4th Sem./ Artificial Intelligence & Machine Learning

Subject : Machine Learning

Time : 3 Hrs.   M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory   (6x1=6)

Q.1   Which of the following is the best machine learning method?

a)   scalable   b)   accuracy

c)   fast   d)   all of the above

Q.2   Which keyword is used for function in Python language?

a)   Function   b)   def

c)   Fun   d)   Define

Q.3   Which of the following is required by K-means clustering?

a)   defined distance metric

b)   number of clusters

c)   initial guess as to cluster centroids

d)   all of the mentioned

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions.   (2x8=16)

Q.23   What is clustering? Explain K-means clustering with suitable example.

Q.24   What is linear regression? What are the steps to build Regression Model? Give example.

Q.25   Write a short note on

a)   Residual analysis

b)   Outlier analysis

c)   Feature set (X)

d)   Outcome variable

Q.4 In which category does linear regression belong to?

a) Neither supervised nor unsupervised learning

b) Both supervised and unsupervised learning

c) Unsupervised learning

d) Supervised learning

Q.5 The learner is trying to predict the cost of papaya based on its size. The variable "cost" is_____

a) independent variable

b) target Variable

c) ranked variable

d) categorical variable

Q.6 Which of the following is a correct syntax for the map() function in Python?

a) map(function, sequence)

b) map(sequence, function)

c) map(sequence) (function)

d) map(function) (sequence)

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define machine learning.

Q.8 Define forecasting.

Q.9 What is tuple in python?

Q.10 K-means is not deterministic and it also consists of number of iterations. (True/False)

Q.11 The independent variable is represented along_____ axis.

Q.12 In python, _____ function forms a new list that contains only elements that satisfy a certain condition.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain any two major frameworks used for machine learning models.

Q.14 Python is suitable for machine learning. Justify.

Q.15 What is dictionary in Python? How dictionaries are initialized in python? Give example.

Q.16 What are conditional statements in python.

Q.17 How to handle missing value in dataset?

Q.18 What are the components of time-series data?

Q.19 What are various methods for probability in Python?

Q.20 How to calculate forecast accuracy?

Q.21 Explain hierarchical clustering.

Q.22 What is slicing? How to perform slicing on a dataset using Python.