No. of Printed Pages : 05 **BCL104**

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 9304 Roll No.

Int. LL.B Examination 2016-2017

(First Semester)

QUANTITATIVE ANALYSIS AND BUSINESS MATHEMATICS

Time : 3 Hours] *[Maximum Marks : 100*

Note :–(i) Attempt all section.

(ii) Section A carries 20 marks, Section B carries 30 marks and section C carries 50 marks.

SECTION – A

1. Fill in the blanks. All parts are compulsory: $10 \times 2 = 20$

(a) If a, b, c are in Arithmetic progression then $a + c =$ .....?

(b) If $A \leq B$ then $A \cap B =$ .....?

[P. T. O.

(c) Two matrices can be added if they have some.....

(d) If $\beta_2 < 3$ then the curve is known as .....

(e) When the elements of a set can be counted by a finite number of elements then this set in called a .....

(f) In Commutative Law a+b = ...and a x b = ...

(g) Represent the set in set notations : The set of all odd integers .

(h) Nth terms of the following and give their 10th term 3, 8, 13, 18, ...

(i) S_n = ...when r > 1 in G.P.

(j) If $x_1, x_2, x_3, \ldots\ldots x_n$ be n values of variates x then the geometric mean G = ...

SECTION – B

Note:- Answer any three questions out of five 3×10=30

2 Explain standard deviation and formulate :

$$SD = \sigma = \sqrt{\frac{\Sigma \int (x - \bar{x})^2}{\Sigma f}}$$

3 Explain multiplication law of probability and prove

$$P(AB) = P(A) \times P(B)$$

4. Using Poisson distribution find the probability that the ace of spades will be drawn from a pack of well shuffled cards at least once in 104 consecutive trials.

5. If $A = \begin{bmatrix} 1 & -2 & 3 \\ 2 & 3 & -1 \\ -3 & 1 & 2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 & 2 \\ 0 & 1 & 2 \\ 1 & 2 & 0 \end{bmatrix}$

from the products AB and BA. Show that $AB \neq BA$

6. State and prove the addition theorem of probability for two mutually exclusive events.

SECTION –C

Note:- All questions are compulsory. 12½×4=50

7. State and prove normal distribution curve. Also explain properties of the normal curve.

OR

Explain with example

(a) Mean

(b) Mode

(c) Median

(d) Bayes theorem

8. Explain Karl Pearson's coffecient of correlation with suitable examples.

OR

Write down the 7th term in the expansion of

$$\left(\frac{4x}{5}-\frac{5}{2x}\right)^9$$

9. Explain in detail with suitable example :

(a) Inverse of Matrix

(b) Property of Adjoint matrix

(c) Addition of Matrices

(d) Properties of Matrix multiplication.

OR

Describe the chief characterstics of the normal curve. Why is this curve given a central place in statistics?

10. Explain skewness with a suitable example. What is Mesokurtic, Leptokuitic and Platykurtic.

OR

Find three numbers in A.P. whose sum is 9 and the product is 165.

⌘⌘⌘