 3 = 6]**

- a) Package
- b) Assertion
- c) Tuple



Total No. of Questions : 5]

SEAT No. :

P2143

[Total No. of Pages : 2

[5803]-601

T.Y.B.B.A. (C.A.)

**CA-601 : RECENT TRENDS IN INFORMATION  
TECHNOLOGY**

**(2019 CBCS Pattern) (Semester - VI)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following (Out of Ten) :

**[8 × 2 = 16]**

- a) What is OLAP?
- b) Define 'State Space' in artificial intelligence.
- c) What is Data frame?
- d) What is RDD?
- e) What is Data Mart?
- f) Define ETL tools.
- g) What is a Plateau in artificialintelligence?
- h) Define OLTP.
- i) Which language is not supported by Spark?
- j) Define Ridge.

**Q2)** Attempt any Four of the following (Out of Five) :

**[4 × 4 = 16]**

- a) What are components of spark? Explain.
- b) Explain Architecture of Data Warehouse.
- c) What is the philosophy of artificial intelligence?
- d) Describe technique of data mining.
- e) Write the advantages of Bidirectional Search.

**P.T.O.**

**Q3) Attempt any Four of the following (Out of Five) : [4 × 4 = 16]**

- a) What is data cleaning? Describe various method of data cleaning.
- b) Explain any two Types of OLAP Servers.
- c) Elaborate the Spark Installation Steps?
- d) Explain Breadth First Search technique of artificial intelligence.
- e) Write any four applications of Data Mining.

**Q4) Attempt any Four of the following (Out of Five) : [4 × 4 = 16]**

- a) Differentiate between MOLAP and HOLAP
- b) What is the Missionaries and Cannibals Problem Statement? Write its solution.
- c) How is Apache Spark different from MapReduce?
- d) What is Data warehouse? Describe any two applications in brief.
- e) Write in detail the various blind search techniques in artificial intelligence.

**Q5) Write a short notes on Any Two of the following (Out of Three) : [2 × 3 = 6]**

- a) 'Water Jug Problem' in artificial intelligence with the help of diagrams and propose a solution to the problem.
- b) Action
- c) Snowflake Schema



Total No. of Questions : 5]

SEAT No. :

P2144

[Total No. of Pages : 2

[5803]-602

T.Y.B.B.A. (C.A.)

CA-602 : SOFTWARE TESTING

(2019 CBCS Pattern) (Semester - VI)

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following (Out of Ten) :

**[8 × 2 = 16]**

- a) Explain terms - Error, Fault and Failure.
- b) Define software testing.
- c) What is structural testing?
- d) How to calculating cyclomatic complexity?
- e) What is verification testing?
- f) Explain types of Acceptance testing?
- g) Define software metrics?
- h) What is user documentation testing?
- i) Define the term SQA.
- j) What is a test case design?

**Q2)** Attempt any Four of the following (Out of Five) :

**[4 × 4 = 16]**

- a) What is debugging? Explain with its phases.
- b) Explain in details verification and validation.
- c) What is Black - Box testing? Explain with its techniques.
- d) Write difference between static testing and Dynamic testing.
- e) Explain GUI testing in details.

**P.T.O.**

**Q3) Attempt any Four of the following (Out of Five) : [4 × 4 = 16]**

- a) What is difference between client/server testing and web - based testing?
- b) Explain five different level of capability maturity model (CMM).
- c) Explain Acceptance testing in details.
- d) Explain Top - Down and Bottom - UP integration testing in details.
- e) Explain term unit testing.

**Q4) Attempt any Four of the following (Out of Five) : [4 × 4 = 16]**

- a) Explain testing principles in details.
- b) Explain Load testing and stress testing in details.
- c) Write difference between Quality Assurance (QA) and Quality control (QC).
- d) Explain test case design for login process.
- e) Explain software testing life cycle (STLC) in details.

**Q5) Write a short note on Any Two of the following (Out of Three) : [2 × 3 = 6]**

- a) Load Runner.
- b) Testing for Real - Time system
- c) Goal - Question - Metric Model (GQM).



