III Semester B. Com. Examination, November/December 2015
(CBCS) (Fresh)
(2015-16 and Onwards)
COMMERCE
3.6 : Quantitative Analysis for Business Decisions – II

Time : 3 Hours

Max. Marks : 70

Instruction : *Answer should be **completely** either in **English** or in **Kannada**.*

SECTION – A

1. Answer **any five** sub questions. **Each** sub question carries **two** marks. **(5×2 =10)**
   a) What is rank correlation ?
   b) Define the term regression.
   c) What is a seasonal variation ?
   d) Expand $(y - 1)^6 = 0$
   e) What are the methods of sampling ?
   f) What is an Event ?
   g) If, $r = 0.6$ and $N = 64$ of a distribution, find the probable error.

SECTION – B

Answer **any three** questions. **Each** question carries **six** marks. **(3×6 =18)**

2. Marks scored by 6 participants in a beauty contest assigned by two judges are given below

   Marks assigned by Judge – I :   30   36   47   48   32   28
   Marks assigned by Judge – II :   28   38   49   46   30   26
   Calculate rank correlation after assigning rank

3. The correlation co-efficient between the variables X and Y is $r = 0.60$. If $\sigma_x = 1.50$, $\sigma_y = 2$, $\overline{X} = 10$, $\overline{Y} = 20$. Calculate two regression equations.

4. Estimate the missing value of production.

Year	2010	2011	2012	2013	2014	2015
Production	320	300	?	280	278	250

5. What are the different types of probability sampling techniques ?

6. One card is drawn from a standard pack of 52. What is the probability that it is :
   a) A Spade   b) A King   c) The ace of club

P.T.O.

SECTION – C

Answer **any three** questions. **Each** question carries **fourteen** marks.   (3×14=42)

7. From the following data of the marks obtained by 10 students in Accounts and Satistics. Calculate Pearson's correlation.

Roll No :	1	2	3	4	5	6	7	8	9	10
Marks in : Accounts	20	25	60	45	80	28	55	65	30	75
Marks in : Statistics	25	50	55	56	60	70	72	78	80	63

8. The heights (in cms) of a group of father's and son's are given below :

Height of father's :	158	166	163	165	167	170	167	152	177	181
Height of son's :	163	158	167	170	160	180	170	175	172	175

Find the lines of regression and estimate the height of son when the height of father is 164cm.

9. Fit a straight line trend to the following by the method of least squares. Assuming that the same rate of changes continues, state what would be the estimated earning for the year 2016. Also show actual and trend lines on a graph.

Year :	2005	2006	2007	2008	2009	2010	2011	2012
Earnings : (in lakhs)	38	40	65	72	69	60	87	95

10. You are required to find out the number of workers falling within Rs. 250 and Rs. 350.

Earnings for daily	Number of workers
Up to 100	50
Up to 200	150
Up to 300	300
Up to 400	500
Up to 500	700

11. Estimate the production for the year 2004 and 2006 with the help of the following table using Binomial Expansion method.

Year :	2001	2002	2003	2004	2005	2006	2007
Production : (in '000' tones)	200	220	260	?	350	?	430