SN – 670

III Semester B.Com. Examination, November/December 2013
(New Syllabus)
(2013-14 & Onwards)
COMMERCE
3.6 : Quantitative Analysis for Business Decisions – II

Time : 3 Hours | Max. Marks : 100

Instruction : *Answers should be written fully in* ***English*** *or* ***Kannada.***

SECTION – A

Answer any **10** questions. **Each** question carries **two** marks. **(10×2=20)**

1. a) What is Negative correlation ?

   b) Find probable error if correlation = 0.448, n = 9.

   c) What is regression co-efficient ?

   d) Define Time series.

   e) If a = 91.75, b = 1.25 find y_c (Trend values) if X = (–)5.

   f) Write any two assumptions of Interpolation.

   g) What is the Binomial Expansion of Δ_0^4 ?

   h) Give the meaning of stratified sampling.

   i) Which are Favourable cases ?

   j) If $\sum xy = 270$, $\sigma_1 = 11.2$, $\sigma_2 = 36.9$, n = 8 find 'r'.

   k) If $b_{xy} = 1.36$, $b_{yx} = 0.6132$ find 'r'.

   l) What is a null event ?

P.T.O.

SECTION – B

Answer **any four** questions. **Each** question carries **eight** marks. **(4×8=32)**

2. For the following data, calculate the coefficient of Rank correlation :

X :	80	91	99	71	61	81	70	59
Y :	123	135	154	110	105	134	121	106

3. Show the Actual values and Trend values on a graph sheet.

Year	2001	2002	2003	2004	2005	2006	2007	2008
Actual values	80	90	92	83	94	99	92	104
Trend values	83	85.5	88	90.5	93	95.5	98	100.5

4. Estimate the production for the years 2007 & 2009 using Binomial Expansion Method.

Year	2004	2005	2006	2007	2008	2009	2010
Production in tonnes	20	22	26	?	35	?	43

5. Given the following results of the height and weight of 1000 students :

   $\overline{X} = 75$ kg. $r = 0.60$ $\sigma_y = 6$ cm

   $\overline{Y} = 170$ cm $\sigma_x = 6$ kg.

   'A' Weighs 50 kg and 'B' is 150 cm tall. Estimate the height of 'A' and the weight of B, using Regression Equations.

6. a) A man wants to check the inventory records against the physical inventories by a sample survey permitted deviation is ± 5 and standard deviation is 19.7. Find the sample size if the confidence level is 90% (value of confidence coefficient is 1.64).

   b) One ticket is drawn at random from a book containing 30 tickets numbered from 1 to 30. Find the probability that it is a multiple of 5 or 7.

SECTION – C

Answer **any three** questions. **Each** question carries **sixteen** marks. **(3×16=48)**

7. From the following table find whether there is any correlation between size and defect in quality ?

Size	15	16	17	18	19	20
No. of Items	400	540	680	720	800	600
No. of defective items	300	324	340	360	360	240

8. Ten competitors in a beauty contest are ranked by three judges in the following order :

I Judge	1	5	4	8	9	6	10	7	3	2
II Judge	4	8	7	6	5	9	10	3	2	1
III Judge	6	7	8	1	5	10	9	2	3	4

Use the rank correlation coefficient to discuss which pair of judges have the nearest approach.

9. The following table gives the age and blood pressure with help of regression equations find the age at blood pressure 120 and Blood pressure at the age of 45.

Age	56	40	36	47	49	42	60	72	63	55
Blood pressure	147	125	118	128	145	143	155	160	149	150

10. Using Newton's method of interpolation find from the data given below, the number of persons in the income group between 20 and 25.

Income below Rs.	<10	<20	<30	<40	<50
No. of persons	20	45	115	210	325