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**THE NATIONAL INSTITUTE OF ENGINEERING, MYSURU – 8**
(An Autonomous Institute Affiliated to VTU, Belagavi)

**Eighth Semester B.E Degree Examination, May/June 2019**

**EC0442** — **Artificial Intelligence**

Time: 3 Hrs — Max. Marks: 100

**Note: Answer all the questions.**

| Q. No. | Cognt. Level | COs | Questions | Marks |
|---|---|---|---|---|
| 1. a) | L3 | CO1 | Illustrate the steps of means-ends analysis with an example. | 8 |
| b) | L3 | CO1 | Illustrate the steps to determine whether the goal has been achieved or not. | 7 |
| | | | | |
| 2. a) | L3 | CO2 | Illustrate depth first search procedure with an example. | 8 |
| b) | L3 | CO2 | Illustrate breadth first search procedure with an example. | 7 |
| | | | **OR** | |
| 2.c) | L3 | CO2 | Illustrate hill-climbing procedure with an example. | 8 |
| d) | L3 | CO2 | Illustrate non-deterministic search procedure with an example. | 7 |
| | | | | |
| 3. a) | L3 | CO2 | Illustrate min-max algorithm with an example. | 8 |
| b) | L3 | CO2 | Illustrate alpha-beta pruning with an example. | 7 |
| | | | | |
| 4. a) | L2 | CO4 | Explain different types of learning. | 8 |
| b) | L2 | CO4 | Explain the steps to generate identification tree. | 7 |
| | | | | |
| 5. a) | L3 | CO3 | Illustrate the steps to represent specifications of neurons to build arithmetic constraint propagation nets. | 8 |
| b) | L2 | CO3 | Explain back propagation procedure with relevant equation. | 7 |
| | | | **OR** | |
| 5. c) | L2 | CO3 | Explain convolution neural network. | 8 |
| d) | L2 | CO3 | Explain learning by genetic algorithms. | 7 |
| | | | | |
| 6. a) | L2 | CO4 | Write a short note on SVM. | 8 |
| b) | L2 | CO4 | Write a short note on statistical learning. | 7 |
| | | | | |
| 7. a) | L1 | CO1 | Define AI: | 2 |
| b) | L1 | CO2 | Explain AO* algorithm. | 2 |
| c) | L1 | CO3 | Define expert system. | 2 |
| d) | L1 | CO4 | Define neural network. | 2 |
| e) | L1 | CO4 | Define rule based systems. | 2 |