22593

23242

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following : **10**

(a) List any two applications of AI.

(b) Differentiate between AI v. ML.

(c) Describe the properties of A* Algorithm.

(d) Write down any two rules of inference in knowledge-based agent in AI.

(e) Define data mining & statistic data.

(f) State different unsupervised algorithms.

(g) Define term MSE, RMSE.

2. Attempt any THREE of the following : **12**

(a) Describe machine learning life cycle.

(b) Difference between overfitting & underfitting.

(c) Explain Baye's theorem.

(d) Explain online search agent using depth first search.

3. Attempt any THREE of the following : **12**

(a) State and explain different type of learning.

(b) Define AI. Define AI on the basis of "System that think rationally" & "System that act like humans".

(c) Implement simple linear regression algorithm in Python.

(d) Explain Heuristic search techniques.

4. Attempt any THREE of the following : **12**

(a) Explain the Turing test with example.

(b) Difference between Uniformed & Informed search technique.

(c) Discuss backward Algorithm.

(d) Describe different metrics for classification.

5. Attempt any TWO of the following : **12**

(a) Explain any one unsupervised algorithm.

(b) Describe different form of data.

(c) Explain an algorithm of best first search.

6. Attempt any TWO of the following : **12**

(a) Explain A* search Algorithm. Discuss about the admissibility of A* Algorithm.

(b) Describe the architecture of knowledge-based agent in AI.

(c) Explain model evaluation with positive & negative class cross-validation.
