

Total No. of Questions – [6]

Total No. of Printed Pages: [2]

G.R. No.	
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F. Y. M. TECH. (COMPUTER ENGINEERING)
(SEMESTER – I)
COURSE NAME: AI and MACHINE LEARNING
COURSE CODE: CSPA11203
(PATTERN 2020)

Time: [3 Hours]

[Max. Marks: 60]

Instructions to candidates:

- 1) All Questions are compulsory
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

- Q.1 Justify the need of intelligent agents and categorize them based on their characteristics. [10]
- Q.2 a) Differentiate uninformed and informed search methods with examples. [05]
b) Design A* algorithm for searching lowest cost path. [05]
- Q.3 Prove that “Ravi likes a Peanuts” using resolution, the facts are given below: [10]
i. Ravi likes all kind of food
ii. Apple is food
iii. Chicken is food
iv. Anything anyone eats and is not killed is food
v. Ajay eats Peanuts and still alive
vi. All those not killed are alive and vice-versa
- Q4. Explain data preparation process in details. [10]

- Q5. Estimate clusters using K-means algorithm for following dataset, assume $K=2$ and use Euclidean method to estimate distance between nodes. [10]

Height	Weight
185	72
170	56
168	60
179	68
182	72
188	77
180	71
180	70
183	84
180	88
180	67
177	76

- Q6 a) Distinguish following methods of the Gradient descent [05]
- Batch-based GD
 - Stochastic GD
- b) Explain Feed-forward multilayer neural network. [05]