

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
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B.COM. (SEMESTER-III) EXAMINATION, OCTOBER 2015
STATISTICAL TECHNIQUES

Duration: 2 Hours

Marks: 80

Instruction: All questions are compulsory.

Q1 A. Define the terms. (3)

- i) Population ii) Sample

B. Find “less than” and “more than” Cumulative frequencies for following data:

Marks	: 0-10	10-20	20-30	30-40	40-50		(6)
No. of Students	: 14	13	28	20	25		

C. Find Median and Arithmetic Mean for following data: (7)

Weight in grams	No. of Apples
0-25	5
25-50	10
50-75	25
75-100	11
100-125	4

OR**Q1 X.** Write the functions of Statistics . (3)

Y. Find relative frequencies and Percentage frequencies for following data.

Marks:	10-20	20-30	30-40	40-50	50-60	(6)
No. of Students:	3	8	12	4	3	

Z. Following data gives the distribution of Intelligence quotient of 500 students, find median and mode. (7)

I.Q	: 10-20	20-30	30-40	40-50	50-60	
No. of Students:	50	150	175	100	25	

Q2 A. Define the terms: i) Exclusive class Interval (3)
ii) Inclusive class Interval

B. Draw Histogram and frequency Polygon from the following data. (6)

Age (in years)	: 20-25	25-30	30-35	35-40	40-45	45-50	
No. of Persons	: 15	20	30	27	17	8	

C. Compute D_5 and P_{40} for following data. (7)

Class Interval	: 0-10	10-20	20-30	30-40	40-50	50-60
Frequency	: 4	6	20	10	7	3

OR

Q2 X. Explain: i) Primary data
ii) Secondary data (3)

Y. Draw less than Ogive and more than Ogive on Graph for following distribution. (6)

Class Interval	: 0-10	10-20	20-30	30-40	40-50
Frequency	: 4	8	6	2	5

Z. Calculate Mean Deviation from mode for the following data (7)

Production in units	: 100-110	110-120	120-130	130-140	140-150
No. of Workers	: 10	52	100	68	10

Q3 A. Write the merits and demerits of Geometric Mean (3)

B. Represent the following data by Multiple Bar Diagram. (6)

Year	`in Crores	
	Exports	Imports
1994-95	20	18
1995-96	25	30
1996-97	30	28
1997-98	45	51

C. Find Quartile Deviation and its Coefficient for following data: (7)

Sales(in '000 `)	: 4-8	8-12	12-16	16-20	20-24
No. of Shops	: 2	5	11	13	9

OR

Q.3 X. Write the Merits and demerits of Harmonic Mean (3)

Y. Represent the following data by Simple Bar Diagram (6)

Country	: Afghanistan	Australia	Canada	France
No. of Tourists (in '000 s):	7	33	39	45

Z. Find Standard Deviation and Coefficient of Variation for following data.

Class Interval : 16-18 18-20 20-22 22-24 24-26 (7)

Frequency : 50 250 350 225 25

Q.4 A. Define: i) Skewness ii) Kurtosis (3)

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

Year : 1965 1966 1967 1968 1969 1970 1971

Sales (in '000 `): 10 12 11 13 15 13 16

C. Find Laspeyre's , Passche's and Fisher's Price Index Numbers from the following Data. (7)

Commodity	Base Year		Current Year	
	Price (in `)	Quantity (in kg)	Price (in `)	Quantity (in kg)
Rice	4	15	5	20
Wheat	8	20	12	18
Sugar	6	25	8	20
Oil	14	10	21	10

OR

Q.4.X. Write a short note on Karl Pearson's coefficient of Skewness . (3)

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

Year : 1985 1986 1987 1988 1989 1990 1991

Sales (in '000 tons) : 4 8 10 14 16 20 26

Z. Find Laspeyre's , Passche's and Fisher's Quantity Index Number from following data. (7)

Commodity	1990		1991	
	Price (in `)	Quantity (in kg)	Price (in `)	Quantity (in kg)
A	6	20	12	22
B	3	12	3	15
C	5	8	9	8
D	10	4	14	3

Q.5.A. Write a short note on Time series. (3)

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

Commodities	Weights	Base Year Price	Current Year Price
Food	5	16	20
Clothing	2	40	60
House Rent	6	15	14
Fuel and lightning	8	13	15
Miscellaneous	4	21	13

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

Year	:	2005	2006	2007	2008	2009	2010	2011
Sales (in '000 s) :		10	15	16	20	25	31	33

OR

Q.5.X. Explain Seasonal components of time series. (3)

Y. Construct cost living index number from the following data. (6)

Commodities	Quantity (in 1981)	Price per unit (in 1981)	Price per unit (in 1982)
A	100	8	12
B	25	6	7.5
C	10	5	5.25

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

Year	:	2002	2003	2004	2005	2006	2007
Sales (in lakhs) :		5	11	17	21	24	25

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