

JATIN COMPUTER INSTITUTE

DATA ANALYTICS – MCQ QUESTION PAPER

Name:		Date:	
Batch:		Score:	

Instructions: Choose the one correct answer for each question. Each question carries 1 mark.

1. Which of the following is an example of structured data?

- A. Email messages
- B. Spreadsheets
- C. Social media posts
- D. Images

2. In the study of Data Analytics, each type of analysis is designed to answer a specific fundamental question. Match the following types of analytics with the questions they address:

- A. Descriptive
- B. Diagnostic
- C. Predictive
- D. Prescriptive

- 1. How can we make it happen? / What should we do?
- 2. What is likely to happen in the future?
- 3. What happened?
- 4. Why did it happen?

Choose the correct matching option.

- A. (A-3) (B-4) (C-2) (D-1)
- B. (A-3) (B-1) (C-2) (D-4)
- C. (A-2) (B-4) (C-3) (D-1)
- D. (A-4) (B-3) (C-1) (D-2)

3. Which of the following best describes data analysis?

- A. The process of storing data in a database
- B. Collecting, modifying, and processing the data to gain meaningful insight and drive informed decision-making.
- C. The process of collecting data from various sources
- D. The technique to analyse the data in a graphical format to obtain additional insights regarding the messages within the data

4. Image, audio, text and video are examples of-

- A. Structured data
- B. Semi-structured data
- C. Unstructured data
- D. None of the above

5. Choose the correct option for the following:

```
Product_ID=1
Product_category=Computers
Discounted_price=399
Actual_price=999
Discount_percentage=40
Rating=4.2
```

(A)

Dataset B:

Product ID	Product category	Discounted price	Actual price	Discount percentage	Rating
1	Computers	399	999	40	4.2

(B)

- A. (A) Structured (B) Semi-structured
- B. (A) Unstructured (B) Structured
- C. (A) Semi-structured (B) Structured
- D. (A) Semi-structured (B) Unstructured

6. Scenario 1: You visit a doctor. The doctor takes your BP test, comes up with new results compared to the last report of the same test, and tries to get an idea of why you are feeling sick.

Scenario 2: You visit a doctor. To proceed, the doctor will do a different kind of analysis by asking questions like "What was your last BP?" or "About the Medicine you took."

Which type of data analysis should be most appropriate for both scenarios?

- A. Predictive analysis, Diagnostic analysis
- B. Diagnostic analysis, Descriptive analysis
- C. Descriptive analysis, Diagnostic analysis
- D. Predictive analysis, Prescriptive analysis

7. A business follows a logical 4-step analysis approach to solve a problem. Identify the correct order of analytics types used in the statements below:

1. "Our revenue dropped by 15% last month."
2. "The drop happened because a competitor lowered their prices."
3. "If we don't react, we will lose another 10% next month."
4. "We should launch a 'Buy 1 Get 1' offer to recover the market share."

Choose the correct order.

- A. Diagnostic - Descriptive - Predictive - Prescriptive
- B. Descriptive - Diagnostic - Predictive - Prescriptive
- C. Descriptive - Predictive - Diagnostic - Prescriptive
- D. Prescriptive - Diagnostic - Predictive - Descriptive

8. A manufacturing company is facing a rise in product defects and is seeking to determine the underlying reasons for the faults.

Scenario 2: A manufacturing company is using sensor data analysis to schedule preventive maintenance and forecast possible equipment faults.

Which type of data analysis should be most appropriate for both scenarios?

- A. Descriptive analysis, Diagnostic analysis
- B. Diagnostic analysis, Prescriptive analysis
- C. Diagnostic analysis, Predictive analysis
- D. Descriptive analysis, Predictive analysis

9. Which type of data analysis should be appropriate for both the scenarios?

Scenario 1: A transportation company uses historical booking data and seasonal trends to forecast future demand for its services.

Scenario 2: A transportation logistics company specializes in transportation aims to cut fuel expenses and shorten delivery times by optimising its delivery routes.

- A. Predictive analysis, Prescriptive analysis
- B. Prescriptive analysis, Descriptive analysis
- C. Prescriptive analysis, Predictive analysis

D. Descriptive analysis, Predictive analysis

10. Google Maps, giving traffic conditions fall under _____ analysis and forecasting the travel time is _____ analysis.

- A. predictive, prescriptive
- B. descriptive, predictive
- C. diagnostic, predictive
- D. prescriptive, predictive

11. A healthcare provider is facing two distinct challenges:

Challenge A: They need to clean and analyze years of patient EHRs (Electronic Health Records) to find correlations between genetics and treatment success.

Challenge B: They need an interactive, visual “Command Center” dashboard where the Chief Medical Officer can see real-time hospital bed availability across 10 different locations.

According to the career roles defined in your document, which professionals are best suited for these challenges?

- A. A: Data Analyst | B: Business Intelligence (BI) Developer
- B. A: Business Intelligence (BI) Developer | B: Data Analyst
- C. A: Data Analyst | B: Data Scientist
- D. A: BI Developer | B: Data Scientist

ANSWER KEY & EXPLANATIONS

Q1. Correct Answer: B

Explanation: Spreadsheets are structured data because information is organised in a fixed format using rows and columns.

Q2. Correct Answer: A

Explanation: Descriptive answers what happened, Diagnostic answers why it happened, Predictive answers what is likely to happen, and Prescriptive answers what should be done.

Q3. Correct Answer: B

Explanation: Data analysis involves collecting, preparing/modifying and processing data to generate meaningful insights for informed decisions.

Q4. Correct Answer: C

Explanation: Images, audio, text and video generally do not follow a fixed tabular structure, so they are examples of unstructured data.

Q5. Correct Answer: C

Explanation: Dataset A has labelled fields but is not presented as a fixed table, so it is semi-structured. Dataset B follows a fixed row-and-column format, so it is structured.

Q6. Correct Answer: B

Explanation: Scenario 1 looks for the reason behind a change in health, which is diagnostic analysis. Scenario 2 reviews past information, which is descriptive analysis.

Q7. Correct Answer: B

Explanation: The standard flow is: describe what happened, diagnose why it happened, predict what may happen, and prescribe what action to take.

Q8. Correct Answer: C

Explanation: Finding the reasons for product defects is diagnostic analysis. Forecasting equipment faults from sensor data is predictive analysis.

Q9. Correct Answer: A

Explanation: Forecasting future demand is predictive analysis. Recommending route optimisation to reduce costs and delivery time is prescriptive analysis.

Q10. Correct Answer: B

Explanation: Current traffic conditions describe the present situation, while forecasting travel time predicts a future outcome.

Q11. Correct Answer: A

Explanation: Challenge A requires analysing patient data and correlations, suited to a Data Analyst. Challenge B requires interactive dashboards and reporting, suited to a BI Developer.

Total Questions: 11 | Total Marks: 11