

1B5N25013

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester BVOC SD Degree Examination, November 2025

SDC5IT23 –Big Data Analysis

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART – AAnswer *all* questions.Each question carries **Two** mark.**Ceiling -20 Marks**

1. Define Big Data.
2. List any two characteristics of Big Data applications.
3. What is the basic idea of the K-Means algorithm?
4. What is a decision tree in classification problem ?
5. State the two main measures used to evaluate association rules ?
6. Define collaborative recommendation ?
7. What is a hybrid recommendation system?
8. Define stream computing ?
9. Give one example of real-time sentiment analysis ?
10. Write two applications of graph analytics in Big Data ?
11. Define schema-less models in NoSQL ?
12. Write any two uses of R in Big Data Analytics ?

PART – BAnswer *all* questions.Each question carries **Five** marks.**Ceiling -30 Marks**

13. Differentiate between traditional data storage and Big Data storage approaches ?
14. Explain the role of YARN in Big Data processing ?
15. Explain how Naïve Bayes classifier works with a simple example ?

16. Differentiate between clustering and classification ?
17. Discuss the role of collaborative recommendation in e-commerce applications ?
18. Explain the use of decaying windows in real-time analytics ?
19. Explain the concept of sharding in NoSQL databases with an example ?

PART - C

Answer any *one* questions.
Each question carries **Ten** marks.

20. Discuss in detail the HDFS and MapReduce architectures, highlighting their roles in Big Data Analytics ?
21. Discuss in detail the different types of NoSQL databases with suitable examples ?

(1 x 10 = 10 Marks)

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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Fifth Semester BVOC SD Degree Examination, November 2025

SDC5IT24 –Machine Learning and Artificial Intelligence

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART – A

Answer *all* questions.

Each question carries **Two** mark.

Ceiling -20 Marks

1. Explain the concept of classification in Machine Learning.
2. Give any four applications of Machine Learning.
3. What is the purpose of pruning in Decision tree.
4. What is mean by Reinforcement Learning?
5. Explain Precision and Recall?
6. What is the activation function in Neural Networks?
7. What do you mean by Support Vector Machine?
8. What is Hidden Markov Model (HMM)?
9. What is the role of Numpy in Machine Learning?
10. Define K-means clustering?
11. What is Bagging and Boosting used for ensemble learning.
12. What is meant by Entropy?

PART – B

Answer *all* questions.

Each question carries **Five** marks.

Ceiling -30 Marks

13. Explain how logistic regression used for classification problems.
14. Explain ROC curve and how it is used to evaluate classifier performance.
15. Explain the difference between classification and regression in Machine Learning.

16. Distinguish the term

- a. Matplotlib.
- b. Numpy.
- c. Pandas.
- d. Scrappy.
- e. PySpark.

17. State and Prove Baye's theorem.

18. Describe the working of Bayesian classifier.

19. How entropy is used to determine the best split?

PART - C

Answer any *one* questions.
Each question carries **10** marks.

20. What is Support Vector Machine (SVM)? Explain optimal hyperplane, soft margin and the kernel trick with suitable diagram.

21. What is cross-validation? Discuss K-Fold Cross Validation and Bootstrapping in details.

1 x 10 = 10 Marks

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Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester BVOC SD Degree Examination, November 2025

SDC5IT25 –Cloud Computing

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART – AAnswer *all* questions.Each question carries **Two** mark.**Ceiling -20 Marks**

1. Define cloud computing ?
2. State any two applications of cloud computing ?
3. What do you mean by virtualization?
4. What is multi-tenancy in cloud computing?
5. Define SaaS and give one example ?
6. What is SLA in cloud computing?
7. State any two features of Microsoft Azure ?
8. Define service monitoring ?
9. List any two scheduling techniques in cloud computing ?
10. What is server consolidation?
11. Define Grid of Clouds ?
12. List two security threats in cloud environments ?

PART – BAnswer *all* questions.Each question carries **Five** marks.**Ceiling -30 Marks**

13. Differentiate between public cloud and private cloud with examples ?
14. Analyze the issues related to virtualization in cloud computing ?
15. Explain the importance of MapReduce in cloud computing ?
16. Explain resource optimization in cloud computing ?
17. Discuss the importance of distributed resource management ?
18. Explain data-level and application-level security ?
19. Explain trust management in cloud computing ?

PART - C

Answer any *one* questions.
Each question carries **Ten** marks.

20. Discuss the evolution of cloud computing and its major applications in real-world scenarios ?
21. Evaluate fault tolerance mechanisms in cloud computing ?

1 x 10 = 10 Marks

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Fifth Semester BVOC SD Degree Examination, November 2025

SDC5IT26 –Android App Development

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

P A R T - A

Answer all questions. Each question carries two mark.

Ceiling -20 Marks

1. What is a Geocoding ?
2. What is meant by Broadcast Receiver?
3. Define Android Emulator.
4. What is an Adapter in Android?
5. Write two uses of R.java file.
6. Name any two Android UI widgets.
7. What is the purpose of strings.xml file?
8. What is Service in Android?
9. What is the role of the Android Virtual Machine?
10. Define Activity in Android.
11. What is the purpose of the Android Manifest file?
12. Write any two differences between Explicit and Implicit Intents.

P A R T - B

Answer all questions. Each question carries five marks.

Ceiling -30 Marks

13. Describe the use of Intents in Android with an example.
14. Discuss the role of Resources and Assets in Android applications.
15. Write a short note on Form Widgets and Views with examples.
16. Explain the use of SQLite database in Android applications.
17. Explain the architecture of Android with a neat diagram.
18. What are the different types of layouts available in Android? Explain any two.
19. Explain the Activity lifecycle with a suitable diagram.

PART - C

Answer any one questions.

Each question carries ten marks.

20. What is Android Control? Explain any **five commonly used controls** with examples.
21. What is AsyncTask . Explain their purpose and usage with examples.

1x 10 = 10 Marks

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Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Fifth Semester BVOC SD Degree Examination, November 2025

SDC5IT27 –Internet of Things (IOT)

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART – A

Answer *all* questions.

Each question carries **Two** mark.

Ceiling -20 Marks

1. List any four enabling technologies of IoT?
2. Explain “Product Designing” in IoT.
3. Differentiate between serial monitor and serial plotter
4. Define range setting in ultrasonic sensors
5. Write any two applications of obstacle detection sensors.
6. Define servo motor rotation angles
7. List any two uses of Raspberry Pi
8. Mention two versions of Raspberry Pi.
9. Differentiate between Raspberry Pi and Arduino
10. Define Bottle framework
11. What is ultrasonic-buzzer integration?
12. Name two HTML elements used for IoT control.

PART – B

Answer *all* questions.

Each question carries **Five** marks.

Ceiling -30 Marks

13. Describe oneM2M IoT architecture.
14. Describe the use of `if` and `for` loops in Arduino programs
15. Design a distance monitoring LED control system
16. Compare the response time of LDR vs temperature sensor in IoT applications.
17. Write steps to set up a Raspberry Pi for first-time use

18. Compare Arduino and Raspberry Pi for IoT applications.
19. Analyze the role of web servers in IoT-based applications

PART - C

Answer any *One* question.
Each question carries **Ten** marks.

20. Explain how Arduino can be used for different IoT applications.
21. Analyze the complete process of IoT device control via the web

1 x 10 = 10 Marks