**1.a)**

i. **Facial Recognition - Classification**

Explanation: Face Recognition is a recognition technique used to detect faces of individuals whose images are saved in the data set. So, there can be only 2 kinds of results expected. Matched or Unmatched. So, it comes under Classification.

**ii. Mobile Price Prediction - Regression**

Explanation: As the Price of the mobile varies in between a large set of values i.e, for example from Rs.5000 to Rs.5,00,000. which is a continuous value, this prediction in Machine Learning comes under Regression.

**iii. Credit Card Fraud Prediction - Classification**

Explanation: Based on the given set of data, let’s say the time, location etc., we can predict whether that transaction was fraudulent or not. So as the outcomes of the prediction are a finite set of values i.e., Yes/No, this prediction in Machine Learning comes under Classification.

**iv. Customer Churn Prediction - Classification**

Explanation: It is a classification problem, where you have only two possible values for the dependent variable—in this case, a customer either leaves the bank/company/service after 6 months or doesn’t.

**1.b)**

**Machine Learning** is broadly classified into **Supervised**, **Unsupervised**, **Semi-supervised**.

**Regression and Classification** comes under **Supervised** learning.(answer for all the feature points are mapped) and **Clustering** comes under **unsupervised** learning(answer will not be given for the points).

**Regression** - If the prediction value tends to be a continuous value then it falls under Regression type problem in machine learning

Example : Giving area name, size of land, etc as features and predicting expected cost of the land.

**Classification** - If the prediction value tends to be category like yes/no , positive/negative , etc then it falls under classification type problem in machine learning

Example : Given a sentence predicting whether it is negative or positive review

**Clustering** - Grouping a set of points to given number of clusters.

Example : Given 3, 4, 8, 9 and number of clusters to be 2 then the ML system might divide the given set into **cluster 1** - 3, 4 and **cluster 2 -** 8, 9