

Exam Code: 114005

Paper Code: 5248

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

Course Title: Research Methodology

Course Code: BVIL-5111 ✓

Examination Time: 3 Hours

Max. Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks.

Section A

1. Explain meaning of Research? Explain significance of ethical conduct in Research.
2. What are different classifications in Research?

Section B

3. What are different types of approaches in Research?
4. Explain methods to conduct analysis of qualitative data.

Section C

5. Explain ethical issues related to publications.
6. Explain Plagiarism and self-Plagiarism.

Section D

7. Explain IPR and Patent Laws.
8. Explain Impact factor of Journals. Explain IMRaD concepts.

Exam Code: 114005

Paper Code: 5249

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

Course Title: Principles of Artificial Intelligence

Course Code: BVIL-5112 ✓

Examination Time: 3 Hours

Max. Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks.

Section A

- Q1 What is AI? Explain the foundation and history of AI intelligent agents. (12)
- Q2 a) What are Problem solving agents? Explain. (6)
- b) Explain the structure of AI intelligent agents. (6)

Section B

- Q3 Explain any two uninformed search strategies with examples. (12)
- Q4 What do you understand by propositional logic? Explain reasoning patterns in propositional logic. (12)

Section C

- Q5 Write syntax and semantics of first order logic. (12)
- Q6: a) Compare and contrast Propositional and First order Inference. (6)
- b) Write a note on backward and forward chaining. (6)

Section D

- Q7: Write Baye's rule along with its applications. (12)
- Q8: Explain the following (4*3 = 12)
- a) Uncertainty
 - b) Probability
 - c) Inference
 - d) Wumpus world

Exam Code: 114005

Paper Code: 5250

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

Course Title: Machine Learning - II

Course Code: BVIL-5113

Examination Time: 3 Hours

Max. Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks.

Section – A

1. Explain reinforcement Learning. Explain Genetic Algorithms for reinforcement Learning. 12
2. What is SARSA Learning? How it is different from Q-Learning? 12

Section – B

3. Explain Principal Component Analysis and Linear Discriminant Analysis? 12
4. Explain Dimensionality Reduction. Explain its types. 12

Section – C

5. What is tokenization? Explain its significance. How it is achieved? 12
6. Explain Overfitting and Underfitting. 12

Section – D

7. What is stemming? Explain stemming with Natural Language Tool Kit. 12
8. List some applications and daily life use cases of NLP. 12

Lib 13/12/23 (M) Nov-2

Exam Code: 114005

Paper Code: 5251

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

Course Title: Soft Computing

Course Code: BVIL-5114



Examination Time: 3 Hours

Max. Marks: 60

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 12 marks.

Section A

- Q1) What do you mean by soft computing? How it is different from hard computing? Why it is required? (12)
- Q2) Explain the role of soft computing in decision making and prediction systems. (12)

Section B

- Q3) What is Fuzzy Logic System? Explain its architecture in detail. (12)
- Q4) Differentiate between:-
- a) Fuzzy set and crisp set
 - b) Fuzzification and Defuzzification (2 X 6 = 12)

Section C

- Q5) What is ANN? How it is trained and applied for prediction? Explain with an example. (12)
- Q6) Explain various learning rules. (12)

Section D

- Q7) What do you mean by fitness function? Explain its role in the field of Genetic algorithms with suitable examples. (12)
- Q8) Explain in Genetic Algorithms:-
- a) Operators
 - b) Convergence (2 X 6 = 12)

Exam Code: 114005

Paper Code: 5252

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

Course Title: Project Management

Course Code: BVIL-5115 ✓

Examination Time: 3 Hours

Max. Marks: 40

Note: Attempt five questions in all, selecting at least one question from each section. The fifth question may be attempted from any section. Each question carries 8 marks.

Section A

- Q1. Explain waterfall model? Why waterfall model is not successful? Differentiate it with incremental Process models? (8)
- Q2. (a) Why software effort estimation plays an important role in Project management?
(b) How resource allocation is done in Project Management? (2X4)

Section B

- Q3. (a) How to categorize the software projects?
(b) Explain different methodologies in project management. (2X4)
- Q4. How traditional project management is different from Modern project management? (8)

Section C

- Q5. What are the objectives of activity planning? How to schedule project?(8)
- Q6. (a) Explain Networking Planning Models.
(b) Compare and contrast the Program Evaluation and Review Technique (PERT) with the Critical Path Method (CPM) in project management. In what situations is each method most useful? (2X4)

Section D

- Q7. (a) Define software quality and its importance in project management. How does software quality impact customer satisfaction and project success?
(b) Explain ISO 9126. (2X4)
- Q8. (a) What are the techniques to enhance software quality?
(b) How do you write a good quality plans? (2X4)