Q.18 Explain how accuracy of forecasting is calculated? (CO3)

Q.19 What are training sets and validation sets? (CO2)

Q.20 What do you mean by residual analysis and outlier analysis. (CO4)

Q.21 What are the steps for building a regression model? (CO4)

Q.22 Explain slicing, indexing, sorting and grouping of datasets in brief. (CO3)

SECTION-D

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

Q.23 What do you understand by machine learning? Explain its types and process of building learning system in detail. (CO1)

Q.24 Explain various control flow statements in Python with suitable example. (CO2)

Q.25 What is forecasting? Explain various methods of forecasting in detail. (CO4)

No. of Printed Pages : 4 223842
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4th Semester/
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 What is the purpose of feature scaling in machine learning? (CO1)

a) To remove outliers from the data
b) To standardize the range of features
c) To increase the complexity of models
d) To decrease the dimensionality of features

Q.2 What is the key difference between supervised and unsupervised learning? (CO1)

a) The presence of labeled data in supervised learning
b) The use of deep neural networks in unsupervised learning
c) The requirement for large datasets in supervised learning
d) The absence of algorithms in unsupervised learning

Q.3 What is the primary purpose of a validation set in machine learning? (CO4)

a) To train the model
b) To upgrade the model
c) To evaluate the model during training
d) To compare multiple models

Q.4 What is overfitting in the context of machine learning models? (CO4)

a) Fitting a model with sufficient data
b) Fitting a model too closely to the training data
c) Fitting a model with too few features
d) Fitting a model to the validation set

Q.5 What is the purpose of the k-nearest neighbors (KNN) algorithm? (CO4)

a) Clustering data into k groups
b) Predicting a continuous output
c) Classifying data based on its neighbors
d) Reducing the dimensionality of features

Q.6 Machine learning is a subset of_____ (CO1)

a) Deep Learning
b) Data Learning
c) Artificial Intelligence
d) None of the above

SECTION-B

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

Q.7 How a function is defined in Python? (CO2)

Q.8 What are lists in Python? (CO2)

Q.9 What is unsupervised learning? (CO1)

Q.10 What functions are used for mean, median and mode in python? (CO3)

Q.11 Define forecasting. (CO3)

Q.12 Write full form of ARAM. (CO3)

SECTION-C

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

Q.13 How variable are declared and used in python? (CO2)

Q.14 Explain the suitability of python for machine learning. (CO1)

Q.15 How bar graphs and histogram are drawn in Python? (CO3)

Q.16 Explain K-mean clustering in brief. (CO4)

Q.17 Explain forecasting using Auto-Regressive Model in brief. (CO4)