January 2016

Bachelor of Business Administration (BBA) Examination

III Semester

(**Business Statistics**)

Time 3 Hours]　　　　　　　　　　　　　　　　[Max. Marks 80

Note : Attempt any four questions from Section A. Each question carries 16 marks. Section B is compulsory and carries 16 marks.

(Section A)

Q. 1. (a) Write a note on graphical representation of the continuous frequency distribution.

(b) Distinguish between the discrete and continuous data.

Q. 2. The following table shows the distribution of 100 families according to their expenditure per week. Number of families corresponding to expenditure groups Rs. (10-20) and Rs. (30-40) are missing in the table. The median and mode are given to be Rs. 25 and Rs. 24 respectively. Determine the values of the missing frequencies of the data :

Expenditure (Rs.)	0-10	10-20	20-30	30-40	40-50
No. of Families	14	?	27	?	15

Q. 3. (a) Find the mean and variance of the first n-natural numbers.

(b) Write a note on measures of dispersion.

Q. 4. (a) Write a note on Poisson Distribution.

(b) The chances of X, Y, Z becoming managers of a certain company are 4 : 2 : 3. The probabilities that bonus scheme will be introduced if X, Y, Z become managers, are 0.3, 0.5 and 0.8 respectively. If the bonus scheme has been introduced, what is the probability that X is appointed as the manager?

Q. 5. (a) Write a note on tests of significance for large samples.

(b) In a sample of 1000 people in Maharshtra, 540 are rice eaters and the rests are wheat eaters. Can we assme that both rice and wheat are equally popular in this state at 1% level of significance? Given the critical value of Z at 1% level of significance for two-tailed test is 2.58.

Q. 6. (a) Write a note on the components of Time Series.

(b) For 10 observations on Price (X) and Supply (Y), the following data were obtained in appropriate units:

$\Sigma X = 130$, $\Sigma Y = 220$, $\Sigma X^2 = 2288$, $\Sigma Y^2 = 5506$ and $\Sigma XY = 3467$.

Estimate the supply when the price is 16 units using the regression equation.

(Section B)

Q. 7. On the basis of monthly sales (in million rupees) of a certain commodity for a certain number of years, the following calculations were made:

Trend : $Y = 25.74 + 0.45\,t$

Where origin is at January 1982, t = time with unit (one month), and Y = monthly sales.

Seasonal Indices are given as follows:

Month	January	February	March	April	May	June
Seasonal Index :	79	76	95	98	106	97

Month	July	August	September	October	November	December
Seasonal Index :	86	89	103	122	113	136

Estimate the monthly sales for 1982. http://www.davvonline.com

OR

Index of industrial production covers three groups of industries. This index increased from 106.4 to 150.2 from one point of time to another. The index numbers of individual three groups of industries over the same period changed as follows: Mining and Quarrying from 102 to 104.1; Manufacturing from 106.5 to 146.6; Electricity from 110.4 to 189.9.

Determine the weights for the individual groups of industries.

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