

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 2008
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 any two functions of statistics and mentioning its limitations.
2. What is a questionnaire? What are the essential characteristics of a good Questionnaire?
3. What is random and Non-random sampling?
4. Differentiate classification and tabulation.
5. The mean marks of 100 students were found to be 40. Later on it was discovered that a score of 53 was misread as 83. Find the correct mean corresponding to the correct score.
6. Define the different averages. What are the requisites of a good average?
7. A frequency distribution showed the following measure of location mean = 45, median = 48, coefficient of skewness = 0.4.
8. If covariance between X and Y variables is 10 and variance of X and Y are 16 and 9. Find the coefficient of correlation.
9. Find the regression coefficients of X on Y and Y on X from the following data:
 $\sum X = 59, \sum y = 60, \bar{X} = 5, \bar{y} = 6, \sum XY = 350, \text{Variance (X)} = 4, \text{Variance (Y)} = 9$
10. Choose the correct answer:
 - i) Theoretically the best average in the construction of index number is
a) median b) geometric mean c) mode d) arithmetic e) harmonic mean
 - ii) Laspeyre's ideal index is :a) base year quantities b) current year quantities
c) both of them d) average of the current and base year e) none of them.

SECTION – B

ANSWER ANY FIVE QUESTIONS:

(5 x 8 = 40)

11. Construct index number of price of the following data by Laspeyres method and Paasche method:

Commodity	2006		2007	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

12. Calculate Spearman's coefficient of correlation marks assignment to ten students by judges X and Y in a certain competitive test:

S.No.	1	2	3	4	5	6	7	8	9	10
Judge X	52	53	42	60	45	41	37	38	26	27
Judge Y	65	68	43	38	77	48	35	30	25	50

13. Given the following data: $\bar{X} = 36, \bar{Y} = 85, \sigma_x = 11, \sigma_y = 8, r = 0.66$. Find the two regression equations and estimate the value of X when Y = 75.
14. What do you mean by measure of skewness? Differentiate absolute measure and relative measure of skewness.
15. Find the inter quartile range and the coefficient of quartile deviation from the following data:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	10	40	20	0	10	40	16	14

16. Define the different measures of central tendency. Mention their merits and demerits.
17. Draw a histogram and a frequency polygon for the following data:

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	6	8	10	15	13	8	5

SECTION – C

ANSWER ANY TWO QUESTIONS:

(2 x 15 = 30)

18. Find the mean, Median, and mode for the following and verify using the empirical relation.

Class	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100
Freq	3	7	13	17	12	10	8	8	6	6

19. Represent the following data by sub-divided bar diagram.

	Commodities	
	A	B
Price per unit	3	2
Quantity sold	75	100
Value of raw material	175	150
Other production expenses	30	25
Profits	20	25

20. The purchasing agent receives samples of envelopes from two suppliers. He had the samples tested in his own laboratory for testing weight with the following results:

Test Weight	Company A	Company B
50-60	3	10
60-70	42	16
70-80	22	36
80-90	3	8

21. Using following data construct Fisher’s Ideal Index and show that it satisfies Factor reversal test and Time reversal test.

Commodity	Price (in Rs.)/unit		No. of Units	
	Base year	Current year	Base year	Current year
A	6	8	10	12
B	10	10	5	8
C	5	7	8	10
D	15	20	12	15
E	20	25	15	10

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