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ALL

Jharkhand University of Technology, Ranchi

Diploma 2nd Semester Examination, 2024 (NEP)

Subject : Statistics And Analytics

Subject Code : AEC201

Time Allowed : 3 Hours

Full Marks : 70

Answer in your own words.

Answer any five questions.

Question No. 1 is compulsory, and from rest of the questions answer any four only.

All questions carry equal marks.

1. Objective type questions, pick the right options:

2×7=14

- (i) Which graph is best for showing how something is divided into parts?
- (a) Line graph (b) Pie chart
(c) Histogram (d) Scatter plot
- (ii) What is the mode of the following dataset: 3, 5, 7, 7, 9?
- (a) 3 (b) 5
(c) 7 (d) 9
- (iii) How can you display values directly on a chart in Excel?
- (a) Add a Trendline (b) Use Data Labels
(c) Insert a Table (d) Apply Conditional Formatting
- (iv) What is the purpose of a legend in an Excel chart?
- (a) To display the chart title (b) To explain the data series
(c) To show the axis labels (d) To calculate values
- (v) What is the output of the following code?
- ```
Print (2 * 3 ** 2)
```
- (a) 36 (b) 18  
(c) 12 (d) 9
- (vi) Which of the following data types is immutable in Python?
- (a) List (b) Dictionary  
(c) Set (d) Tuple
- (vii) Which function is used to read input from the user in Python?
- (a) read() (b) input()  
(c) scan() (d) enter()



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2. (a) Define and give an example of qualitative data, quantitative data, discrete data, and continuous data. How do they differ?  
(b) Explain what a histogram is and describe how it is used to represent data. Describe the different shapes a histogram can take and what they indicate about the data distribution. 7+7
3. (a) The heights (in cm) of 7 plants are recorded as: 25, 30, 28, 25, 32, 30, 28. Determine the range, mean, median, and mode of the plant heights using Excel.  
(b) The dataset of types of movies watched in a month is: Action (40 movies), Comedy (30 movies), Drama (20 movies), Horror (10 movies). Create a pie chart in Excel to visualize this data and calculate the percentage of each movie type. 7+7
4. (a) The number of apples sold each day over a two-week period is recorded as: 10, 12, 10, 14, 12, 10, 12, 15, 14, 10, 12, 15, 10, 12, 14. Construct a frequency table to display the number of apples sold.  
(b) For the dataset of average temperatures in three cities (City A, City B, City C) over four months: January (30, 25, 28), February (32, 26, 29), March (35, 28, 30), April (40, 30, 32), create a grouped bar graph. Determine the highest average temperature for each city. 7+7
5. (a) The following data represents the ages of a group of people: 18, 22, 24, 26, 30, 34, 38. Determine the skewness and kurtosis of this dataset.  
(b) Define Array. What is the purpose of the array module in Python? How do you create an array of float numbers using the array module in Python? 7+7
6. (a) How do you define a function in Python? Write a program in python to print the Cube of a number using function.  
(b) Define operator in Python. Discuss different types of operators in detail with example. 7+7
7. Write short notes on *any four* of the following: 3.5×4
  - (a) If-else statement
  - (b) While loop
  - (c) Standard deviation
  - (d) Variance
  - (e) Line Graph