Al-Saudia Virtual Academy
Pakistan Online Tuition – Online Tutor Pakistan
M.A (PREVIOUS) EMAMINATION 2000
"ECONOMICS"PAPER. III.
(ADVANCED ECONOMIC STATISTICS)

Time allowed: Three Hours.   **Max.Marks:100**

Instructions: 1) Attempt any FIVE questions.

2) Marks are indicated against each question.

1. Weekly wages in US $ for 250 high school teachers of a small town in Minnesota are as under.

WAGES (US $)	NO. OF TEACHERS
Less than 200	15
201 - 225	28
226 – 250	45
251- 300	55
301 -350	52
351 – 375	30
376 and above	25
Total	**250**

(i)   Determine the mode and median wage.   (08)

(ii)   If 35 percent of the teachers are exempted from tax, what is the lowest limit of wage to be taxed?   (04)

(iii)   Determine the variability of the data using a suitable measure of dispersion.   (06)

(iv)   Approximately what percent of teachers draw more than $ 300 per week?   (02)

2. First three moments about 14 as origin are 2, 20 and 104 respectively, determined?
   (a) First three moments about the mean and the mean.   (08)
   (b) First two moments about   (08)
      (i)   15 as origin.
      (ii) Zero as origin.
(c) Comment about the Skewers of the data.   (04)

3. Quarterly Sales receipts of an ice-cream factory for 3rd quarter of 1994 through 3rd. quarter of 1997 are given in million rupees. Fit a parabolic trend and estimate the seasonal component.   (20)

SALES: 110   115   120   125   125   120   110   135   130   125   120   140   135

4-a)   what are the desirable characteristics of a good sample, describe an appropriate sampling methodology if you are to draw a sample from the city of Karachi   (10)

4-b) Construct Marshall and Fisher indices for 2000 with base 1995 from the following: (10)

Item	1995	1995	2000	2000
	Price	Quantity	Price	Quantity
A	25	10	30	12
B	20	15	22	20
C	10	12	15	15
D	12	08	15	10
E	15	20	18	25

5-a) given below are the consumption expenditure (X) and family's income (Y) in US $ for 8 households. Construct an appropriate regression and predict the consumption of a family with an income $ 310. Also, determine the correlation coefficient.   (12)

X: 180   270   260   190   250   240   270   230

Y: 200   300   300   220   290   280   280   250

b)   Assign ranks to the values of X and Y in part (a), above, and determine the rank correlation. (08)

6-a) Given below are the values of some function corresponding to given values of X. Interpolate, using an appropriate method, the value of the function for X = 8   (15)

X: 5   10   15   20   25

F(X):   6.859   4.587   4.073   3.850   3.725

b) Draw the graph for the data given in Q. No. 6 (a), above, and estimate f (x) for X = 8

7-a) State advantages and limitations of diagrammatic and graphic presentation of statistical data. (05)

b)   Construct Histogram, Frequency Polygon and less than give for the data given below: (15)

MARKS: 1-4   5-8   9-12   13-16   17-20   21-24   25-28

FREQ: 2   5   8   10   6   3   1

8-a) Find the probability of randomly selecting 8 apples and receiving 25 percent bad from a basket containing 15 apples of which 5 are spoiled.   (10)

b)   Pakistan and New- Zealand are going to play a series of one day. The team that wins 3 games wins the series (ties not allowed). It Pakistan's probability of winning a single game with New Zealand is 0.6, what is the probability that Pakistan wins the series.   (10)

9.   Write short notes on the following: -   (20)

    (a) Secondary data.

    (b) Organization of a Sample Survey.