Max. Time: 2 Hours   **Max. Marks: 50**

General Instructions:

1. Please read the instructions carefully.

2. Section- A - OBJECTIVE TYPE QUESTIONS (25 MARKS)

3. Section- B – SUBJECTIVE TYPE QUESTIONS (25 MARKS)

Section-A

1. The kind of data that we see today is-

   (a) Massive, integrated, and dynamic   (b) Small, structural, and static
   (c) Massive, structural and dynamic   (d) Small, integrated, and dynamic

2. If data is large, Unstructured and in motion then we need to learn_____ to handle them
   (a) Support vector machines   (b) Machine Learning
   (c) Sensor based IOT   (d) All of them

3. Why do Data Scientists need to understand ethics?
   (a) A few people can do an immense amount of harm
   (b) Lack of consent
   (c) Both a,b   (d) None of these

4. Data science is the process of diverse set of data through?
   (a) organizing data   (b) processing data
   (c) analysing data   (d) All of the above

5. Which of the following are the Data Sources in data science?
   (a). Structured   (b). Unstructured
   (c). Both A and B (d). None Of the above

6. What is true about Machine Learning?

   (a). Machine Learning (ML) is that field of computer science
   (b). ML is a type of artificial intelligence that extract patterns out of raw data by using an
        algorithm or method.
   (c). The main focus of ML is to allow computer systems learn from experience without being
        explicitly programmed or human intervention.
   (d). All of the above

7. Which of the following is incorrect about a story?
        a) A story generally consists of one or more character(s)
        b) A story represents the point of view of a person
        c) A story has a theme associated with it
        d) Things revealed in a story are always correct and exist in the real world.

8. The idea behind performing the trial assessment is to test something [T/F]

9. Causation shows that one events' occurrence originates from the other events' occurrence. [T/F]

10. _____ can be defined as a statistical task that predicts the future as accurately as
    possible.
       (a) Forecasting   (b) Analysis   (c) Trial and assessment   (d) Causation

11. _____ is one of the simplest and most used methods of data gathering.
       (a) Supervised learning   (b) Observation   (c) Both of them   (d) None of them

12. Which of these would make an observational study unethical? (Select the most appropriate)
       (a) Putting an observer at risk of harm.
       (b) Using multiple observers.
       (c) Not getting consent from those being observed.
       (d) Conducting the observation late at night.

13. Which of the following is incorrect regarding List in R programming?
       (a) A list is a type of R object containing elements of different types like numbers, strings,
          vectors.
       (b) A list can also contain another list within it
       (c) Elements in a list can be accessed using the index of the element in the list.
       (d) The addition or deletion of the elements can only be done at the middle of the list.

14. Which function takes a dim attribute which creates the required number of dimensions?
       (a) Vector   (b) Array   (c) Matrix   (d) Lists

15. Which is not correct in reference of a vector
       (a) A vector is a fixed length ordered collection of basic data types.
       (b) All elements of a vector must be of the same type.
       (c) Vectors are type of one-dimensional data structures
       (d) Vectors are type of multi-dimensional data structures

16. _____ is an R object that contain many different types of elements inside it.
       (a) Vector   (b) Array   (c) List   (d) Matrix

17. _____ function takes a list as input and generates a vector as output.
       (a) unlist()   (b) rbind   (c) lbind   (d) None of these

18)   "Judging people or situation by how they look" comes under which factor that affects
       perspectives in communication ?
          a)   Language   b) Feelings   c) Past Experiences   d) Visual
          Perception

19)   Which among the following is not a 7C of effective communication?
          a)   Concise   b) Coherent   c) Combine   d) Courteous

20)   Choose the correct example of oral communication.
          a)   Reports   b) Face to Face interaction   c) Newspaper   d)
          Blogging

21)   Which among the following is a type of non-verbal communication

a)	Public speaking	b) Phone call	c) Gestures	d) Video call

22)	"Be respectful ,friendly and honest" is which way of effective communication
a)	Concrete	b) Courteous	c) Clear	d) Complete

23)	Which of these is a positive (good) facial expression?
a)	Staring hard	b) Nodding while listening	c) Wrinkled forehead	d) Showing tongue

24)	The way you say a word or a language is
a)	Gestures	b) Pronunciation	c) Paralanguage	d) Spelling

25)	The other term for communication done by hand movements is
a)	Touch	b) Feelings	c) Prejudice	d) Gestures

Section-B

(A) Attempt any 8 questions: (2 marks each)

1. What is data governance framework? Explain.

2. Should there be differences in expectations about what is ethical online versus offline regarding handling of data?

3. Write down any two facts and justify why you think they are facts?

4. What is causation? (Support your answer with example of causation)

5. What are disadvantages of observational study?

6. A monthly family budget is a forecast of income and expenditure of a family in a month. Critically discuss the above statement.

7. What is purpose of getwd( ) and setwd( ) functions of R language?

8. Explain seq( ) with suitable example.

9. What do you mean by arrays in R, explain the process of creating arrays and accessing elements in an array with suitable example.

10. Differentiate between list and vectors.

(B) Attempt any 3 questions: (3 marks each)

11. Write a program to create a list of 10 elements and display those elements which are not divisible by 3.

12. Do as directed:

(a) Create a matrix of 3 rows and 4 columns

(b) Display second row of the matrix

(c) Delete third column of the matrix

13. What is trail and assessment method, how it is different from observational method.

14. Explain how data eco system has evolved, explain with the help of figure.