

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.  
(For candidates admitted during the academic year 2004-2005 & thereafter)

SUBJECT CODE : **CM/AC/BS33**

**B.Com. DEGREE EXAMINATION NOVEMBER 2007**  
**COMMERCE**  
**THIRD SEMESTER**

COURSE : **ALLIED – CORE**  
PAPER : **BUSINESS STATISTICS**  
TIME : **3 HOURS**

**MAX. MARKS : 100**

**SECTION - A**

ANSWER ALL QUESTIONS: ( 10 x 3 = 30 )

1. State the limitations of statistics.
2. Differentiate Primary and secondary data.
3. What are the requisites of a good average.
4. Mention two uses of diagram and graphs.
5. What is the median of the following array of weights 75,60,55,80,45,70,40,85.
6. The means of two samples are 32.5 and 54 respectively. If the mean of the combined example is 45.93 and the first sample is of size 30. Find the sample size of the second sample.
7. Find the coefficient of skewness, if difference between two quartiles is 8 and sum of two quantiles is 22 and median is 10.5.
8. In correlation, the value of  $r$  is 0.917 and its probable error is 0.034. What would be the value of  $N$ .
9. State two properties of regression coefficients.
10. From the following data construct an index for 2008 taking 2007 as base:

Commodity	A	B	C	D	E
Price in 2007 Rs.	50	40	80	110	20
Price in 2008 Rs.	70	60	90	120	20

What is the net increase in price.

## SECTION – B

ANSWER ANY FIVE QUESTIONS:

( 5 x 8 = 40 )

11. Distinguish between classification and tabulation. Mention the requisites of a good statistical tabulation.
12. The following data relate to the monthly expenditure in rupees of two families A & B.

Items	Food	Clothing	Rent	Light & Fuel	Miscellaneous
Family A	1600	800	600	200	800
Family B	1200	600	500	100	600

Represent the following data by a suitable percentage diagram.

13. Find the missing frequency. If arithmetic mean is 28 of the data given below.

Profit per shop	0-10	10-20	20-30	30-40	40-50	50-60
No. of shops	12	18	27	?	17	6

14. Two workers on the same job show the following results over a long period of time.

	Worker A	Worker B
Mean time of completing the job (minutes)	30	25
Standard deviation (minutes)	6	4

- a) Which workers appear to be more consistent in the time required to complete the job.
- b) Which worker appears to be faster in completing the job.
15. Calculate the rank correlation coefficient of 10 students in two subjects Mathematics and Statistics.

Marks in Mathematics	92	89	87	86	83	77	71	63	53	50
Marks in Statistics	86	83	91	77	68	85	52	82	37	57

16. In a correlation analysis, between production and price of a commodity, the following constants were obtained:

Arithmetic Mean	110	98
Standard Deviation	12	5
r between production & price	0.4	

Write down the regression equation of price on production and viceversa.

Calculate the price index when the production index is 116.

17. From the following data compute index number by Paasche's Method.

	Base year		Current year	
	Kilo	Rate (Rs.)	Kilo	Rate (Rs.)
Bread	10	3	8	3.25
Meat	20	15	15	20
Tea	2	25	3	23

## SECTION – C

ANSWER ANY TWO QUESTIONS:

( 2 x 15 = 30 )

18. Draw less than and more than cumulative frequency curve for the following:

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Frequency:	3	9	15	30	18	5

Obtain the median from the graph.

19. The frequency distribution of weight in grams of mangoes of a given variety is given below. Calculate the arithmetic mean, median and mode.

Weights in gms.	410-419	420-429	430-439	440-447	450-459
No. of Mangoes	14	20	42	54	45

Wt. In gms.	460-469	470-479
No. of Mangoes	18	7

20. Calculate the index number by the application of Laspeyre's formula and Paasche's formula from the following data:

Commodity	Units	Consumed	Price per unit	
	2000	2002	2000	2002
A	20	16	1.2	2.0
B	35	38	2.1	2.4
C	10	9	3.0	4.1
D	45	50	6.8	1.2

Also calculate Fishers' Ideal Index.

21. Calculate Karl Pearson's coefficient of skewness from the data given below:

Income (Rs.)	400-500	500-600	600-700	700-800	800-900
No. of Employee	8	16	20	17	3