Total No. of Questions : 5]

SEAT No. :

P2145

[Total No. of Pages : 2

[5803]-603

B.B.A. (CA)

CA-603 : ADVANCED JAVA

(2019 Pattern) (Semester - VI)

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

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

**Q1)** Attempt any Eight of the following :

**[8 × 2 = 16]**

- a) What is the use of cookies?
- b) What is the use of Runnable interface?
- c) Explain thread priority.
- d) What is the use of HQL?
- e) What are the directives in JSP?
- f) What is networking?
- g) Write the method for creating connection?
- h) What is the yield ( ) method?
- i) What is the use of socket class?
- j) What is servlet?

**Q2)** Attempt any Four of the following :

**[4 × 4 = 16]**

- a) Explain in details directives in JSP.
- b) Explain inter thread communication with an example.
- c) Differentiate between statement and prepared statement interface.
- d) Explain the life cycle of thread.
- e) Explain methods of serversocket class with syntax.

**P.T.O.**

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

- a) What is the difference between execute ( ), executeQuery ( ) and executeupdate ( )?
- b) Explain an architecture of hibernate?
- c) Explain methods of socket class with example.
- d) Write a JSP program to accept Name & age of voter and check whether he/she is eligible for voting or not.
- e) Write a JDBC program to delete the records of employees whose names are starting with 'A' character.

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

- a) Write advantages and disadvantages of spring.
- b) Explain JSP tags with example.
- c) What are the advantages and disadvantages of multithreading?
- d) Write servlet program to accept two numbers from user and print addition of that in blue colour.
- e) Write a JDBC program to display the details of employees (eno, ename, department, sal) whose department is 'Computer Application'.

**Q5) Write a short note on Any Two of the following : [2 × 3 = 6]**

- a) Run method
- b) Statement interface
- c) HttpServlet.



Total No. of Questions : 5]

SEAT No. :

P2146

[Total No. of Pages : 4

[5803]-604

T.Y. B.B.A. (C.A.)

CA-604 : ANDROID PROGRAMMING

(2019 Pattern) (Semester - VI)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

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

Q1) Attempt any Eight of the following :

[8 × 2 = 16]

- a) The Android \_\_\_\_\_ provides you the API libraries and developer tools necessary to build, test, and debug apps for android.
  - i) JDK
  - ii) SDK
  - iii) ADT
  - iv) All of the mentioned
- b) \_\_\_\_\_ dictates the UI and handles the user interaction to the smart phone screen.
  - i) Intents
  - ii) Fragments
  - iii) Activities
  - iv) None of the mentioned
- c) \_\_\_\_\_ is a drop-down list that allows users to select one value from a set.
  - i) CheckBox
  - ii) RadioButton
  - iii) Spinner
  - iv) All of the mentioned
- d) \_\_\_\_\_ is a specialized view switcher which will provide a smooth transition animation effect to the images while switching from one image to another.
  - i) ImageView
  - ii) ImageSwitcher
  - iii) Both i) and ii)
  - iv) All of the mentioned

P.T.O.



- e) How many threads are there in AsyncTask android?
- Only one
  - Three
  - AsyncTask doesn't have thread
  - Two
- f) \_\_\_\_\_ is used to perform database operations on Android such as storing, manipulating or retrieving persistent data from the database.
- MySQL
  - SQL
  - SQLite
  - All of the mentioned
- g) Cursor navigation methods include \_\_\_\_\_.
- moveToFirst
  - moveToNext
  - Both a) and b)
  - none of the mentioned
- h) \_\_\_\_\_ identifies locations on the map and used to notify the user of locations on a map and take the form of either a standard or custom icon.
- Maps
  - API keys
  - Markers
  - None of the mentioned
- i) To send SMS messages programmatically, which class is used?
- Mms
  - SmsManager
  - Both a) and b)
  - None of the mentioned
- j) The \_\_\_\_\_ arranges views in a single column or a single row. Child views can be arranged either vertically or horizontally.
- FrameLayout
  - AbsoluteLayout
  - LinearLayout
  - None of the mentioned

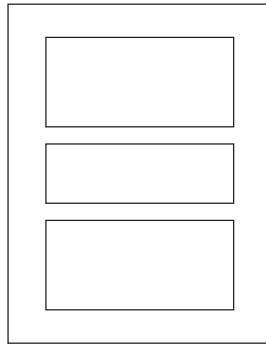
**Q2) Attempt any Four of the following : [4 × 4 = 16]**

- What is Activity? With the help of diagram describe activity life cycle.
- What is ToggleButton? How to create it? Explain with example.
- How to create database in SQLite? Explain with example.
- Define Google Map. How to change views in Google Maps? Explain with example.
- Describe the Android architecture in detail.

