

CBSE CLASS X

Artificial Intelligence (417)

ANSWER KEY

From previous CBSE Board Exam questions

Code: RQ9C4E Questions: 6 Maximum Marks: 8 Generated: 2026-06-21 02:53

SELECTIONS USED

Source	Previous-year board
Subject	Artificial Intelligence
Lessons	Statistical Data
Year	2022-2026
Questions selected	6

Composition — Types: 5 MCQ · 2 Short

Q1. § 4.1: No-Code AI for Statistical Data § MS Excel for Statistical Data § Test Yourself (4.2)

[2]

Give names of any two online and any two offline sources of data.

Previously asked in: 2025 104/S Q14

♦ **Statistical Data** 4.1 No-Code AI for Statistical Data

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Model Answer

Online sources of data:

1. Government websites (e.g., data.gov.in)
2. URL/web-based databases (e.g., FAO website – www.fao.org)

Offline sources of data:

1. Files in CSV or Excel format stored locally
2. SQL databases stored on local systems

Source: No-Code AI for Statistical Data, Chapter 4

Explanation

The passage mentions loading data via **URL** (online) and from websites like FAO (online), and loading from **CSV, Excel, and SQL files** (offline) using Orange's File widget. Examiners expect two clear examples from each category — one line each is sufficient for this 2-mark question.

Q2. § Test Yourself (4.1) § Important concepts in statistics § Test Yourself (4.2)

[1]

For Data Science, data is typically collected in tabular form and stored in various formats. Which of the following is commonly used for storing such tabular data sets?

- (A) SQL databases
- (B) HTML files
- (C) JSON
- (D) NumPy

Previously asked in: 2025 104/S Q2 (vi)

♦ Statistical Data 4.1 No-Code AI for Statistical Data

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Model Answer

(A) SQL databases

SQL databases are commonly used for storing tabular data sets in Data Science, as they organise data in rows and columns for efficient querying and analysis.

Explanation

The source passage (Orange Data Mining chapter) mentions that the File widget in Orange loads data from **CSV, Excel, and SQL** formats — confirming SQL databases as a standard storage format for tabular data. NumPy is a Python library (not a storage format), HTML is for web pages, and JSON stores non-tabular/nested data. Examiners expect you to simply identify option **(A)** with a brief justification.

Q3. § 4.2: Statistical Data: Use Case Walkthrough § Important concepts in statistics § Orange Data Mining

[1]

_____ is a concept to unify statistics, data analysis, machine learning and their related methods in order to understand and analyse actual phenomena with data.

- (a) Computer Vision
- (b) Natural Language Processing
- (c) Data Science
- (d) Computer Science

Previously asked in: 2024 104 Q3 (iii)

♦ Statistical Data 4.1 No-Code AI for Statistical Data

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Model Answer

(c) Data Science

Data Science is a concept to unify statistics, data analysis, machine learning and their related methods in order to understand and analyse actual phenomena with data.

Source: Chapter 4, Lesson 4.1: No-Code AI for Statistical Data

Explanation

The passage directly defines **Data Science** with this exact phrase. Examiners expect you to identify the correct option and optionally write the supporting definition in one line. Avoid confusing it with Computer Science, which is broader and does not specifically unify statistics and machine learning in this context.

Q4. § Test Yourself (4.1) § Important concepts in statistics § Test Yourself (4.2)**[1]**

For Data Science, usually the data is collected in the form of tables. These tabular datasets can be stored in different formats. Which of the following formats is not used for storing data in a tabular format ?

- (a) CSV
- (b) Website
- (c) SQL
- (d) Spreadsheet

Previously asked in: 2024 104 Q2 (vi)

♦ Statistical Data 4.1 No-Code AI for Statistical Data

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Model Answer**(b) Website**

A website is not used for storing data in tabular format. CSV, SQL, and Spreadsheets are all standard formats for storing tabular data.

Explanation

The source passage mentions that Orange can load data from **CSV, Excel (Spreadsheet), and SQL** formats — all tabular storage formats. A **website** is a medium for displaying information, not a tabular data storage format. Examiners expect you to directly identify the odd one out with a brief reason.

Q5. § Popular No-Code Tools § Orange Data Mining**[1]**

It is a domain-specific language that is designed for managing data held in different kinds of DBMS (Database Management System). It is particularly useful in handling structured data. Which computer language is this ?

- (A) SQL
- (B) CSV
- (C) Spreadsheet
- (D) TXT

Previously asked in: 2024 104 Q3 (iv)

♦ Statistical Data CSV (Comma-Separated Values) File Format

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Model Answer**(A) SQL**

SQL (Structured Query Language) is a domain-specific language designed for managing data in DBMS. It is particularly useful in handling structured data.

Explanation

CSV is a file format, Spreadsheet is an application, and TXT is a plain text file — none are languages for managing databases. SQL is the standard language used to query, insert, update, and delete data in relational databases. This is general computer science knowledge; the source passages focus on NLP, so recall this from your IT/CS fundamentals.

Q6. § Applications of Data Science § 4.2: Statistical Data: Use Case Walkthrough**[2]**

One of the applications of Data Science is Airline Route Planning. List any two tasks that airline companies can do using Data Science.

Previously asked in: 2024 104 Q13

♦ **Statistical Data** 4.2 Statistical Data: Use Case Walkthrough

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Model Answer

Using Data Science, airline companies can:

1. **Predict delays** — Analyse weather patterns, air traffic, and historical data to forecast flight delays and improve punctuality.
2. **Optimise routes** — Identify the most fuel-efficient and cost-effective routes by analysing traffic data, distance, and demand patterns.

Source: Applications of Data Science, Chapter 4

Explanation

The question asks specifically about **Airline Route Planning** as a Data Science application. The source passages do not explicitly list airline tasks, so you are expected to apply general Data Science knowledge in context. Examiners look for two distinct, relevant points — each stated clearly in one line. Avoid repeating the same idea in different words. Common valid answers include: predicting delays, optimising routes, dynamic pricing, demand forecasting, and fuel efficiency analysis. Write any two with a brief justification for full marks.

Q7. § Test Yourself (4.1) § Test Yourself (4.2)**[1]**

Which of the following data science application is not associated with genetics and genomics ?

- (A) To understand the impact of DNA on health.
- (B) To analyze reactions to drugs and disease.
- (C) To find individual biological connection.
- (D) To search the house address of a relative on the Internet.

Previously asked in: 2024 104 Q3 (ii)

♦ **Statistical Data** 4.2 Statistical Data: Use Case Walkthrough

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Model Answer

(D) To search the house address of a relative on the Internet.

Genetics and Genomics uses data science to understand DNA's impact on health, analyze drug/disease reactions, and find individual biological connections — not for searching personal addresses.

Explanation

The passage clearly states that data science applications in Genetics & Genomics include: understanding genetic issues, reactions to drugs and diseases, and individual genome/biological connections. Searching a house address is an everyday internet activity unrelated to genetics. Examiners expect students to identify the odd one out using the passage.

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