

Exam Code: 112903

Paper Code: 3292

Programme: Bachelor of Vocation (Artificial Intelligence and
Data Science)

SEMESTER: III

Course Title: Statistical Inference - I

Course Code: BVIL-3111 ✓

TIME: 3 HRS.

Max. Marks: 70

NOTE: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 14 marks.

Section - A

1. How can you elaborate the term Random Variables? Discuss its types with an example. 14
2. Write a note on the following:
 - a. Joint Probability Distribution 5
 - b. Probability mass function 5
 - c. Sample space 4

Section - B

3. What is the moment? How to calculate MGF from pdf. Elaborate with an example. 14
4. Explain Chebyshev's inequality and its applications. 14

Section - C

5. Differentiate between Discrete and Continuous Random Variables. 14
6. a. Explain Binomial theorem.
 - b. A fair coin is tossed 10 times. What is the probability of getting:
 - (i) Exactly 6 heads
 - (ii.) At most 5 heads
 - (iii.) Exactly 5 tails

2 X 7 = 14

Section - D

- | | |
|---|----|
| 7. Explain Sampling Distribution in detail. | 14 |
| 8. Explain the Chi-Square test with an example. | 14 |

(For Reappear Candidates Only (2023-24))

Exam Code: 114003

Paper Code: 9349

Bachelor of Vocation (Artificial Intelligence and Data Science)

SEMESTER: III

Course Title: Statistical Inference - I

Course Code: BVIL-3111

TIME: 3 HRS.

✓ Max. Marks: 60

NOTE: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 12 marks.

Section-A

1. How can you elaborate the term Random Variables? Discuss its types with an example. 12
2. Write a note on the following:
 - a. Joint Probability Distribution 4
 - b. Probability mass function 4
 - c. Sample space 4

Section-B

3. What is the moment? How to calculate MGF from pdf. Elaborate with an example. 12
4. Explain Chebyshev's inequality and its applications. 12

Section-C

5. Differentiate between Discrete and Continuous Random Variables. 12
6. a. Explain Binomial theorem. 12
- b. A fair coin is tossed 10 times. What is the probability of getting:
 - (i) Exactly 6 heads
 - (ii.) At most 5 heads
 - (iii.) Exactly 5 tails

2 X 6 = 12

Section-D

7. Explain Sampling Distribution in detail. 12
8. Explain the Chi-Square test with an example. 12

Exam Code: 112903
(20)

Paper Code: 3293

**Programme: Bachelor of Vocation (Artificial Intelligence
and Data Science) Semester-III**

**Course Title: Data Mining and Data
Warehousing**

Course Code: BVIL-3112 ✓

Time Allowed: 3 Hours

Max Marks: 70

Note:- Attempt five questions in all, selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries 14 marks.

Section-A

1. Explain the role of Data mining in Knowledge Discovery process. 14
2. Write a short note on:
 - a) Data Mining techniques 7
 - b) Frequent pattern mining 7

Section-B

3. Discuss the following Clustering methods:
 - a) Partition methods 7
 - b) Density based methods 7

4. Differentiate between classification and clustering in detail.

14

Section-C

5. Explain the following:
- a) Evolution of Data warehousing 7
 - b) Concepts of Data warehousing 7
6. Discuss OLAP operations in detail with suitable examples. 14

Section D

7. Explain Single stage and Multistage Data warehouses. 14
8. Discuss Stationary distributed and Virtual Data warehouses in detail. 14

Exam Code: 112903
(20)

Paper Code: 3294

**Programme: Bachelor of Vocation (Artificial Intelligence
and Data Science)
Semester-III**

**Course Title: Data Processing and
Visualization**

Course Code: BVIL-3113

Time Allowed: 3 Hours

Max Marks: 35

Note:- Attempt five questions in all, selecting atleast one question from each section. The fifth question may be attempted from any section. Each question carries 7 marks.

SECTION-A

1. What are main types and characteristics of data? Also explain data level in detail.
2. Explain various functions of data processing? Also explain problems associated with raw data.

SECTION-B

3. Explain in detail:
 - (a) Distributed processing
 - (b) Time Sharing

4. Explain in detail:
 - (a) Electronic data Processing
 - (b) Application of data processing

SECTION-C

5. Explain the importance of Data Visualization. Also explain user psychology of visualization.
6. Explain User Interface design principles based on Human perception.

SECTION-D

7. Discuss the use of Pie Charts, Box Plots, Scatter Plots and Bubble Plot tools in Visualization.
8. What is the use of "Word Cloud" Advanced Visualization tool. Explain in detail.

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Paper Code: 3295

Programme: Bachelor of Vocation (Artificial Intelligence and
Data Science)

SEMESTER: III

Course Title: Workplace Management

Course Code: BVIL-3114

TIME: 3 Hours.

Max. Marks: 35

NOTE: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 7 marks.

Section - A

1. What should be taken care while dealing with huge audiences as public speaker. Discuss.
2. What can be done to resolve a conflict with a colleague at Workplace.

Section - B

3. List down the factors that can make a presentation engaging to the audiences.
4. What kind of preparation is required to successfully crack an interview?

Section - C

5. Why is relationship management important at workplace? What can be done to ensure a healthy work environment?
6. In what ways Client Satisfaction can be ensured by the companies?

Section - D

7. What kind of behaviour qualifies as assertive behaviour at workplace? Discuss.
8. Write a short note on: -
 - a) Body language Awareness & Precautions – when speaking on Public Platform
 - b) Leadership Qualities

Exam Code: 112903

Paper Code: 3296

**Programme: Bachelor of Vocation (Artificial Intelligence and
Data Science)**

SEMESTER: III

Course Title: Machine Learning-I

Course Code: BVIL-3115

TIME: 3 Hours.

Max. Marks: 70

NOTE: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 14 marks.

(Section A)

Q1) Discuss various Machine Learning techniques in detail.

Q2) Explain:-

- a) Inductive Bias
- b) Supervised Learning

(Section B)

Q3) What do you mean by regression? Explain its types in detail.

Q4) Explain with suitable examples:-

- a) Covariance
- b) Correlation

(Section C)

Q5) Explain with example:-

- a) Model Assumptions
- b) Probability Estimation

Q6) What do you mean by clustering? How distance, density and hierarchy can be used for prediction in Machine Learning?

(Section D)

Q7) What is SVM? How it can be used for identifying images with cat from a set of images?

Q8) Explain:-

- a) Random Forest
- b) Component Analysis

(For Reappear Candidates Only (2023-24))

Exam Code: 114003

Paper Code: 9350

Bachelor of Vocation (Artificial Intelligence and Data Science)

Semester: III

Course Title: Machine Learning-I

Course Code: BVIL-3115

TIME: 3 Hours.

Max. Marks: 40

NOTE: Attempt five questions, selecting at least one question from each section. Fifth question may be attempted from any section. Each question carries 08 marks.

Section-A

Q1) Discuss various Machine Learning techniques in detail.

Q2) Explain:-

- a) Inductive Bias
- b) Supervised Learning

Section-B

Q3) What do you mean by regression? Explain its types in detail.

Q4) Explain with suitable examples:-

- a) Covariance
- b) Correlation

Section-C

Q5) Explain with example:-

- a) Model Assumptions
- b) Probability Estimation

Q6) What do you mean by clustering? How distance, density and hierarchy can be used for prediction in Machine Learning?

Section-D

Q7) What is SVM? How it can be used for identifying images with cat from a set of images?

Q8) Explain:-

- a) Random Forest
- b) Component Analysis