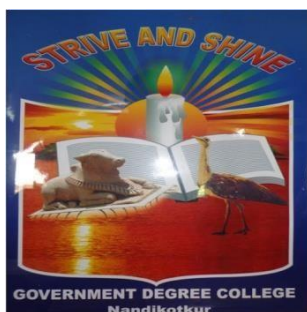


GOVT. DEGREE COLLEGE

NANDIKOTKUR- AP



QUESTION BANK

III YEAR B.Sc (MPCs)- VI SEMESTER

DATA SCIENCE USING PYTHON (DSP)

Smt.T.Jhansi Rani,
Lecturer in Computer Science

Unit 1.

1. Write Python program to plot bar chart by assuming your own data and explain the various attributes of bar chart. 6 Marks
2. Write Python program to plot Line chart by assuming your own data and explain the various attributes of line chart. 6 Marks
3. Write Python program to compute the component wise means of a list of vectors and to compute dot product. 6 Marks
4. Explain quantile and write the python code to compute quantiles. 7 Marks

Unit 2.

1. Explain confidence intervals in detail. 10 Marks
2. Write Python program to reads in lines of text and returns the ones that match a regular expression. 10 Marks
3. Consider an html file. Write python program to scrap the page extract values associated with tags and properties. 10 Marks
4. Write Python program to perform searches in Twitter. 10 Marks
5. Write Python program that counts the words in its input and returns the most common ones. 10 Marks
6. Explain Dataclasses with an example. 7 Marks
7. Discuss the need for maximum likelihood estimation for least squares. 6 Marks
8. Explain dimensionality reduction with an example. 10 Marks
9. Explain NamedTuples in detail with an example. 10 Marks
10. Explain how gradient is estimated in detail. 10 Marks
11. Explain the necessity to have p-Hacking. 10 Marks

Unit 3.

1. Describe the role of correctness in machine learning. 10 Marks
2. Illustrate the curse of dimensionality in detail. 10 Marks
3. Explain the goodness of fitting in multiple regression model. 10 Marks
4. Describe regularization in detail. 10 Marks
5. Explain the simple linear regression model in detail. 10 Marks

Unit 4.

1. Discuss random forests in detail. 10 Marks
2. Write Python program to create a decision tree. 10 Marks
3. Discuss decision tree in detail. 10 Marks
4. Explain the need for dropout in neural networks in detail. 10 Marks
5. Construct neural networks as a sequence of layers in Python. 10 Marks
6. Explain entropy and entropy of a partition in detail. 10 Marks

Unit 5.

1. Explain topic modeling in detail. 10 Marks
2. Illustrate the role of word vectors in advancing NLP involving deep learning. 10 Marks
3. Write Python program to recommend what's popular. 10 Marks