

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted during the academic year 2008-2009 & thereafter)

SUBJECT CODE: CM/AC/MS34

B.Com. DEGREE EXAMINATION NOVEMBER 2011
COMMERCE
THIRD SEMESTER

COURSE : ALLIED CORE
PAPER : BUSINESS MATHS AND STATISTICS
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION-A

(10x3=30 Marks)

Answer All questions:

1. Find the arithmetic mean of the following set of observations.
25,32,28,34,24,31,36,27,29,30
2. Write any three merits of standard deviation.
3. Define correlation.
4. What is regression?
5. In how many ways can 5 books be arranged on a shelf?
6. Find the 12th term of the A.P. 6, 1, -4...
7. The sixth and the tenth term of a G.P. are 63 and 5103 respectively. Find the G.P.
8. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$, Show that $\frac{a+b+c}{c} = 2$
9. Define direct variation.
10. Calculate the simple interest for Rs.1000 for 100 days at 10% per annum.

SECTION-B

(5x8= 40 Marks)

Answer any FIVE of the following questions:

11. What do you mean by classification and tabulation? Distinguish between classification and tabulation.
12. Calculate the standard deviation for the following data.
45,36,40,37,39,42,45,35,40,39
13. Calculate the coefficient of rank correlation from the following data.

X	92	89	87	86	86	77	71	63	53	50
Y	86	83	91	77	68	85	52	82	37	57

14. For two variables X and Y the equations of the regression lines are $9Y - X - 288 = 0$ and $X - 4Y + 38 = 0$, Find the mean values of X and Y . Also find the coefficient of correlation.

15. Write the differences between correlation and regression.
16. In how many ways players for a cricket team can be selected from a group of 35 players containing 10 batsmen, 8 bowlers, 5 all-rounders and 2 wicket keepers if the team requires 5 batsmen, 3 all-rounder, 2 bowlers and 1 wicket keeper.
17. A certain amount of money was invested at 8% simple interest and after 9 months an equal amount was invested at 10% simple interest. Find the period in which the amount in each case becomes Rs.5200. How much money was invested in each case?

SECTION-C**(2x15= 30 Marks)****Answer any TWO of the following questions:**

18. a) Draw the pie diagram for the following data.

Item	Expenditure
Food	2000
Clothing	1000
Rent	1250
Fuel	750
Others	400

- b) Calculate the standard deviation for the following data.

Age	4-6	6-8	8-10	10-12	12-14	14-16	16-18
No. of students	30	90	120	150	80	60	20

(5+10)

19. The following data shows the imports and exports of a commodity, in lakhs of rupees, during the last ten years. Calculate the correlation coefficient.

Year	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
	-	-	-	-	-	-	-	-	-	-
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Import	20	27	24	24	27	24	32	25	31	36

20. Construct the regression equations for the following data.

A	23	43	53	63	73	83
B	5	6	7	8	9	10

21. a) Divide 20 into 4 parts which are in A.P. such that the ratio of the product of the first and fourth and the product of the second and the third is 2:3.

b) If $p(y + z) = q(z + x) = r(x + y)$, Obtain the value of $\frac{x}{y}$ (8+7)

