

(b) What do you mean by file ? List out the basic file modes available. Write a statement to create a data.txt file with the following text.

- (i) Python file handling is very interesting and useful.
- (ii) This is a text file created through python.

**Section-D Unit-III**

6. (a) What is business understanding in data science ? Why business understanding is important in data science ? Discuss business understand phases and process in detail.

(b) How to prepared data is used from Modeling to Evaluation ?

7. (a) What is the data requirements ? What are the five methods of collecting data ? How to prepare data from understanding to preparation ?

- (b) Discuss the following in detail :
  - (i) Analytic Approach
  - (ii) Deployment and feedback

**Section-E Unit-IV**

8. Discuss the following Application of data science in detail :

- (a) Prediction
  - (b) Elections
9. Discuss the clustering and text analytics Application of data science in detail.

Roll No. : .....

Total No. of Questions : 9 ] [ Total No. of Pages : 4

**3343**

**B.Tech. (CSE) 6th Semester (Supplementary)**

**Examination, July-2021**

(G Scheme)  
(Elective-III)

**DATA SCIENCE**

**Paper-PEC-CSE-320-G**

Time : Three Hours ] [ Maximum Marks : 75

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

**Note :-** Question No. 1 is compulsory. Answer one question from each of the remaining four Sections. All questions carry equal marks.

**Section-A**

- 1. (i) What are the differences between supervised and unsupervised learning ?
- (ii) What is AI ? What is use of AI in data science ?
- (iii) Explain the Myth of data science.

- (iv) Discuss Bar Charts.
- (v) Discuss the various data science applications.  $5 \times 3 = 15$

**Section-B Unit-I**

- 2. (a) What is Data Science ? List the differences between supervised and unsupervised learning.
- (b) Define Big Data and explain and discuss the characteristics of Big Data and Applications of Big Data.
- 3. (a) What is Data Preprocessing ? Explain and discuss in detail the various steps involved in the Data Preprocessing.
- (b) What is Statistical Modeling and how is it used ? What are reasons to learn Statistical Modeling ? Discuss important Statistical Techniques in Data Analysis.

**Section-C Unit-II**

- 4. (a) What is Python Matplotlib ? What is Matplotlib used for ? What are the basic elements/components of the chart ? Discuss the various types of plots with suitable codes.
- (b) What is an array and how is it different from a list ? What is the name of the built-in array class in NumPy ? Create the following NumPy arrays :

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**RD-3487**

- 5. (a) (i) A 1-D array called zeros having 10 elements and all the elements are set to zero.
- (ii) A 1-D array called vowels having the elements 'a', 'e', 'i', 'o' and 'u'.
- (iii) A 2-D array called ones having 2 rows and 5 columns and all the elements are set to 1 and dtype as int.

Plot the following data on line chart :

Day	Income
Monday	510
Tuesday	350
Wednesday	475
Thursday	580
Friday	600

- (i) Write a title for the chart 'The Weekly Income Report'.
- (ii) Write the appropriate titles of both the axes.
- (iii) Write code to Display legends.
- (iv) Display red color for the line.
- (v) Use the line style-dashed
- (vi) Display diamond style markers on data points

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**RD-3487**

P.T.O.