PS03EMCA38: Machine Learning **Tutorial 1**

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Short Questions

1. List only limitations of the traditional AI based systems.

2. List only characteristics of natural intelligence.

3. _____ is a characteristic of natural intelligence. (Flexibility)

4. In a machine learning, knowledge of a system undergoes update by _____. (knowledge engineer, inference engine, itself, expert)

5. Draw machine learning cycle.

6. _____ is a first step of machine learning cycle.

7. _____ is a last step of machine learning cycle.

8. _____ is cleaning, structuring, and formatting of acquired data.

9. _____ is a process of extracting features from raw data.

10. _____ is a characteristic, property, or attribute of data.

11. To train a model, along with the model _____ are required.

12. _____ is a type of machine learning.

13. Define supervised learning.

14. What is training data?

15. What is testing data?

16. Give an example of supervised learning.

17. List major techniques/algorithms under the supervised machine learning.

18. Regression and classification are two techniques/applications of _____ machine learning.

19. _____ is unsupervised machine learning techniques/applications of un-supervised learning.

20. Define un-supervised learning.

21. Give an example of un-supervised learning.

22. List major techniques/algorithms under the un-supervised machine learning.

23. Give one difference between supervised and un-supervised learning.

24. State True or False: Supervised learning requires labelled training data.

25. State True or False: Un-supervised learning requires labelled training data.

26. State True or False: Supervised machine learning is more accurate than the unsupervised machine learning.

27. State True or False: Supervised learning cannot predict the correct output if the test data is different (but in a similar category) from the training dataset.

28. Define reinforcement learning.

29. Give two applications of reinforcement learning.

30. What is deep learning?

31. Give an application of deep learning.

32. What is ensemble learning?

33. Give an application of ensemble learning.

34. List any two tools of machine learning.

35. List any two applications of machine learning.

Big Questions (Consider these big questions as Assignment Questions. Write answers by hand, scan it and submit it online.)

36. List and explain limitations of the traditional AI based systems.

37. Draw and explain machine learning cycle.

38. Write a short note on human learning and machine learning.

39. List all categories/techniques of machine learning with one line description of each.

40. Explain supervised learning in detail by giving suitable example.

41. Explain un-supervised learning in detail by giving suitable example.

42. Differentiate supervised and unsupervised learning.

43. Define and explain in detail reinforcement learning. Also give an example.

44. Write a short note on advantages and applications of machine learning.