Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS, PONDA-GOA
B.COM.(SEMESTER-III) SUPPLEMENTARY EXAMINATION MAY/JUNE 2016
STATISTICAL TECHNIQUES

DURATION : 2 Hours   Marks : 80

Instructions: All questions are compulsory.

Q 1 A. Define Statistics.   (3)

   B. Calculate Arithmetic Mean for the following distribution given below.   (6)

Class Interval	10-20	20-30	30-40	40-50	50-60
Frequency	20	43	50	30	18

   C. Find Median and Mode values from the following data: (7)

Class Interval	0-10	10-20	20-30	30-40
Frequency	15	10	22	18

OR

Q 1 X. Write the Limitations of Statistics.   (3)

   Y. Find the Harmonic Mean for the following distribution.   (6)

Weights (in kg)	0-10	10-20	20-30	30-40	40-50
No. of Apples	2	8	6	4	5

   Z.   Compute D_5, and P_{48} for the data given below: (7)

Marks	15-25	25-35	35-45	45-55	55-65
No.of Students	10	12	18	5	15

Q 2 A. What are the requisites of good Questionnaire or a Schedule.   (3)

   B. Draw less than Ogive from the following data hence locate Q1(First Quartile).

Class Interval	0-10	10-20	20-30	30-40	40-50
Frequency	6	4	5	4	6

   (6)

   C. Calculate Standard Deviation for following data.   (7)

Wages (in '000 s)	16-20	20-24	24-28	28-32	32-36
No.of Workers	4	6	8	4	3

OR

Q 2 X. Define: i) Data   ii) Frequency .   (3)

   Y. Draw less than Ogive from the following data hence locate Median.   (6)

Class Interval	30-40	40-50	50-60	60-70	70-80
Frequency	50	130	200	70	60

Z. Find Mean deviation from Mean and also find its Coefficient. (7)

Ages : 2-4   4-6   6-8   8-10
No. of Children : 3   4   2   1

Q .3 A. Write a short note on Partition Values. (3)

B. Represent the data by Sub-divided Bar diagram. (6)

Students	Years		
	1989	1990	1991
Arts	300	250	250
Commerce	200	250	300
Science	100	200	200
Total	600	700	750

C. Find Karl Pearson's Coefficient of skewness from the following data. (7)

Ages : 10-20   20-30   30-40   40-50   50-60
No. of Workers : 5   12   15   18   10

OR

Q.3 X. Explain the importance of Measures of dispersion. (3)

Y. Represent the data by simple Bar Diagram (6)

Country : U.S.S.R   Nigeria   Australia
Populations (in lakhs) : 650   455   221

Z. Calculate Bowley's Coefficient of Skewness from the following data. (7)

Ages : 0-10   10-20   20-30   30-40   40-50
No. of Students : 8   16   14   12   10

Q.4 A. Define Cost of living index numbers. (3)

B. Find four yearly moving average trend from the following data. (6)

Year : 1986   1987   1988   1989   1990   1991
Production(in '000 units) : 120   130   140   100   130   135

C. Calculate Price Index number by following Methods using below data. (7)
   i) Simple Average of Price Relative using Arithmetic Mean.
   ii) Weighted Average of Price Relative using Arithmetic Mean.

Commodity	Weights	Price (in `) 2004	Price (in `) 2007
A	5	2	4.5
B	7	2.5	3.2
C	6	3	4.5
D	2	1	1.8

OR

Q.4 X) What are the uses of Index Numbers.   (3)

Y) Find three yearly moving average trend from the following data.   (6)

Year	: 2000	2001	2002	2003	2004	2005	2006
Sales (in lakhs) :	14	15	18	20	19	23	25

Z) Calculate Laspeyre's Passche's and Fisher's Price Index Number.   (7)

Commodity	Price (in `)		Quantity (in kg)	
	Base Year	Current Year	Base Year	Current Year
A	1	1.5	10	8
B	5	6	12	10
C	8	10	5	2

Q.5.A Write a short note on components of time series   (3)

B Calculate cost of living index number from following data.   (6)

Items	Weights	Price (in `)	
		Base Year	Current Year
A	25	2	3
B	50	5	6
C	15	5	7
D	10	7	8

C. Fit straight line trend for following data by the method of least Squares.   (7)

Year	: 2001	2002	2003	2004	2005	2006	2007
Production (in '000 tons) :	12	10	14	11	13	15	16

OR

Q.5.X .Write the uses of Time Series.   (3)

Y. Find Fisher's Quantity Index Numbers for below data.   (6)

Commodity	Price (in `)		Quantity (in kg)	
	Base Year	Current Year	Base Year	Current Year
Food	11	13	100	95
Clothing	7	10	30	30
House Rent	16	18	80	75
Miscellaneous	15	20	100	90

Z. Fit straight line trend for following data by the method of least Squares.   (7)

Year	: 1985	1986	1987	1988	1989	1990	1991
Sales (in '000s) :	120	128	130	135	145	151	157