Vidya Vikas Mandal's
Shree Damodar College of Commerce & Economics Margao Goa
S.Y.BCA, SemVI, May/June Supplementary Examination 2017

DATA ANALYSIS AND STATISTICAL TECHNIQUES

Duration: 2 Hours **Total Marks: 50**

Instructions:

1. *Figures to the right indicate maximum marks*
2. *All questions are compulsory*
3. *Standard calculators are allowed*

Q .1 Answer the following

a) Answer the following

i. Find coefficient of correlation of x *and* y if regression coefficient of y *on* x is $^1/_6$ and that of x *on* y is $^3/_2$

ii. If events A and B are mutually exclusive and exhaustive then what is P(AUB)

iii. and P(A∩B)?

iv. Write the formula for Standard Deviation when $x_i's$ *and* $f_i's$ are given

v. Define data mining

vi. Let A and B be two independent events, and let P(A)=$^2/_3$ and P(B)=$^9/_{14}$ then find P(A∩B) and P($\overline{A \cap B}$)

b) Answer the following

i. State addition theorem on probability of two events A and B

ii. A box contains 100 tickets numbered from 1 to 100 all distinct, a card is drawn at random, find the probability that the number on it is divisible by 3

iii. Differentiate between sample and population (Give two points)

iv. Find Quartiles for the following data

10 9 2 5 3 2 5 2 4 7 8

v. Find mean for the given data

100 200 150 600 500 100 200 300

Q .2 Answer the following (Any two) **(5X2=10)**

a) Calculat e 45th Percentile and 9th Decile for the following for the following data

Class interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	10	20	10	15	15	10	20

b) Calculate Quartile deviation for the following

x	1	2	3	4	5	6	7	8
f	1	2	3	4	5	6	7	8

c) Draw frequency polygon and Histogram for the following

Class interval	0-40	40-80	80-120	120-160	160-200	200-240	240-280	280-320
Frequency	4	12	40	41	27	13	9	4

Q .3 Answer the following (Any two) **(5X2=10)**

a) Explain the methods of sampling.

b) It is found that 63 of 100 urban residents favour construction of a power plant in their neighborhood while only 59 of 125 suburban residents are in favour. Is there a significant difference between the two proportions? Use 0.01and 0.05 level of significance.

c) Find Median and mode for the following. (use grouping method to find mode)

x	1	2	3	4	5	6	7
f	4	6	10	16	12	8	3

Q .4 Answer the following (Any two) **(5X2=10)**

a) A and B play 12 games of chess of which 6 are won by A, 4 by B and 2 end in tie. They agree to play 3 more games. Find the probability that

i. A wins all three games
ii. Two games end in a tie
iii. A and B win alternatively
iv. B wins at least one game
v. B wins none of the games

b) Write a short note on normal distribution. Write the formula for a variable that follows normal distribution

c) The average number of customers who appear at a counter of a certain bank per minute is 2. Find the probability that during the given minute

i. No customer appears
ii. 3 or more customers appear(given $e^{-2} = 0.1353$)

Q .5 Answer the following (Any two) **(5X2=10)**

a) Find coefficient of correlation by using Karl Pearson's method

X	1	2	3	4	5	6	7	8
Y	3	5	6	8	10	11	13	15

b) Find coefficient of correlation by using Rank Method

X	93	98	91	92	92	90	96	92
Y	95	20	59	40	55	78	40	66

c) Find regression equation of x *on* y

X	7	11	15	19	23	27	31	35
Y	2	4	6	8	10	12	14	16

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