Roll No.		 

Total No. of Questions : 9] (2111) [Total No. of Printed Pages : 8

# BCA (CBCS) RUSA Vth Semester Examination

# 4522

# COMPUTER ORIENTED STATISTICAL METHODS BCA-0505

Time : 3 Hours]

[Maximum Marks : 70

Note :- Section-I is compulsory. Attempt one question from each part of Section-II. Marks are indicated against the question.

# Section-I

# (Compulsory Question)

- 1. (A) Do as directed the following questions :
  - (i) The mean of 8, 11, 6, 14, x and 13 is 66. Find the value of the observation x
  - (iii) If covariance between X and Y variables is 10 and the variances of X and Y are respectively 16 and 9, find the coefficient of correlation. (O.64)

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1)

Turn Over

(111)	Does the following data of 8 students	a have model weight
	Weight : 1, 7, 2, 4,	5, 9, 8, 3.
		(YES/NO)
(iu)-	What is the probability	of picking a red or
	black card from a st	andard pack of 52
(v)-	cards ?	ind the probability
11	of getting a 4 5 or (	on the toss ?
	of getting a 4, 5 of t	ou une toss .
4(1)	A dealer in computers	estimates from his
	past experience the pro-	obabilities of selling
	computers in a day, wh	nich are as follows :
No	of Computers	Probability
	0	0.03
	1	0.20
	2	0.23
	3	0.25
	4	0.12

5 2.8 6

Find the expected value of computers sold in a day.

0.10

0.07

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(vii) The range of a sample gives an indication of the :

- (a) Way in which the values cluster about a particular point
- (b) Number of observations bearing the same value
- (c) Maximum variation in the sample
- (d) Degree to which the mean value differs from its expected value

(Choose the correct one)

(viii) The median of the sample 5, 5, 11, 9, 8,

5, 8 is :

- (a) 5
- (b) 6
- Let 8

(d) 9 (Choose the correct one) (ix) Define coefficient of variance.

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Turn

The coefficient of correlation lies between : (a) 0 and +1 (b) -1 and 0 (c) -1 and +1 have done to (d) 0 and -0.5 (Choose the correct one)  $1 \times 10 = 10$ Define mutually exclusive and equally (B) (a) likely events, events which count tropped - 1 Define geometric mean and its properties (iii) rectual land & of no. " " in short. Write in short merits and demerits of mean (111) deviation. Car .... Explain briefly assumed Mean method for calculating standard deviation in discrete  $4 \times 5 = 20$ series.

#### Section-II

#### (Part-A)

2 Calculate Mean and Mode from the following data :

Marks above

#### No. of Students

10		77
20		72

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(4)

30	65	
40	55	
50	43	
60	28	
70	16	
80	10	
90	8	10

 Find Median and Standard Deviation from the following data :

x			J	
0-10			12	
10—20			17	
20-30	÷.		23	
30—40		•	39	
40—50			16	
50-60			03	10

### (Part-B)

 (a) If n persons are seated on n chairs at a round table, then find the probability that two specified persons are sitting next to each other.

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- 5. (a) A bag contains 30 balls numbered from I to 30. One ball is drawn at random. Find the probability that the number of the ball drawn will be a multiple of 5 or 7.
  - (b) Find the probability of drawing a queen, a king or an ace in that order from a pack of cards in three consecutive draws, the cards drawn not being replaced. 5x2=10

## (Part-C)

6. (a) A petrol pump proprietor sells on an average ₹ 80,000 worth of petrol on rainy days and an average of ₹ 95,000 on clear days. Statistics from Meteorological Dapartment show that the probability is 0.76 for clear weather and 0.24 for rainy weather on coming Monday. Find the expected value of petrol sale on coming Monday.



- (b) A committee consisting of 2 computer analysts and 3 statisticians is to be formed, out of 5 computer analysts and 7 statisticians. In how many ways this can be done if (i) any computer analyst and any statistician can be included, (ii) one particular statistician must be on the committee. 5x2=10
- 7. Two cards are drawn (without replacement) from a well shuffled deck of 52 cards. Find the probability distribution and mean of number of cards numbered 4.

#### (Part-D)

 Calculate coefficient of Karl Pearson's correlation of the following data :

Cost	Sales	
39	47	
65	53	
62	58	
	(7)	

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(7)

Turn Over

90	86	
82	62	
75	68	
25	60	
98	91	
 36	51	
78	84	10

 Find the coefficient of correlation for the following data :

(1, 3), (2, 5), (3, 7), (4, 9), (5, 10), (6, 11), (7, 14),(8, 15), (9, 4), (10, 20). 10

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