Deep Learning Worksheet

1. B
2. D
3. B
4. A
5. C
6. D
7. B
8. A
9. A,C,D
10. B,D
11. Deep Learning is a subfield of machine learning concerned with algorithms inspired by the structure and function of the brain called artificial neural networks.
12. Reinforcement learning is an area of Machine Learning. It is about taking suitable action to maximize reward in a particular situation. It is employed by various software and machines to find the best possible behavior or path it should take in a specific situation. Reinforcement learning differs from the supervised learning in a way that in supervised learning the training data has the answer key with it so the model is trained with the correct answer itself whereas in reinforcement learning, there is no answer but the reinforcement agent decides what to do to perform the given task. In the absence of a training dataset, it is bound to learn from its experience.
    1. Machine learning is a subset of artificial intelligence associated with creating algorithms that can change themselves without human intervention to get the desired result – by feeding themselves through structured data.

Deep learning is a subset of machine learning where algorithms are created and function similarly to machine learning, but there are many levels of these algorithms, each providing a different interpretation of the data it conveys. This network of algorithms is called artificial neural networks. In simple words, it resembles the neural connections that exist in the human brain.

* 1. The main difference between deep learning and machine learning is due to the way data is presented in the system. Machine learning algorithms almost always require structured data, while deep learning networks rely on layers of ANN (artificial neural networks).
  2. Machine learning algorithms are designed to “learn” to act by understanding labeled data and then use it to produce new results with more datasets. However, when the result is incorrect, there is a need to “teach them”.
  3. Deep learning networks do not require human intervention, as multilevel layers in neural networks place data in a hierarchy of different concepts, which ultimately learn from their own mistakes. However, even they can be wrong if the data quality is not good enough.
  4. Data decides everything. It is the quality of the data that ultimately determines the quality of the result.

1. A perceptron is a neural network unit (an artificial neuron) that does certain computations to detect features or business intelligence in the input data. Perceptron was introduced by Frank Rosenblatt in 1957. He proposed a Perceptron learning rule based on the original MCP neuron. The perceptron is one of the easiest data structures for the study of neural networking
2. AI stands for Artificial intelligence, where intelligence is defined acquisition of knowledge intelligence is defined as a ability to acquire and apply knowledge.

ML stands for Machine Learning which is defined as the acquisition of knowledge or skill.

AI aim is to increase chance of success and not accuracy, whereas ML aim is to increase accuracy, but it does not care about success.

AI work as a computer program that does smart work, whereas ML is a simple concept machine takes data and learn from data.

AI goal is to simulate natural intelligence to solve complex problem, whereas ML goal is to learn from data on certain task to maximize the performance of machine on this task.