APPLIED STATICS - II

Semester - VI

Time Allowed : 3 Hours] [Maximum Marks : 36

Note : The candidates are required to attempt **two** questions each from Section A and B carrying 5 marks each and the entire Section C consisting of 8 short answer type questions carrying 2 marks each.

Section - A

1. What is an Index Number ? What are their uses ? Discuss various problems that may arise in construction of index numbers.
2. Discuss importance and limitations of index numbers. Discuss the use of different averages in the construction of index numbers.
3. Compare various Price Index Numbers and also the Value Index Number from the following data :

	Comodity Prince	Base Year Quantity	Current Year Price	Quantity
A	12	300	14	400
B	15	100	12	150
C	11	80	10	150
D	18	150	20	200

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4. Describe Laspeyre's, Paasche's Marshall Edgeworth and Fisher's Ideal index nubers. Prove that the Marshall Index numbers lies between Laspeyre's and Paasche's index numbers.

Section - B

5. What are the requisites of a good index number ? Outline mathematical tests for texts for index numbers and discuss performance of various indes numbers in the light of these tests.
6. What are cost of living index numbers ? How are weights obtained in constructing this index ? Describe one method of construction of cost of living index numbers.
7. Explain the termps price elasticity and income elasticity of demand. What is the advantage of using elasticities instead of ordinary derivatives ? Find Price elasticity of demand curve $p = \frac{a}{cy + b}$, where a, b and c are the constants, p is the price and y is the quantity demanded.
8. State Pareto's Law of income distribution. How would you fit Pareto distribution to observed data ?

Section - C

9. Write brief answers :
   (a) Which index number is used to determined the purchasing power of money ?
   (b) Name two types of errors in the measurement of Pricd and Quantity Index numbers.
   (c) Define Value Index Number.
   (d) Prove that the Fisher's Index number lies between Laspeyre's and Paasche's Index Numbers.
   (e) Write two uses of cost of living index numbers.
   (f) The demand and supply curves of a commodity are $D = 50 - 5p - p^2$ and $s = p^2 - 2p + 4$ respectively. Determine equilibrium price.
   (g) Define Price elasticity of demand.
   (h) Define log normal distribution.

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