

Pg 1 of 3
Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
ECONOMICS, PONDA-GOA
B.C.A (SEMESTER-IV) SUPPLEMENTARY EXAMINATION,
MAY/JUNE2019
BCA 404 DATA ANALYSIS AND STATISTICAL TECHNIQUES

Duration: 2 hours

Marks: 50

Instructions:

1. All questions are compulsory. However internal choice has been provided for Q.2 - Q.5
2. Figures to right indicate full marks.
3. Use of non-programmable calculators are allowed.
4. On request graph papers will be provided.

Q 1) A) Answer the following. (5×1=5)

- a) The empirical formula linking mean, median and mode is _____.
- b) Formula for coefficient of correlation for non-repeated rank is _____.
- c) The mean of poisson distribution is given by _____.
- d) The coefficient of correlation 'r' indicates a negative correlation between x and y if $r \approx$ ____.
- e) If two events A and B are independent then $P(A \cap B) =$ _____.

B) Answer the following. (5×1=5)

- a) Define the term correlation.
- b) State the formula for quartile deviation.
- c) What is range?
- d) Define data mining.
- e) State the multiplication law of probability.

Q 2) Answer the following. (5×2=10)

- a) Calculate the standard deviation for the following.

Class Interval	0-2	2-4	4-6	6-8	8-10
Frequency	10	20	30	10	10

- b) Draw the histogram for the following data.

Profits (₹)	0-100	100-200	200-300	300-400	400-500	500-600	600-700
No. of Shops	15	20	28	32	18	12	5

OR

c) Draw a less than ogive for the data given below:

Class interval	0-10	10-20	20-30	30-40	40-50
Frequency	4	6	10	12	16

d) Calculate mode and mean for the following data.

Time(min)	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No. of workers	8	14	18	25	15	14	6

Q 3) Answer the following.

- a) In how many different ways one can arrange the letters of the word MOUSE? (2)
- b) Write properties of poisson distribution. (3)
- c) A sample of 400 managers is found to have mean height of 171.38cms. Can it be reasonably regarded as a sample from a large population of mean height 171.17cms and sample having standard deviation 3.30cms. (5)

OR

- d) From a group of 15 boys and 10 girls a committee of 4 boys and 3 girls are to be formed. Find the total number of ways committee can be formed. (2)
- e) Give applications of normal distribution. (3)
- f) What are the advantages & limitations of random sampling method? (3)

Q 4) Answer the following.

(5×2=10)

- a) Explain in brief simple random sampling.
- b) For the data given below find the equations of both the lines of regression.

X	2	3	4
Y	3	5	7

OR

- c) Write a short note on population distribution and sample distribution.
- d) What is a scatter diagram? Draw the scatter diagrams for strong positive and strong negative correlations between two variables.

Q 5) Answer the following questions.

(5×2=10)

- a) Calculate D_5 and Q_3 from the following data.

Daily wages	30-32	32-34	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50
workers	2	9	25	30	49	62	39	20	11	3

b) Write a short note on Apriori algorithm with an example.

OR

c) Calculate P_{10} and P_{30} from the following data.

Overtime (hrs)	10-15	15-20	20-25	25-30	30-35	35-40
frequency	11	20	35	20	8	6

d) What are the uses of data mining?

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