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CLASS 12

Informatics Practices

Sample Paper 2 - Questions

37 questions | 70 marks | 2026-27

Time: 3 hours. Answer all questions and subparts unless a choice is stated. Marks are shown on the right. Write answers on separate sheets. Independently prepared practice paper.

Section A - Objective questions

1. Determine the output produced by the following Python code: **1**

```
a = [1, 3, 5, 7]
print(sum(a[1:3]))
```

(A) 10 (B) 8 (C) 7 (D) 9

2. Select the term described below. A Pandas one-dimensional labelled array stores data with an index. **1**

(A) Data visualisation (B) SQL string function (C) Series (D) DataFrame

3. Select the term described below. A Pandas two-dimensional labelled structure organises tabular data. **1**

(A) SQL string function (B) DataFrame (C) Series (D) Data visualisation

4. Determine the value printed by this code: **1**

```
s = 0
for n in range(1, 5):
  s += n
print(s)
```

(A) 9 (B) 10 (C) 11 (D) 12

5. Select the term described below. A Boolean condition selects matching rows. **1**

(A) Series (B) Data visualisation (C) SQL string function (D) Boolean filtering

6. Select the term described below. Label-based selection addresses rows and columns by their labels. **1**
(A) Data visualisation (B) SQL string function (C) Series (D) loc selection

7. Table T has one numeric column V with rows 1, 3, 5. What value does SELECT SUM(V) FROM T; return? **1**
(A) 10 (B) 11 (C) 8 (D) 9

8. Select the term described below. Vectorised expressions act on a column's values. **1**
(A) Column operation (B) Series (C) SQL string function (D) Data visualisation

9. Select the term described below. A dataset can lack a recorded observation at a position. **1**
(A) SQL string function (B) Series (C) Missing value (D) Data visualisation

10. Determine the output produced by the following Python code: **1**

```
a = [2, 4, 6, 8]
print(sum(a[1:3]))
```

(A) 11 (B) 9 (C) 10 (D) 12

11. Select the term described below. A chart represents data to support interpretation. **1**
(A) Data visualisation (B) Series (C) SQL string function (D) Missing value

12. Select the term described below. Intervals summarise the frequency distribution of numerical observations. **1**
(A) SQL string function (B) Series (C) Missing value (D) Histogram

13. Determine the value printed by this code: **1**

```
s = 0
for n in range(1, 6):
  s += n
print(s)
```

(A) 14 (B) 15 (C) 17 (D) 16

14. Select the term described below. Rows are grouped for aggregate calculations. 1
(A) SQL string function (B) Series (C) Missing value (D) GROUP BY

15. Select the term described below. A condition filters groups after aggregation. 1
(A) Series (B) SQL string function (C) HAVING (D) Missing value

16. Table T has one numeric column V with rows 2, 4, 6. What value does SELECT SUM(V) FROM T; return? 1
(A) 14 (B) 11 (C) 13 (D) 12

17. Select the term described below. A function summarises values across rows. 1
(A) SQL aggregate (B) Series (C) Missing value (D) SQL string function

18. Select the term described below. Text values can be transformed or examined. 1
(A) SQL string function (B) Missing value (C) Series (D) SQL aggregate

19. Determine the output produced by the following Python code: 1

```
a = [3, 5, 7, 9]
print(sum(a[1:3]))
```

(A) 13 (B) 14 (C) 11 (D) 12

20. Select the term described below. Date values are examined or transformed. 1
(A) SQL date function (B) Series (C) SQL aggregate (D) Missing value

21. Select the term described below. Connected devices exchange information using agreed protocols. 1
(A) Network (B) Series (C) Missing value (D) SQL aggregate

Section B - Short responses

22. Determine the value printed by this code: 2

```
s = 0
for n in range(1, 7):
  s += n
print(s)
```

23. Table T has one numeric column V with rows 3, 5, 7. What value does SELECT SUM(V) FROM T; return? **2**

24. Determine the output produced by the following Python code: **2**

```
a = [4, 6, 8, 10]
print(sum(a[1:3]))
```

25. Determine the value printed by this code: **2**

```
s = 0
for n in range(1, 8):
  s += n
print(s)
```

26. Table T has one numeric column V with rows 4, 6, 8. What value does SELECT SUM(V) FROM T; return? **2**

27. Determine the output produced by the following Python code: **2**

```
a = [5, 7, 9, 11]
print(sum(a[1:3]))
```

28. Determine the value printed by this code: **2**

```
s = 0
for n in range(1, 9):
  s += n
print(s)
```

Section C - Short responses

29. Table T has one numeric column V with rows 5, 7, 9. What value does SELECT SUM(V) FROM T; return? **3**

30. Determine the output produced by the following Python code: **3**

```
a = [6, 8, 10, 12]
print(sum(a[1:3]))
```

31. Determine the value printed by this code: **3**

```
s = 0
for n in range(1, 10):
  s += n
print(s)
```

32. Table T has one numeric column V with rows 6, 8, 10. What value does SELECT SUM(V) FROM T; return? **3**

Section D - Case and application questions

33. Consider the following case: A learner's marks are associated with row labels.

(a) Name the concept demonstrated in the case. **1**

(b) Explain how the details of the case support your choice. **1**

(c) Explain loc selection with another appropriate example. **2**

34. Consider the following case: Names and scores occupy separate columns.

(a) Name the concept demonstrated in the case. **1**

(b) Explain how the details of the case support your choice. **1**

(c) Explain Column operation with another appropriate example. **2**

Section E - Extended responses

35. For a Pandas DataFrame df with columns Name and Marks, write statements to display rows with Marks >= 80, create Bonus = Marks + 5, and display only Name and Bonus. Explain the Boolean filter. **5**

36. For Sales(City, Amount), write SQL to show city-wise total sales only for cities whose total exceeds 50,000, sorted from highest total to lowest. Distinguish WHERE and HAVING. **5**

37. Write Matplotlib statements for a bar chart of sales 20, 35 and 30 for A, B and C. Include a title, both axis labels and a command to display the chart. **5**

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