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E – 1511

Reg. No. : .....

Name : .....

Sixth Semester B.A. Degree Examination, April 2018
First Degree Programme Under CBCSS
ECONOMICS
Core Course – XIII
EC – 1643 : Basic Tools For Economics – II
(2013 and 2014 Admns.)

Time : 3 Hours

Max. Marks : 80

SECTION – I

Answer in **one** or **two sentences**.

1. Multiple correlation.
2. Coefficient of correlation.
3. Line of best fit.
4. Regression.
5. WPI.
6. Paasche's Index Number.
7. Probability.
8. Random variable.
9. Sample space.
10. Addition Theorem of Probability.

(10×1=10 Marks)

SECTION – II

Answer **any eight** questions **not** exceeding **one** paragraph.

11. Distinguish between positive and negative correlation.
12. What is linear correlation ?

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13. There are two lines of regression, why ?

14. What are the properties of regression coefficients ?

15. Purchasing power of money.

16. What is an Index Number ?

17. What is Consumer Price Index ?

18. State Axiomatic definition of probability.

19. A class contains 10 boys and 20 girls of which half of boys and girls have brown eyes. Find the probability 'P' that student chose at random has a brown eye.

20. Distinguish between mutually exclusive and exhaustive events.

21. State conditional probability.

22. What is standard error of an estimate ? **(8×2=16 Marks)**

SECTION – III

Answer **any six** questions **not** exceeding **120** words.

23. The following table gives indices of industrial production of registered unemployed (in lakhs). Calculate the coefficient of correlation between these variables.

Year :	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
X :	100	102	104	107	105	112	103	99	95	108
Y :	15	12	13	11	12	12	19	26	24	22

24. Two random variables have the regression equation $8x - 10y + 66 = 0$ and $40x - 18y - 214 = 0$. If the variance of $x = 9$, from the information given above find mean values of x and y, correlation between x and y and standard deviation of y.

25. Explain the method of Least Squares.

26. What are weighted index numbers ? Write a note on major weighted aggregate indices.

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27. Explain the important tests suggested for choosing an appropriate index.

28. State and prove multiplication theorem of probability.

29. A pair of fair dice is tossed, if the numbers appearing are different, find the probability that their sum is even.

30. What is Bayes' Theorem ? Explain the theorem with suitable example.

31. Three fair coins are tossed. Find the expected value of the number of heads.

(6×4=24 Marks)

SECTION – IV

Answer **any two** questions **not** exceeding **four** pages.

32. Ten competitors in a beauty contest are ranked by three judges in the following order. Which of the following pair of judges has the nearest approach to common tastes in beauty ?

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

33. Calculate Fisher's Ideal Index from the following data and verify that it satisfies both Time Reversal and Factor Reversal Tests.

	2011		**2012**	
	Price	**Expenditure**	**Price**	**Expenditure**
A	10	40	12	45
B	11	50	11	52
C	14	30	17	30
D	8	28	10	29
E	2	15	13	20

34. Obtain the lines of regression from the following data.

X :	51	73	111	57	91	97	108	121	67	124
Y :	39	61	80	47	71	75	69	97	70	91

35. Compare binomial and normal distribution.

(2×15=30 Marks)

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