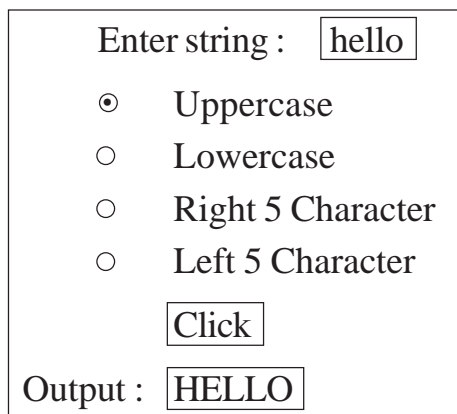
**Q3)** Attempt any Four of the following :

**[4 × 4 = 16]**

- a) Observe the following GUI and write an XML file using relative layout to create the same.



- b) Develop an application to send and receive SMS. (Write only .java and permission tag in manifest file).
- c) Develop an application to store student details like roll no, name, branch, marks, percentage and retrieve student information using roll no. in SQLite databases.
- d) Create an Android Application to perform following string operation according to user selection of radio button.



- e) Create an Android App with Logic screen. On successful login, gives message go to next activity (Without using database & use TableLayout).

**Q4)** Attempt any Four of the following :

**[4 × 4 = 16]**

- a) Write an Android program to perform Zoom In, Zoom Out operation and display Hybrid view on Google MaP.
- b) Explain Date and Time picker with its methods.
- c) Create a simple Application, which read a positive number from the user and display its factorial value in another activity.
- d) What is cursor in SQLite? Explain with example.
- e) Develop a simple calculator using Table Layout.

**Q5)** Write a short notes on any Two of the following :

**[2 × 3 = 6]**

- a) SQLiteDatabase
- b) ProgressBar
- c) Geocoding and Reverse coding



Total No. of Questions : 5]

SEAT No. :

P2147

[Total No. of Pages : 2

[5803]-605

**T.Y. B.B.A. (Computer Application)**  
**CA-604 : DOT NET FRAMEWORK**  
**(2019 Pattern) (Semester - VI)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All question are compulsory.*
- 2) *Draw neat diagrams wherever necessary.*
- 3) *Design paper GUI.*

**Q1)** Attempt any Eight of the following :

**[8 × 2 = 16]**

- a) What is the use of CLR?
- b) What is CTS?
- c) Enlist any two operator in vB.net?
- d) Explain following Function?
  - i) MessageBox()
  - ii) InputBox ( )
- e) Explain 'this keyword in C#?
- f) Explain constructor and Destructors In C#?
- g) Explain server object?
- h) Explain the type of menu control?
- i) Explain connected and Disconnected Architecture in ADO .net?
- j) Explain Timer control in vb.net?

**Q2)** Attempt any Four of the following :

**[4 × 4 = 16]**

- a) Explain Architecture of .net fromework?
- b) What are HTML control?
- c) Explain Asp.net basic control?
- d) What is connection object in ADO.net?
- e) Explain DataReader in ADO.net?

**P.T.O.**

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

- a) Write a vb .net program for find max number among Entered two number.
- b) Write a vb .net program to check whether Enter string is palindrome or not.
- c) Write a vb .net program to accept a number from user throught input box and display its multiplication table into list box?
- d) Write a program in C# .net for sum of two number.
- e) Write a program in C# .net to reverse given number.

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

- a) What is command object?
- b) Explain Event handling in ASP .net?
- c) Write a C# program to swap two number.
- d) Write a vb .net program to move the text “Pune university” continuously from left to right.
- e) Write a C# program for multiplication of matrix.

**Q5) Write a short notes on Any Two of the following :** **[2 × 3 = 6]**

- a) Method overloading in C#.
- b) Validation Control in ASP .net.
- c) Explain Data type in vb .net.

