(7 pages)

Reg. No. : ....

Code No. : 7885   Sub. Code : WAIM 12

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

First Semester

Computer Science With Artificial Intelligence – Core

FUNDAMENTALS OF DATA SCIENCE

(For those who joined in July 2023 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following are correct components for data science?

    (a) Data Engineering

    (b) Advanced computing

    (c) Domain expertise

    (d) All of the above

2. Data can be categorized into ——————— groups.

    (a) 1   (b) 2

    (c) 3   (d) 4

3. Which of the following are the components of data science?

    (a) Statistics   (b) Data expertise

    (c) Data Engineering   (d) Visualization

4. What is the probability of getting an even number when a dice is thrown?

    (a) 1/6   (b) 1/2

    (c) 1/3   (d) 1/4

5. How many outcomes are possible when drawing a card from deck of cards?

    (a) 1   (b) 13

    (c) 52   (d) 26

6. What is the probability of a sure event?

    (a) 1   (b) 0

    (c) 1/4   (d) 1/2

7. Choose the incorrect property of the data warehouse.

    (a) Collection from heterogeneous sources

    (b) Subject oriented

    (c) Time variant

    (d) Volatile

8. Which of the following is an essential process in which the intelligent methods are applied to extract data patterns?

    (a) Warehousing   (b) Data Mining

    (c) Text Mining   (d) Data Selection

9. The classification of the data mining system involves:

    (a) Database technology

    (b) Information Science

    (c) Machine learning

    (d) All of the above

10. Which are pros of data visualization?

    (a) It can be accessed quickly by a wider audience

    (b) It can be distracting

    (c) It can misrepresent information

    (d) It cannot be accessed quickly

11. Data can be visualized using .

    (a) graphs   (b) charts

    (c) maps   (d) all of the above

12. Data visualization is also an element of the broader

    (a) deliver presentation architecture

    (b) data presentation architecture

    (c) dataset presentation architecture

    (d) data process architecture

13. ——————— graph displays information as a series of data points connected by straight line segments.

    (a) Bar   (b) Scatter

    (c) Histogram   (d) Line

14. Which is one of the significant data science skills?

    (a) Statistics   (b) Data Visualization

    (c) Machine Learning   (d) All of the above

15. Which of the following step is performed by the data scientist after acquiring the data?

    (a) Data Replication

    (b) Data Integration

    (c) Data Cleansing

    (d) Data Segmentation

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Analyze the three basic areas of data science.

Or

(b) Differentiate structured versus unstructured data.

17. (a) Why are matrices used as vectors?

Or

(b) Distinguish Bayesian versus frequentist.

18. (a) What is the purpose of a data warehouse?

Or

(b) Describe the key steps in the data mining process.

19. (a) Discuss about the three categories of visualization tasks.

Or

(b) Explain about reading graphs.

20. (a) What are the analysis techniques in data collection?

Or

(b) What is the method of data science?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

21. (a) Summarize the four levels of data.

Or

(b) Describe about overview of the five steps of data science.

22. (a) Explain about arithmetic symbols.

Or

(b) Analyze the rules of probability.

23. (a) What are the key elements of a data warehouse? Describe each one.

Or

(b) What is data mining? What are supervised and unsupervised learning techniques?

24. (a) Illustrate the different chart types.

Or

(b) Analyze the developing a visualization aesthetic.

25. (a) Discuss about the recent trends in data science.

Or

(b) What are the applications of data science? Explain.

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