

**Model Question Paper**  
**First Semester MSc. Degree Examination**  
**Statistics with Specialization in Data Analytics**  
**(2020 Admission onwards)**

**STSD 213: STATISTICAL PROGRAMMING USING R**

**Time: 3 hrs**

**Marks: 75**

**Part A**

Answer **any five** questions. **Each** question carries **3** marks

1. What is meant by numeric vectors in R ? Give an example.
2. Let  $v \leftarrow c(11,12,13,14,15,16,17,18,19,20)$ . Write the syntax for the following outputs using logical operators.  
(a) 12 15 18 (b) 11 13 15 17 19
3. Explain conditional statements in R with an example.
4. What are anonymous functions in R? Give two examples.
5. Describe the role of melt and cast functions in R .
6. Explain the method of obtaining extreme values of a function using R with suitable example.
7. Explain dot chart and violin plot in R.
8. What is meant by filtering and ordering of data?
9. What are chunk options and document formats in R markdown?
10. Explain any two non tabular data types in R.

**Part B**

Answer **any three** questions. **Each** carries **12** marks

11. (a) Explain various types of special values used in R with examples.  
(b) Describe different types of looping constructs in R with examples
12. (a) Describe the following with examples: (i) index by integer vector (ii) indexing by logical vector and (iii) indexing by name .
13. Describe various string manipulating functions in R with examples.
14. Write short notes on the following : (i) Box plots (ii) Lattice Graphics (iii) Stem and leaf plots
15. Explain the following concepts : (i) Data Reshaping (ii) Manipulating data
16. Describe the procedure of creating graphics with ggplot2 with an example

**Part C**

Answer **any two** questions. **Each** carries **12** marks

17. Describe Big Data citing an example
18. Write short notes on : (i) eSet (ii) Assay Data (iii) AnnotatedDataframe
19. Explain briefly the procedure of installing LATEX in R.
20. What is meant by Data- querying? Describe the procedure of writing SQL statements in R.