UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Second Semester – Spring 2022

Roll No. .....

Paper: Business Statistics **Course Code: STAT-121** **Time: 3 Hrs. Marks: 60**

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

I. **Define Frequency Distribution?**
II. **State any two properties of arithmetic means?**
III. **For X&Y independent random variables show that Var (X - Y) = Var (X) + Var (Y).**
IV. **What is consumer price index number and how it is constructed?**
V. **Differentiate between un-weighted & weighted index number.**
VI. **Differentiate between histogram and historigram.**
VII. **Differentiate between discrete & continuous random variable.**
VIII. **What is difference between price relative & link relative?**
IX. **Define absolute & relative measure of dispersion.**
X. **state the properties of correlation coefficient**
XI. **Differentiate between regression and co-relation**
XII. **Define Chi Square random variable**
XIII. **ANOVA is stand for? Define it**
XIV. **Define probability distribution function.**
XV. **Define Skewness.**

Q.2. Answer the following questions: (3x10=30)

1- Consider the following frequency distribution of weight of applies in grams.

Weight Classes	66-85	86-105	106-125	126-145	146-165	166-185	186-205
No. of Applies	9	10	17	10	5	4	5

Complete coefficient variation and coefficient of skewness based on quartiles. (Q1, Q2, Q3)

2- An inquiry into the budgets of the middle class families in a city in England gave the following information.

Expenses on	Food 35%	Rent 15%	Clothing 20%	Fuel 10%	Misc 20%
Prices (2008)	£150	£30	£75	£25	£40
Prices (2009)	£145	£30	£65	£23	£45

What changes in cost of living figures of 2009 as compared with that of 2008 are seen?

3- The owner of a retailing organization is interested in the relationship between price at which a commodity is offered for sale and the quantity sold. The following sample data have been collected.

PRICE	25	45	30	50	35	40	65	75	70	60
QUANTITY SOLD	118	105	112	100	111	108	95	88	91	96

Using the method of least squares, determine the equation for the estimated regression line.