

Enrolment No. _____

PARUL UNIVERSITY
PARUL INSTITUTE OF PHARMACY
B.PHARM EIGHTH SEMESTER

SECOND INTERNAL THEORY EXAMINATION: 2020-21

Subject Name: BIostatistics and Research Methodology

Subject Code: BP801T

Date: 08/03/2021

Time: 10:00 to 11: 15 am

Total Marks: 30

Instructions:

1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1 Multiple Choice Questions:

[10]

- (1) The correlation coefficient is used to determine: **01**
- (a) A specific value of the y-variable given a specific value of the x-variable
 - (b) A specific value of the x-variable given a specific value of the y-variable
 - (c) The strength of the relationship between the x and y variables
 - (d) None of these
- (2) Regression modeling is a statistical framework for developing a mathematical equation that describes how **01**
- (a) one explanatory and one or more response variables are related
 - (b) Several explanatory and several response variables response are related
 - (c) one response and one or more explanatory variables are related
 - (d) All of these are correct.
- (3) Title of the protocol must be **01**
- (a) Clear
 - (b) Concise
 - (c) Understandable
 - (d) Above all
- (4) Result and discussion are the parts of **01**
- (a) Protocol
 - (b) Report
 - (c) Document
 - (d) None of above

- (5) Factorial designs allow us to study both _____ effects of the independent variables on the dependent(s). 01
- (a) main and interactive
 - (b) dependent and independent
 - (c) symbiotic and dichotomous
 - (d) rank order and correlation
- (6) Which of the following statements is correct about interactions? 01
- (a) They are enhancements of the effect.
 - (b) They are additive effects.
 - (c) They are spurious effects.
 - (d) They occur only in interaction with organismic dependent variables.
- (7) Which one are Non Parametric tests? 01
- (a) Wilcoxon Rank Sum Test
 - (b) Kruskal-Wallis test
 - (c) Friedman Test
 - (d) All of above
- (8) Full form of ANOVA is 01
- (a) Analysis of variance
 - (b) Analysis of analysis
 - (c) Analysis of volume
 - (d) None of above
- (9) _____, is the value for which 25% of the observations are smaller and 75% are larger. 01
- (a) Q1
 - (b) Q2
 - (c) Q3
 - (d) Weighted mean
- (10) Which of the following is true for variance? 01
- (a) It is square root of standard deviation
 - (b) It is square of standard deviation
 - (c) It is square root of CoV
 - (d) It is square of CoV

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Long Answers:(Any One)

Q.2

- (1) Write short note on "Full and Fractional Factorial Design" with layout and description. 10
- (2) Find the Mean, interquartile range, Variance, standard deviation and Coefficient of variation of the following data set: 4, 1, 5, 6, 12, 8, 13, 7, 10, 3, 2, 15 10

Q.3 Short Answers:(Any Two)

Set up an analysis of variance table for the following per acre production data for three varieties of wheat, each grown on 4 plots and state if the variety differences are significant. Do the necessary calculation for One Way Anova. F table value is $F(2,9) = 4.26$ 05

(1)

Plots of land	Per acre production data		
	Variety of wheat		
	A	B	C
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

- (2) Write a short note on Binomial distribution. Explain with example. 05
- (3) Discuss how to develop research protocol? 05
