

Roll No. 0902253

BCA-305(N)

B.C.A. (Third Semester)
EXAMINATION, Nov./Dec., 2018
(New Course)

Paper Fifth

ELEMENTS OF STATISTICS

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from all Sections as directed.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A

(Short Answer Type Questions)

Note : All questions are compulsory. Each question carries 3 marks.

1. (A) What do you mean by distrust of statistics ?
- (B) Distinguish between primary and secondary data.
- (C) The average marks of 80 students were found to be 40. Later, it was discovered that a score of 54 was misread as 84. Find the corrected mean of the 80 students.
- (D) Find the harmonic mean of 4, 8, 16, 24.

(C-97) P. T. O.

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- (E) Find the range and its coefficient for the following data :

11, 9, 7, 10, 8, 6, 5, 7, 8

- (F) How many permutation can be made out the letters of the word 'TRIANGLE'. How many of these will begin with T and end with E?

- (G) Find n , if :

$${}^nC_7 = {}^nC_9$$

- (H) If two balls are drawn from a bag containing 2 white, 4 red and 5 black balls. What is the chance that both the balls are red?

- (I) What are the advantages of statistical quality control?

Section—B

(Long Answer Type Questions)

Note : Attempt any two questions. Each question carries 12 marks.

2. Find less than and more than cumulative frequencies and draw 'Ogives' from the following data :

Weight (in kg)	Frequency
30—34	3
35—39	5
40—44	12
45—49	18
50—54	14
55—59	6
60—64	2

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3. Locate mode from the following data :

Mid Value	Frequency
30	7
40	12
50	17
60	29
70	31
80	5
90	3

4. Find standard deviation and its coefficient from the following distribution :

Age group (years)	No. of Workers
25—30	10
30—35	12
35—40	25
40—45	40
45—50	10
50—55	3

5. On the basis of the following distribution, compute mean deviation from median :

Marks	Frequency
140—150	4
150—160	6
160—170	10
170—180	18
180—190	9
190—200	3

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Section—C

(Long Answer Type Questions)

Note: Attempt any two questions. Each question carries

12 marks.

6. (a) In how many arrangements of word 'GOLDEN' will the vowels never occur together?
- (b) There are 5 men and 5 ladies to dine at a round table. In how many ways can they seat themselves so that no two ladies are together?

7. (a) To prove that :

$$C(n, r) + C(n, r-1) = C((n+1), r)$$

- (b) Out of 6 teachers and 8 students, a committee of 11 is to be formed. In how many ways can this be done, if the committee contains at least 4 teachers?

8. (a) Two dice are thrown. Find the probability that at least a sum of 9 occurs.

- (b) Probability that a boy will pass an examination is $\frac{3}{5}$ and that for a girl is $\frac{2}{5}$. What is the probability that at least one of them passes?

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9. The following table gives the result of inspection of 20 samples of 100 items each taken on working days. Draw a p -chart.

Sample No.	No. of Defectives
1	9
2	17
3	8
4	7
5	12
6	5
7	11
8	16
9	14
10	15
11	10
12	6
13	7
14	18
15	16
16	10
17	5
18	14
19	7
20	13

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