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**Question Paper Code: R3H06**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Third Semester

R21USY306- FUNDAMENTALS OF DATA SCIENCE

CSE(CYBER SECURITY)

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define Data Science. CO1- U
2. What is Graph based Data? CO1- U
3. Find the median for the following numbers  
2,17,5,3,28,7,5,8,5,6,2,12,10,4,3. CO2- App
4. What is Exploring Data ? CO1- U
5. What is Regression? CO1- U
6. What is Scatter Plots? CO1- U
7. What is NumPy in python used for? CO1- U
8. What is Missing data? CO1- U
9. What is purpose of matplotlib? CO1- U
10. Define contour plots? CO1- U

PART – B (5 x 16= 80 Marks)

11. (a) Explain the benefits and uses of data science. CO1 - U (16)  
Or  
(b) Briefly explain the architecture of data warehousing CO1 - U (16)
12. (a) Explain the types of frequency distribution with examples. CO1 - U (16)  
Or  
(b) Describe mean median mode and averages with example CO1 - U (16)

13. (a) Explain scatter diagram with example ? Write the advantages and disadvantages of scatter diagram? **CO1 - U** (16)
- Or
- (b) Explain structured data in a numpy array **CO1 - U** (16)
14. (a) Write a NumPy program to convert an array to a floating type. **CO2- App** (16)
- Or
- (b) Write a NumPy program to find common values between two arrays. **CO2- App** (16)
15. (a) What is matplotlib? Specify the two interfaces used by it. **CO1 - U** (16)
- Or
- (b) What is 3D plotting? Explain it with examples. **CO1 - U** (16)