

KANYASHREE UNIVERSITY

M.A./M.Sc. 2nd Semester Examination-2023

Subject: Geography

Course-CC 211

Statistical Techniques

Full Marks-50

Time-4.00 Hours

[Answer **all** of the following]

(10x4=40)

1. Write three properties of a normal distribution. A normal distribution, where $\mu = 20.5$, and $\sigma = 5$. Find out the probability that a randomly selected score is greater than 25. (*Find the z-score table provided to you*).

(3+7=10)

2. The hardness levels of tiles manufactured by four different companies measured in *Mohs Scale* are given in the following table. With One-way ANOVA test, is there any significant difference exists in the average hardness of these four companies of tiles at 0.05 level of significance?

(*The F_{crit} value at 0.05 level of significance for $Df_{between}$ 3 and Df_{within} 16 is 3.2389*).

(10)

Company A	8.8	7.9	7.7	8.1	7.2
Company B	7.9	7.8	8.4	8.9	8.1
Company C	7.1	8.1	7.4	7.2	7.1
Company D	8.7	7.9	7.8	8.4	8.9

3. What do you mean by non-parametric tests? From an array of numbers, 200 digits were randomly selected. The frequencies of the digits are given in the following table. Use the Chi-square test to assess the correctness of the hypothesis that the digits were distributed in equal numbers in the array from which these were chosen at 0.05 level of significance.

(*χ^2 at 0.05 significance level for Df 9 is 16.919*).

(2+8=10)

Digit	0	1	2	3	4	5	6	7	8	9
Frequency	18	19	23	21	16	25	22	20	21	15

4. Using 3 yearly moving average methods prepare a Time series Graph with proper heading & Index. (Use MS Excel).

(10)

Year	2001	2002	2003	2004	2005	2006	2007	2008
Sales'000	123	127	134	132	136	130	142	145

5. Lab Notebook and Viva-voce.

(5+5=10)
