(7 pages) Reg. No. : .....

Code No. : 6185 **Sub. Code : WCAE 21**

M.C.A. (CBCS) DEGREE EXAMINATION.
APRIL 2024.

Second Semester

Computer Application

Elective – ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

(For those who joined in July 2023 onwards)

Time : Three hours Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— is a subset of AI that uses statistical methods to enable machines to learn from data.
   (a) Deep Learning
   (b) CNN
   (c) Machine Learning
   (d) None of these

2. Who is the father of AI?
   (a) Charles Hinton (b) Carry Andrew
   (c) Yann LeCun (d) John MC Carthy

3. In how many category process is Artificial Intelligence classified?
   (a) 1 (b) 3
   (c) 4 (d) 2

4. ———— is a single optimization algorithm used in artificial algorithm.
   (a) Hill Climbing (b) Aid Climbing
   (c) Adaptive Climbing (d) Alpine Climbing

5. ———— problem that requires its solution to be within some limitations or condition
   (a) CSP (b) SSB
   (c) XSS (d) CS

6. Means and analysis is a mixture of ———— search technique.
   (a) backward and sideward
   (b) forward and backward
   (c) backward and forward
   (d) none of these

7. ———— is the simplest form of logic where all the statements are made by proportions.
   (a) Proportional Logic
   (b) Systematic logic
   (c) Structured Logic
   (d) Prepositional logical

8. ———— represents the thing that belongs to a classes of a particular object.
   (a) occurrence (b) instance
   (c) case (d) none of these

9. Computable function must be a ———— procedure (an algorithm) telling how to compute the function.
   (a) infinite (b) empty
   (c) finite (d) dimension

10. How can we achieve Artificial Intelligence in real life?
    (a) Machine Learning (b) Deep Learning
    (c) CNN (d) None of these

11. How many types of machine learning used?
    (a) 2 (b) 4
    (c) 3 (d) 1

12. Machines running LISP are also called?
    (a) ML workstation (b) DL workstation
    (c) AI workstation (d) None of these

13. The computer program simulating the thought process of humans is known as ————.
    (a) Expert system (b) system
    (c) software system (d) peripheral system

14. The bidirectional feedback loop helps link the computer modeling with ————.
    (a) Aggregative science
    (b) Cognitive science
    (c) Ignitive science
    (d) Non-cognitive

15. The technique of computer vision that relies on the image templates is known as ————
    (a) Visual based vision
    (b) Model based vision
    (c) Non-model based
    (d) Online-based

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

16. (a) Explain the criteria for success.

Or

(b) Explain the problem characteristics.

17. (a) Elaborate on Hill Climbing.

Or

(b) Explain frame problem.

18. (a) Explain how to represent simple facts is logic.

Or

(b) Elucidate on natural deduction.

19. (a) Explain the importance of hybrid cloud.

Or

(b) Explain the roles of statistics in machine learning.

20. (a) Explain data preparation.

Or

(b) Explain machine learning cycle.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 600 words.

21. (a) Explain the various AI techniques.

Or

(b) Explain the various issues in design of search.

22. (a) Explain Heuristic Search techniques.

Or

(b) Explain the various approaches to knowledge representations.

23. (a) Briefly explain computable functions and predicates.

Or

(b) Explain how to represent knowledge using rules.

24. (a) Explain big data in context with machine learning.

Or

(b) Explain the various approaches to machine learning.

25. (a) Explain the impact of machine learning on applications.

Or

(b) Explain machine learning cycle in detail.