

Duration: 3hrs

[Max Marks:80]

- N.B. : (1) Question No 1 is Compulsory.
(2) Attempt any three questions out of the remaining five.
(3) All questions carry equal marks.
(4) Assume suitable data, if required and state it clearly.

- 1 Attempt any FOUR [20]
- a Write comparison between Business Intelligence and Data Science
 - b What is rational agent? Explain with diagram.
 - c Explain what role is played by Correlation and Covariance in EDA?
 - d What are heuristic functions? Where are they used?
 - e What is Unification? Give example
 - f What is Skolemization? Explain Skolem constant and Skolem function
- 2 a Write a detailed note on Hypothesis Testing. What are type I and type II errors? [10]
- b The law says that it is a crime for an American to sell weapons to hostile nations. The country Nono, an enemy of America, has some missiles, and all of its missiles were sold to it by Colonel West, who is American. [10]
- Prove that Col. West is a criminal!
- 3 a Explain uniform cost search and best first search in detail with examples and compare. [10]
- b Explain various stages in the Data analytics Lifecycle. [10]
- 4 a Explain SVM in detail. [10]
- b Describe PEAS and also write down the PEAS representations for Medical diagnosis system. [10]
- 5 a Write in detail issues in machine learning. [10]
- b Elaborate in detail the steps in developing a Machine Learning application with architectural diagram. [10]

- 6 a What are the different planning techniques? Explain with example. [10]
 b What do you mean by covariance and correlation? Explain the range of coefficients of correlation and covariance. Calculate COV(Observed Value1, Observed Value2) and CORRCOV(Observed Value1, Observed Value2) for following data. How do you interpret these values? [10]

Experiment No	Observed Value1	Observed Value2	Experiment No	Observed Value1	Observed Value2
1	38	20	9	80	9
2	62	15	10	32	22
3	22	30	11	51	20
4	38	21	12	56	19
5	45	18	13	21	28
6	69	12	14	34	23
7	75	14	15	76	14
8	38	28			
