

**Ex/Int./M/8-Stat/31/2017**

**BACHELOR OF SCIENCE EXAMINATION, 2017**

**(2nd Year, 1st Semester)**

**STATISTICS (Subsidiary)**

**Paper - 8 Stat**

Full Marks : 50

Time : Two Hours

*The figures in the margin indicate full marks.*

Answer Question No. 1 and any *two* from the rest.

1. (a) What is the problem of measurement in education and psychology ?
  
- (b) Explain the different methods of combining and comparing scores in several tests, stating clearly about the assumptions.
  
- (c) Explain the meaning of elasticity of demand with respect to price.
  
- (d) Given the demand for a commodity and find the corresponding price at different points of time, how will you calculate the elasticity of demand with respect to price ?

*[Turn over]*

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(e) Explain the theoretical basis of control chart.

(f) Discuss about control charts for mean, standard deviation and range.  $4+6+4+6+4+6=30$

2. The raw score distribution for Bengali and English for a group of 100 students are given below. One of two students got 30 in Bengali and 20 in English while the other got 25 in Bengali and 25 in English. Compare their performance by (i) percentile scaling (ii) linear derived score and (iii) T-scaling. 10

Score	0-10	11-20	21-30	31-40	41-50
Frequency of Bengali	10	12	38	26	14
Frequency of English	12	27	21	30	10

3. The following data represents per capita purchase of unhusked rice (q kg) and the retail price (p Rs/kg) for the year 2000 to 2010. Obtain a linear demand function and calculate the price-elasticity of demand for each year at the average price prevailing in the year. 10

[Turn over]

[ 3 ]

Year	2000	2002	2004	2006	2008	2010
q/kg	1.89	1.60	2.02	1.93	1.99	1.82
p Rs/kg	18	24.2	19.6	21.1	22	21

4. Discuss briefly about simultaneous equation econometric model. Give an illustration of demand and supply model.

10

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