

Exam Code: 114004

*10/5/24*  
*KMV III (M)* Paper Code: 4306

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

Semester: IV

Course Title: Statistical Inference-II

Course Code: BVIL - 4111

Time Allowed: 3 Hours

Max Marks: 40

**Note:** Attempt five questions in all, selecting atleast one question from each section. Fifth question may be attempted from any section. Each question carries 8 marks.

**Section A**

Q1: Explain in detail consistency, sufficiency and efficiency properties of estimator in statistical inference. (8)

Q2: Write completeness and uniqueness in statistical inference with the help of example. (8)

**Section B**

Q3: Write various applications of sampling distributions in detail. (8)

Q4: Elaborate F-test with the help of example. (8)

**Section C**

Q5: Compare and contrast null and alternative hypothesis. (8)

Q6: Write steps involved in Neyman-Pearson Lemma. (8)

**Section D**

Q7: What do you understand by ANOVA? Explain the steps in it. (8)

Q8: Write various applications of ANOVA. (8)

**Exam Code: 114004**

**Paper Code: 4307**

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

**Semester: IV**

**Course Title: Applied Statistical Programming**

**Course Code: BVIL - 4112**

**Time Allowed: 3 Hours**

**Max Marks: 60**

**Note:** Attempt five questions in all, selecting atleast one question from each section. Fifth question may be attempted from any section. Each question carries 12 marks.

**Section – A**

1. Explain R language along with its features and advantages. 12
2. Explain subletting in R with examples. 12

**Section – B**

3. Explain factors and tables. What are common functions used with factors? 12
4. Explain R operators in detail with programming examples. 12

**Section – C**

5. Write a program in R to check whether the given number is negative, positive or zero. 12
6. Explain various Decision Making, looping and control statements in R. 12

**Section – D**

7. Define mean, median, mode and standard deviation 12
8. Write various functions to draw various graphs like histogram, bar chart, box plot, line graphs and scatter graph. 12

**Exam Code: 114004**  
**(20)**

**Paper Code: 4308**

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

**Course Title: Non-Relational Databases**

**Course Code: BVIL-4113**

**Time Allowed: 3 Hours**

**Max Marks: 60**

**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-1**

1. What is Big Data? Describe the main features of big data in detail. Also write various applications of Big data.
2. List and explain any five big data platforms in detail.

**SECTION-2**

3. Write the features, advantages and available versions of Hadoop Eco System.
4. Discuss the architecture of
  - (i) Avro
  - (ii) Sqoop
  - (iii) Oozie

### SECTION-3

5. Discuss the history, features and advantages of NOSQL in detail.
6. Is MongoDB a NQSQL database? What are different types of NoSQL databases? Is Mongo DB better than other SQL databases? Explain.

### SECTION-4

7. What are indexes in MongoDB? What are various languages supported by MongoDB? How you do transaction/locking in MongoDB.
8. (a) List various data types of MongoDB,  
(b) How you do data base backup and Restore with MongoDB tools.

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**Exam Code: 114004**  
(20)

**Paper Code: 4309**

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

**Course Title: Workplace Management**

**Course Code: BVIL-4114**

**Time Allowed: 3 Hours**

**Max Marks: 60**

**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-1**

1. What is effective communication? Differentiate between formal and informal communication.
2. Explain in detail
  - (i) Telephonic communication
  - (ii) Email etiquettes

**SECTION-2**

3. What are various ways that are used to make good interaction with audience?
4. What is the role of body language, confidence and subject expertise for preparation for interviews?

### SECTION-3

5. Explain in detail: "Maintenance of Relationships at workplace".
6. Write detailed note on "Work Effectively with colleagues".

### SECTION-4

7. Write detailed note on:
  - (i) Personality development
  - (ii) Self esteem & confidence building.
8. Write detailed note on
  - (i) Assertive Behaviour
  - (ii) Leadership qualities