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**DHANALAKSHMI SRINIVASAN COLLEGE
OF ARTS & SCIENCE FOR WOMEN
(AUTONOMOUS)**

(For Candidates admitted from 2019-2020 onwards)



UG DEGREE EXAMINATIONS -APRIL 2021

B.SC - BIOTECHNOLOGY

BIOSTATISTICS

Time: 3 Hrs

Max.Marks: 75

PART - A

CHOOSE THE CORRECT ANSWER

(10X1=10)

1. In chronological classification data are classified on the basis of-----.
a) attributes b) class interval c) time d) locations
2. Histogram is a graph of-----.
a) frequency curve b) frequency distribution c) a bar diagram d) pie diagram
3. Mode is defined as the value which is----.
a) least frequent b) most frequent c) mid value of the series d) population
4. Find out the mean and median of 1,2,3,6,8 is-----.
a) 4,6 b) 4,8 c) 4,3 d) 4,2
5. Which of the following is the formula for range?
a) $S+L$ b) $L \times S$ c) $L-S$ d) $S-L$
6. If the standard deviation of a population is 9, then the population of variance is-----.
a) 9 b) 3 c) 18 d) 4
7. The range of the correlation coefficient is-----.
a) -1 and +1 b) -2 and +2 c) -3 and +3 d) -4 and +4
8. The regression coefficient of Y on X is denoted by the symbol
a) b_{xy} b) b_{yx} c) ρ_{xy} d) ρ_{yx}
9. A hypothesis which is stated for the purpose of possible acceptance is called-----.
a) null hypothesis b) alternative hypothesis c) criterion d) rejected region
10. The degrees of freedom of ANOVA is
a) $(c-1, n-c)$ b) $(c-1, n-1)$ c) (c, n) d) $(c-1, r-1)$

PART – B

ANSWER ALL THE QUESTIONS

(5X7=35)

11. a) Draw a Histogram for the following data:

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Frequency	4	6	7	14	16	14	8	16	5

(OR)

b) Write difference between classification and tabulation.

12. a) Calculate the geometric mean for the data given below:

X	10	15	25	40	50
F	4	6	10	7	3

(OR)

b) Write merits and demerits of Harmonic mean.

13. a) Calculate range and its coefficient from the following distribution:

Size:	60-62	63-65	66-68	69-71	72-74
Number:	5	18	42	27	8

(OR)

b) For the data below, calculate standard deviation: 40, 50, 60, 70, 80, 90, 100.

14. a) Compute the coefficient of correlation between X-/advertisements Expenditure and Y-Sales.

X:	10	12	18	8	13	20	22	15	5	17
Y:	88	90	94	86	87	92	96	94	88	85

(OR)

b) From the following data, obtain the two regression equations:

X	6	2	10	4	8
Y	9	11	5	8	7

15. a) An experiment was conducted on nine rats. The experiment showed that due to smoking, the pulse rate increase in the following order: 5,3,4,-1,2,-3,4,3,1. Can you maintain that smoking leads to an increase in the pulse rate?

(OR)

b) Two independent samples from normal populations with equal variances gave the following results:

Sample	Size	Mean	S.D.
1	16	23.4	2.5
2	12	24.9	2.8

PART - C

ANSWER ANY THREE QUESTIONS

(3X10=30)

16. Write difference between a graph and a diagram.

17. Calculate the mean, median and mode.

Central Value	45	55	65	75	85	95	105
Frequency	32	65	128	167	136	79	43

18. Weekly wages of a labourer are given below. Calculate Q.D. and Coefficient of Q.D.

Weekly Wage(Rs.)	100	200	400	500	600	Total
No. of Weeks	5	8	21	12	6	52

19. Rankings of 10 trainees at the beginning(X) and at the end(Y) of a certain course are given below:

	A	B	C	D	E	F	G	H	I	J
Trainees:										
X	1	6	3	9	5	2	7	10	8	4
Y	6	8	3	7	2	1	5	9	4	10

Calculate Spearman's rank correlation coefficient.

20. A number of leaves were taken from each of half a dozen trees and their lengths measured. The following are the measurements in millimetres

Tree	Lengths								
1	82	87	86	90	81	84			
2	85	84	91	92	88				
3	92	90	84	86	88	93	89	90	
4	80	86	87	81	82	82			
5	87	86	88	90	85	86	87		
6	90	86	84	85	85	86	87	84	87

