

D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE – 1**SEMESTER EXAMINATIONS****NOVEMBER – 2016****15CAMA3B*****ALLIED : STATISTICAL METHODS AND THEIR APPLICATIONS*****Time: 3 Hrs****Max. Marks: 75****SECTION – A (10 X 2 =20)****Answer ALL the questions.**

1. Define Statistics.
2. Define Primary data.
3. Calculate mean for the following data.

40	50	55	78	58	60	73	35	43	48
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4. Write the formula for standard deviation.
5. Write the demerits of method of least squares.
6. Write the normal equation of second degree parabolic curve.
7. What is the chance of getting a king in a draw from a pack of 52 cards?
8. Define probability.
9. Write the merits of rank correlation.
10. State the regression lines.

SECTION – B (5 X 5 =25)**Answer any FIVE of the following questions.**

11. State the limitations of statistics.
12. Calculate the median from the following data.

Marks	10 - 25	25 - 40	40 - 45	55 - 70	70 - 85	85 - 100
Frequency	6	20	44	26	3	1

13. Find the standard deviation for the following data.

77	33	75	70	72	76	75	72	74	76
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14. Fit a straight line trend to the following time series.

Year	2007	2008	2009	2010	2011	2012
Production	72	75	74	78	83	82

15. State and Prove Addition theorem.
16. If 12 coins are tossed, what is the probability of getting less than 3 heads in a single toss?
17. Following are the ranks obtained by 10 students in two subjects. To what extent the knowledge of the students in the two subjects are related?

Subject I	1	2	3	4	5	6	7	8	9	10
Subject II	2	4	1	5	3	9	7	10	6	8

18. Calculate the regression line X on Y from the given information

$$\sum X = 20, \sum y = 40, \sum XY = 200, \sum X^2 = 240, \sum Y^2 = 410, N = 10.$$

SECTION – C (3 X 10 =30)

Answer ALL the questions.

19. a) From a survey of sample size 50 the following scores were obtained.

40	45	41	45	45	30	39	8	48	25
26	9	23	24	26	29	8	40	41	42
39	35	18	25	35	40	42	43	44	36
27	32	28	27	25	26	38	37	36	35
32	28	40	41	43	44	45	40	39	41

Prepare a frequency table and present the same in a histogram

(Or)

b) Calculate the mode from the following series

Size of the items	0 - 5	5 – 10	10 – 15	15 - 20	20 - 25	25 – 30	30 - 35	35 - 40	40 - 45
Frequency	20	24	32	28	20	16	34	10	8

20. a) Fit the parabola of the second degree to the data given below.

Year	2004	2005	2006	2007	2008
Sales ('000)	16	18	19	20	24

(Or)

b) A bag contains 6 white and 9 black balls. Two drawings of 4 balls are made such that the balls are replaced before the second trial. Find the probability that the first drawing will give 4 white and the second 4 black balls.

21. a) Compute the Co-efficient of correlation between X and Y

X	10	12	18	8	13	20	22	15	5	17
Y	88	90	94	86	87	92	96	94	88	85

(Or)

b) Calculate the regression equation Y on X from the following data.

X	42	44	58	55	89	98	66
Y	56	49	53	58	65	76	58

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