1. What is the concept of human learning? Please give two examples.

Answer:- Human can learning any thing in this world

Example :- calculations, learning to drive a bike or car

2. What different forms of human learning are there? Are there any machine learning equivalents?

Answer :- Learning through association - Classical Conditioning.

Learning through consequences – Operant Conditioning.

Learning through observation – Modeling/Observational Learning.

3. What is machine learning, and how does it work? What are the key responsibilities of machine learning?

Answer Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values

Roles and responsibility

To research, modify, and apply data science and data analytics prototypes. To create and construct methods and plans for machine learning. Employing test findings to do statistical analysis and improve models.

4. Define the terms "penalty" and "reward" in the context of reinforcement learning.

Answer :-  If it makes the right move, it gets rewarded. If it makes a mistake, it receives a penalty

5. Explain the term "learning as a search"?

Answer :- the space of all sentences in a concept description language for a sentence that best describes the data.

6. What are the various goals of machine learning? What is the relationship between these and human learning?

Answer:- The goal of machine learning, closely coupled with the goal of AI, is to achieve a thorough understanding about the nature of learning process (both human learning and other forms of learning)

7. Illustrate the various elements of machine learning using a real-life illustration.

Answer:- image recognition , sales prediction , stocks prediction , medical diagnosis

8. Provide an example of the abstraction method.

Answer:- abstract base class is the common application program of the interface for a set of subclasses. It can be used by the third-party, which will provide the implementations such as with plugins. It is also beneficial when we work with the large code-base hard to remember all the classes.

9. What is the concept of generalization? What function does it play in the machine learning process?

Answer:- Generalization refers to your model's ability to adapt properly to new, previously unseen data, drawn from the same distribution as the one used to create the model.

10. What is classification, exactly? What are the main distinctions between classification and regression?

Answer :- Classification is a sup[revised problem statement , the dependent of classification problem

Is discrete data

Example :-

Ham spam

Diabetic r not

Credit card fraud detection

Difference between classification and regression

Classification has the dependent variable is discrete data , dependent variable denotes with y

Regression has the dependent variable is continuous data , dependent variable denotes wit y

11. What is regression, and how does it work? Give an example of a real-world problem that was solved using regression.

Answer :- Regression is a part of supervised data , in the regression the dependent y variable will

Be continuous all the time

Example for regression in real world

Gold price predication

Petrol price prediction

House price predication

12. Describe the clustering mechanism in detail.

Answer :- the aim is to segregate groups with similar traits and assign them into clusters

13. Make brief observations on two of the following topics:

i. Machine learning algorithms are used

ii. Studying under supervision

iii. Studying without supervision

iv. Reinforcement learning is a form of learning based on positive reinforcement.

Answer:- machine learning algorithms are used to prediction further, there are two types of machine learning algorithms

1 supervised and unsupervised

Has y variable don’t have y variable

In supervised there are two types

Regression and regression

Y will be y will be discrete

Continuous

Linear Regression logistic regression

Multilple linear regression decision tree classifier

Decision tree regressor k nearest neighbour classifier

K Nearest neighbour regressor navie bayes classification etc

Navie bayes regressor

etc