18. (a) Write a note on AWS essentials.

Or

(b) State the use of Keras and pytorch.

19. (a) Write short note on Activation function in ANN.

Or

(b) Describe LSTM and its Layers.

20. (a) Explain embedded and autonomous agents.

Or

(b) List out the tools for Robotics? Explain.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

21. Describe Knowledge Representation in detail.

22. Discuss on Reinforcement learning and its problems.

23. Explain Cloud platform and its services.

24. Illustrate the Conventional Layers in CNN.

25. Describe the working of A* and bug algorithm.

———————

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Electronics – Core Choice Course

ARTIFICIAL INTELLIGENCE

Time : Three hours   Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL questions.

I. (A) Choose the correct answer :   (5 × 1 = 5)

1. Artificial Intelligence is about ————.
   (a) Playing a game on Computer
   (b) Making a Machine intelligent
   (c) Programming on Machine
   (d) Putting intelligence in Machine

2. Which of the following is NOT an advantage of K-means clustering?
   (a) Easy to implement and understand
   (b) Scalable to large datasets
   (c) Guaranteed to find the global optimum
   (d) Converges relatively quickly

3. Keras is written in which language?
   (a) Java   (b) C++
   (c) SQL   (d) Python

4. ANN is the collection of artificial ————?
   (a) Networks   (b) Neurons
   (c) Synapses   (d) Weights

5. Robotics is a branch of AI, which is composed of
   ————.
   (a) Electrical Engineering
   (b) Mechanical Engineering
   (c) Computer Science
   (d) ALL Engineering

   (B) Fill in the blanks :   (5 × 1 = 5)

6. ———— is the common language for AI.

7. ———— evaluation metrics is commonly used for classification problems.

8. A placeholder is a ———— in Tensor Flow that holds the input data for a neural network.

9. A ———— is a mathematical function that quantities the difference between predicted and actual values in a machine learning model.

10. ———— is an agent that can autonomously move around based on its sensor inputs.

II. Answer the following :   (5 × 2 = 10)

11. What do you mean by Artificial Intelligence?

12. Mention the primary difference between supervised and unsupervised learning.

13. What Tensor flow used for?

14. How are the weights and biases initialized in an ANN?

15. Explain ROS.

SECTION B — (5 × 5 = 25)

Answer ALL questions, choosing either (a) or (b).

16. (a) State the difference between Hard or weak AI.

   Or

   (b) Explain the Goals of AI.

17. (a) Explain Clustering Distance Measures.

   Or

   (b) Brief about explanation-based learning (EBL) and its architecture.