

9. Define measures of central tendency, dispersion, Skewness and Kurtosis. How these can help in analysis of frequency distribution? Explain with the help of an example. (10)
10. (a) Before an increase in excise duty on tea 400 people out of a sample of 500 persons were found to be tea drinkers. After an increase in the duty, 400 persons were known to be tea drinkers in a sample of 600 people. Do you think that there has been a significant decrease in the consumption of tea after the increase in the excise duty? (5)

(b) Two random samples were drawn from two normal populations and their values are:

A : 67 69 77 78 84 86 90 92 94

B : 66 67 75 79 84 88 89 94 96 97 99 (5)

11. (a) The Time-series given below shows the number of tables sold by a company since it started:

Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Tables Sold	50	56	67	80	99	120	135	148	156	150

Draw the time series curve

(5)

- (b) Distinguish between partial and multiple correlation and describe their usefulness in statistical analysis. (5)

Is there any significant diff between the means of these two samples at 5% level of significance?

[Total No. of Questions - 11] [Total No. of Printed Pages - 4]
(2124)

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MBA 1st Semester Examination

Business Statistics (NS)

MBA-102

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : All questions are compulsory in Section A which carry two marks each. Attempt any four questions from Section B carrying five marks each and attempt any two questions from Section C which carry ten marks each.

SECTION - A

1. (i) Describe any two functions of statistics in brief.
- (ii) Distinguish between a population and a sample.
- (iii) What do you mean by measure of dispersion?
- (iv) Define 'quartiles' of a distribution.
- (v) Define independent events and dependent events.
- (vi) What are the properties of correlation coefficient?
- (vii) Define the term confidence interval.
- (viii) How do you interpret the values of 'a' and 'b' in the regression equation?
- (ix) What is binomial distribution?
- (x) What are zero-order, first-order and second-order coefficient? (10×2=20)

[P.T.O.]

SECTION - B

2. (a) Diagram help us to visualise the whole meaning of a numerical complex at a glance. Comment. (2)
- (b) Draw a suitable diagram to represent the following data:

	Selling Price Per unit	Qty. sold	Wages	Materials	Others
Factory X	700	200	9000	4800	3600
Factory Y	900	300	17000	9000	13000

Also show the profit or loss. (3)

3. What is index numbers? Discuss its importance in business and industry. (5)
4. The monthly expenditure on advertisement and sales of a company are given for 2012-2013. It is generally found that expenditure on advertisement has its impact after two months. Allowing the time lag:
- (a) Calculate the correlation between expenditure on advertisement and sales. (2)
- (b) Estimate the sales of the firm in June 2014. (3)

Months/year	Expenditure on advertisement (Rs.)	Sales (Rs.)
April	90	1,800
May	100	2,000
June	110	2,400
July	140	2,500
August	160	2,800
September	150	2,750
October	170	3,000

November	185	3,100
December	190	3,125
January	200	3,300
February	250	4,300
March	310	4,900

5. What is Poisson, distribution? Distinguish clearly the relationship between the binomial and poisson distribution. (5)
6. A mayor of a city claims that 90 percent of the people of the city are behind him and support his policies. We want to test whether his claim is valid or not. A sample of 500 persons was taken and it was found that 270 of these people sampled supported the mayor. At level of significance $\alpha=0.01$, What can we conclude about the Mayor's claim? (5)
7. What do you understand by estimation? Can we consider estimation as a procedure of decision-making? (5)

SECTION - C

8. Calculate the Fisher's ideal index from the given data. Does it satisfy the time reversal and factor reversal tests?

Commodity	Price	Quantity	Price	Quantity
A	10	40	15	96
B	04	90	04	140
C	08	120	10	130
D	15	45	18	46
E	12	93	18	56

(10)

Assume any base year
if required I give footnote
Covered at 2/2014

[P.T.O.]

UP
To: 20/14