**KLS Gogte Institute of Technology, Belagavi**

**Department of Computer Science and Engineering Academic Year: 2020-21(EVEN SEM)**

**Program: B.E (Computer Science and Engineering) Semester: VI**

**IA Test – II**

**Course Title:** **AI and ML** **Code: 18CS61**

**Max. Marks: 30 (Part B: 25 marks) Duration: 1 Hr. 15 Mins. Date: 07/06/2021**

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| Instructions: | 1. | Part B: Answer any Five Questions. |

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| Q. No. | **PART B** | [L ] | [CO] | [PO] | [M] |
| 1. | Explain how do you improve the performance of backpropagation algorithm | 2 | 1 | 1 | 5 |
| 2. | Explain three activation functions | 2 | 1 | 1 | 5 |
| 3. | Construct decision tree for the following data   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Color** | **Type** | **Doors** | **Tires** | **Class** | | Red | SUV | 2 | Whitewall | **+** | | Blue | Minivan | 4 | Whitewall | **-** | | Green | Car | 4 | Whitewall | **-** | | Red | Minivan | 4 | Blackwall | **-** | | Green | Car | 2 | Blackwall | **+** | | Green | SUV | 4 | Blackwall | **-** | | Blue | SUV | 2 | Blackwall | **-** | | Blue | Car | 2 | Whitewall | **+** | | Red | SUV | 2 | Blackwall | **-** | | Blue | Car | 4 | Blackwall | **-** | | Green | SUV | 4 | Whitewall | **+** | | Red | Car | 2 | Blackwall | **+** | | Green | SUV | 2 | Blackwall | **-** | | Green | Minivan | 4 | Whitewall | **-** | | 3 | 3 | 1 | 5 |
| 4. | Apply Find-S algorithm for the following historical data | 3 | 3 | 1 | 5 |
| 5. | Illustrate the use of Bayes’ theorem for the purposes medical diagnosis | 3 | 3 | 1 | 5 |
| 6. | Write a note on Noisy-V function. | 2 | 1 | 1 | 5 |
| 7. | Express the following conditional probabilities in terms of conditional probability tables  P(A) = 0.1 P(B) = 0.7 P(C|A) = 0.2 P(C|¬A) = 0.4 P(D|A ∧ B) = 0.5 P(D|A ∧ ¬B) = 0.4 P(D|¬A ∧ B) = 0.2 P(D|¬A ∧ ¬B) = 0.0001 P(E|B) = 0.2 P(E|¬B) = 0.1 | 2 | 1 | 1 | 5 |

**Staff Incharge Module Coordinator IQAC members**

**Prof. U. M. Kulkarni Prof. S. R. Dhotre**

**Prof. Kavita D. H.**

**Prof. Gajendra C. Deshpande**