

M.Sc(Environmental Sci.) Semester - 1 (CBCS) Examination**OCT/NOV-2024****Statistics and Computational Application (Core)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Answer the following (Any seven out of Ten, each of 02 marks) (14)

- (1) Calculate Mean, Mode, Median and Range from 11,13,13,15,19,21 data
- (2) Write any two merits and demerits of the median
- (3) What is difference between paired and unpaired student's t test?
- (4) Write note on column chart with suitable example
- (5) What is difference between null hypothesis and alternative hypothesis?
- (6) Define environment systems for human health.
- (7) What are the basic strategies for development environmental model?
- (8) What are the applications of Microsoft office in environmental conservation?
- (9) What is the popular web browser used for research?
- (10) Define multivariate analysis?

Que.2 Answer the following (Any two out of three, each of 07 marks) (14)

- (1) Describe types of graphs with suitable examples.
- (2) Find the variance and standard deviation for the following snow fall in Kedarnath region and discuss your results.
15, 18, 36, 41, 12, 43, 09, 11, 23, 27, 31.
- (3) Calculate the Coefficient of Variation (CV) for the following two spices sample data sets and give your interpretation from results.
Class A - 93, 91, 97, 93, 95, 84, 98, 82, 97, 80, 93.
Class B. - 77, 96, 97, 77, 95, 98, 93, 74, 72, 98, 99.

Que.3 Answer the following (Any two out of three, each of 07 marks) (14)

- (1) Write a detail note on the one-way analysis of variance.
- (2) Write a detail note on Regression
- (3) Explain Chi-square test with suitable example.

OR

Que.3 Answer the following (1 & 2 – Both are compulsory, each of 07 marks) (14)

- (1) Calculate un-paired student's T-test with below two different Soil sample from Uttarakhand region sites pH data (use 1.746 t critical/table value), set hypothesis and evaluate after result.
Water sample:
Sample area 1 : 4.1, 5.1, 3.9, 5.2, 5.9, 6.4, 8.2, 7.7 and 9.1
Sample area 2 : 5.7, 6.0, 8.2, 5.3, 7.7, 8.9, 7.1, 7.2 and 6.9
- (2) Write a note on Student's T-test? Discuss paired student's T-test with below data (use 1.833 t critical/table value)
Internal mark: 58, 61, 46, 52, 69, 74, 57, 91, 33, 18
Test marks after remedial classes: 62, 65, 71, 54, 76, 74, 80, 93, 49, 20

Que.4 Answer the following (Any two out of three, each of 07 marks) (14)

- (1) Describe the trends in SPSS analysis
- (2) Write cluster variable in details
- (3) Describe the popular software and packages used for the Internet browsing.

Que.5 Answer the following (Any two out of three, each of 07 marks) (14)

- (1) Discuss in detail leslie's matrix model
- (2) Write about the environmental system analysis
- (3) What is Modeling? explain approaches for development of models
