

BIOSTATISTICS**(COMMON FOR ALL SPECIALITIES)****Time: 3 Hours.****Max Marks: 100****Note:** Answer all questions.

Give Diagrammatic representation wherever necessary.

Analytical based structured question (ABQ)**1 X 20 = 20**

1. Three samples of barley were sown in 7 plots each and the following yield in quintals per acre was obtained. Analyse the data and find out whether there is a significant difference between the mean yields of the three samples.

plots	A	B	C
1	8	7	6
2	10	7	8
3	6	8	10
4	6	8	10
5	7	9	6
6	9	8	4
7	-	5	5
	-	-	7

(tabulated F value at 5% significance level is 3.7)

Short answer questions:**8 X 5 = 40**

2. Weight of 20 students is given below in kg. make frequency distribution of the following data:
35,49,47,39,36,55,80,76,48, 66,58,62,61,57,71,69,38,85,82,35
3. An average of 5 cars arrive at a toll bath every minute, assuming this do a Poisson distribution, what is the probability that exactly 0,1,2,3 and 4 cars arrive in one minute period?
4. Define type 1 and type 2 errors, null and alternate hypothesis.
5. Explain 'z' test for proportion.
6. Write a note on the Kruskal-Wallis test.
7. Write the different types of mortality rates.
8. Explain scatter plots in correlation.
9. Explain paired 't' test.

Long answer questions:

4 X 10 = 40

10. Calculate the standard deviation from the following data:
10,13,17,22,27,30,31,32.
11. In a sample of 50 males (ages 46-58 years), 25 gave the history of cigarette smoking. Find out the population proportion.
12. In f_2 generation, Mendel obtained 621 tall plants and 187 dwarf plants, out of total 808. Test whether these two types of plants are in accordance with the monohybrid ratio 3:1 or those deviate from this ratio.
(chi-square value at 5% significance level is 3.84)
13. Write a note on importance and applications of demography.
