Exam Code: 114002 **Paper Code: 2316**
(30)

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

Course Title: Computational Problem Solving-II

Course Code: BVIL-2113

Time Allowed: 3 Hours **Max Marks: 60**

Attempt five questions, selecting at least one question from each section. All questions carry equal marks (12) each, Fifth question may be attempted from any section.

SECTION-I

1. How you specify a module in python? Also write advantages and uses of modules
2. Explain various operations performed on Text files by writing brief examples.

SECTION-2

3. Explain
   (i) Two Tier and Three Tier client server architecture
   (ii) Write features of SQLite.
4. (i) Differentiate between SQL and SQLite.

(ii) Write meaning and features of SQLite Manager.

SECTION-3

5. How many types of widgets are available in Tkinter library? Explain any eight in brief.
6. Explain the use of following two main methods needed to remember while creating the Python application with GUI? (i) tk() (ii) mainloop()

SECTION-4

7. What is the use of Tensorflow library in Python? What is its role in deep learning?
8. Why Pandas is used for Data Science? Which Python supports pandas? Also write advantages of Pandas.

Exam Code: 114002 **Paper Code: 2317**
(30)

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

Course Title: Mathematical Foundation

Course Code: BVIL-2114

Time Allowed: 3 Hours **Max Marks: 40**

Note: Attempt FIVE questions. Each question carries equal marks. Candidate are required to attempt at least ONE question from each section and fifth question can be attempted from any Section.

SECTION A

1. a. What do you mean by sets? Explain different types of sets.
   b. If A = {2,3,4,5,6}, B = {3,5,7,9} and C = { 1,2,3,4}. Show that A U (B ∩ C) = (AU B) ∩ (A U C) (4+4)
2. Explain different operations to be performed on Sets with example. (8)

SECTION B

3. What do you understand by Relations? Explain properties of relation in detail with an example. (8)

4. a. Check whether the relation R defined in the set {1,2,3,4,5,6} as R = {(a,b):b=a+1} is reflexive, symmetric or transitive.
   b. Let R be the relation on the set N of naturals defined by a + 3b = 12. Find
   (i) R
   (ii) domain of R
   (iii) Range of R (4+4)

SECTION C

5. a. Discuss logical operations of proposition with an example.
   b. Define Tautology and contradiction in detail. (4+4)

6. a. Prove the validity of the following arguments:
   If man is a bachelor, he is unhappy.
   If a man is unhappy, he dies young.
   Therefore, bachelor dies young.
   b. State Converse and Contrapositive of the implication:
   " If today is Sunday, then I have a rest day today". (4+4)

SECTION D

7. a. Explain Duality law with an example.
   b. Let M(x) be "x is a mammal". Let A (X) be "X is an animal" and let W(x) be "x is warm blooded".

(i) Translate into formula: Every mammal is warm blooded.

(ii) Translate into English (∃x) (A (X) ^ (~M (x))

(4+4)

8. Write a note on:

a. Propositional functions

b. Algebra of propositions

c. Predicate logic

d. Quantifier (4+4)

For Reappear Candidates (2022-23.)

Exam Code: 114002 **Paper Code: 9231.**

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

Course Title: Technical Writing

Course Code: BVIL-2115

Time Allowed: 3 Hours **Max Marks: 40**

Note: Attempt five questions, selecting one question from each section. The fifth question may be attempted from any section. All question carries(8)marks.

(Section A)

1. What is Technical writing? Explain role of technical writer in detail.
2. Explain essential skills of technical communication in detail.

(Section B)

3. How audience analysis is performed in technical communication?
4. Explain complete process of technical writing.

(Section C)

5. What do you mean by concise communication? What are common errors occur during sentence construction?
6. Explain the complete process of interview in detail.

(Section D)

7. How at technical document is edited? Explain various types of editing.
8. What do you mean by ethics in technical writing? Differentiate between legal and ethical aspects of technical communication.

Exam Code: 114002 **Paper Code: 2318**
(30)

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

Course Title: Technical Writing

Course Code: BVIL-2115

Time Allowed: 3 Hours **Max Marks: 60**

Note: Attempt five questions, selecting one question from each section. The fifth question may be attempted from any section. All question carries 12 marks.

(Section A)

1. What is Technical writing? Explain role of technical writer in detail.
2. Explain essential skills of technical communication in detail.

(Section B)

3. How audience analysis is performed in technical communication?
4. Explain complete process of technical writing.

(Section C)

5. What do you mean by concise communication? What are common errors occur during sentence construction?
6. Explain the complete process of interview in detail.

(Section D)

7. How at technical document is edited? Explain various types of editing.
8. What do you mean by ethics in technical writing? Differentiate between legal and ethical aspects of technical communication.

Exam Code: 114002 **Paper Code: 2319**
(30)

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

Course Title: Data Collection and Analysis

Course Code: BVIL-2116

Time Allowed: 3 Hours **Max Marks: 40**

Note: Attempt FIVE questions in all, selecting ONE question from each section. The fifth question may be attempted from any section. All question carry equal marks.

Section-A

1. What do you mean by Data Collection and Data Analytics? (8)
2. Explain all the data Collection Sources? (8)

Section-B

3. Explain the Following:
   (a) Online Tools
   (b) Offline Tools (8)
4. What do you understand by Data Analytics? Explain the Characteristics of Data analysis? (8)

Section-C

5. What is the Process of Data Analysis? Explain the technical skills of data analyst? (8)
6. Explain the Following:
   (a) Exploratory data Analysis
   (b) Confirmatory data Analysis (8)

Section-D

7. How to use Google forms and how can we collaborate with Google forms. (8)
8. How to utilize data analysis in Excel? Explain it. (8)

Exam Code: 114002 **Paper Code: 2320**
(30)

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

Course Title: Relational Database Management System

Course Code: BVIM-2117

Time Allowed: 3 Hours **Max Marks: 40**

Note: There are eight questions in the question paper divided into four sections A-D of 8 marks each. Attempt atleast one question from each section. The fifth question may be attempted from any section.

Section A

1. Explain the term DBMS along with its advantages and disadvantages (8)
2. a) Explain three levels of DBMS. (6)
   b) Write two main responsibilities of DBA. (2)

Section B

3. Write various operations in Relational Algebra with examples. (8)
4. Elaborate Codd's twelve rules. (8)

Section C

5. Write importance of normalization. Explain 2NF and 3NF in detail. (8)
6. How can you achieve concurrency control and management in DBMS? (8)

Section D

7. Explain various commands under DDL and DML with examples (8)
8. Write a note on the following
   a) Implicit cursor
   b) Triggers
   c) Sequence
   d) Procedure Vs Function (2x4=8)