

Vidya Vikas Mandal's

Shree Damodar College of Commerce and Economics, Margao-Goa

FYBBA (FS), Semester II, End Semester Examination, April 2015

DATA ANALYSIS AND QUANTITATIVE TECHNIQUES

Duration: 2 Hours

Total Marks: 60

Instructions: 1) All questions are compulsory.

2) Figures to the right indicate full marks.

1. Answer **ANY TWO** of the following. (6 X 2 =12)

a) Two cards are drawn from a pack of 52 cards. Find the probability that

- 1) Both are spades
- 2) One is red and one is black
- 3) Both are of the same suit

b) The watches produced by a certain company include only one defective watch in every 500 watches. 5 packets of 25 watches each are considered. Find the probability that in 5 packets there is

- 1) No defective watch
- 2) One defective watch
- 3) At least one defective watch.

c) The weights of 4000 students are found to be normally distributed with mean 50kg and standard deviation 5 kg. Find the number of students with weights

- 1) Less than 45kg
- 2) Between 45kg and 60 kg.

(Given $F(0)=0.5, F(1)=0.8413, F(2)=0.9772$)

2. Answer **ANY TWO** of the following. (6X2=12)

a) The prices of sugar per 100kg are given in the following data

Construct (a) Fixed base index numbers (taking 1987 as the base year)

Year	1967	1968	1969	1970	1971	1972	1973	1974
Price of sugar	210	225	236	250	290	310	330	355

- b) Construct Laaspeyre's and Paasche's index numbers of price from the following data

Commodity	Current Year		Base Year	
	Price (in Rs)	Quantity	Price (in Rs)	Quantity
A	12	4	9	8
B	11	10	12	7
C	7	9	6	10

- c) The price quotations of four different commodities for 1981 and 1985 are given below.

Calculate the index number for 1985 with 1981 as base by using

- 1) Weighted aggregative price index number
- 2) Simple aggregative price index number
- 3) Simple average of price relatives

Commodity	Weight	Price (in Rs)	
		1981	1985
A	5	2	4.5
B	7	2.5	3.2
C	6	3	4.5
D	2	1	8.1

3. Answer **ANY TWO** of the following.

(6X2=12)

- a) Calculate the mean and the harmonic mean for the following data

x	0-10	10-20	20-30	30-40	40-50	50-60
f	12	18	27	20	17	6

- b) Compute the median for the following data

Less than value	10	20	30	40	50	60	70	80
Frequency	4	15	40	76	96	112	120	125

- c) Calculate the quartiles for the data given below:

x	15-25	25-35	35-45	45-55	55-65
f	10	12	18	5	15

4. Answer **ANY TWO** of the following.

(6X2=12)

- a) Calculate the mean deviation from the mean and median for the following data

x	100	150	200	250	360	490	500	600	671
---	-----	-----	-----	-----	-----	-----	-----	-----	-----

- b) Calculate the semi-inter quartile range for the following data

x	15-25	25-35	35-45	45-55	55-65
f	20	18	32	18	12

- c) Calculate the standard deviation for the following data

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	12	21	23	34	10

5. Answer **ANY ONE** of the following.

(1X12=12)

- a) Calculate for the following data

- (1) Karl Pearson's coefficient of correlation
(2) Spearman's Rank Correlation Coefficient

x	12	9	8	10	11	13	7
y	14	8	6	9	11	12	3

- b) Obtain the two regression lines from the following data and hence determine (1) most likely value of y when x is 3.5
(2) most likely value of x when y is 10

x	6	2	10	4	8
y	9	11	5	8	7
