SUBJECT CODE: EC/AC/SE24

B. A. DEGREE EXAMINATION, APRIL 2010
BRANCH IV - ECONOMICS
SECOND SEMESTER

COURSE   : ALLIED – CORE
PAPER   : STATISTICS FOR ECONOMICS -II
TIME   : 3 HOURS.   MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS.   **(10x3=30)**

1. State the usefulness of correlation.
2. Define co-efficient of determination.
3. Bring out the main features of Karl Pearson's co-efficient of correlation.
4. What do you understand by regression?
5. What are the uses of regression analysis?
6. State the utility of time series analysis.
7. Define ratio-to-trend and ratio-to moving average method.
8. Define probability and explain its importance.
9. What do you mean by mutually exclusive event?
10. Define a Poisson distribution.

SECTION – B

ANSWER ANY FIVE QUESTIONS.   **(5x6=30)**

11. Distinguish between Linear and Non-linear correlation.
12. Calculate the Spearman's Rank correlation co-efficient for the following data.
    Price of tea   :   75   88   95   70   60   80   81   50
    Price of coffee :   120 134 150 115 110 140 142 100
13. Distinguish between Correlation and Regression.
14. In a correlation study the following values are obtained:

	X	Y
Mean	65	67
Standard deviation	2.5	3.5
Co-efficient of correlation	0.8	

Find the two regression equations that are associated with the above values.
15. Briefly explain the components of Time Series Analysis.
16. From the following data calculate 3 yearly, 5 yearly and 7 yearly moving averages.
    Year   : 1995 96 97 98 99 2000 01 02 03 04 05 06 07 08 09
    Cyclical
    Fluctuations: +2   +1   0   -2   -1   +2   +1   0   -2 -1 +2 +1   0   -2 -1
17. A bag contains 30 balls numbered from 1 to 30. One ball is drawn at random. Find
    the probability that the number of the ball drawn will be a multiple of a) 5 or 7 and
        b) 3 or 7.

SECTION – C

ANSWER ANY TWO QUESTIONS.   **(2x20=40)**

18. Calculate the Correlation Co-efficient between X and Y from the following data and assume 69 and 112 as the mean value for X and Y respectively.

X:	78	89	99	60	59	79	68	61
Y:	125	137	156	112	107	136	123	108

19. From the data given below find:
    a) The two regression equations
    b) The Co-efficient of Correlation between marks in Economics and Statistics.
    c) The most likely marks in Statistics when the marks in Economics are 30.

Marks in Economics:	25	28	35	32	31	36	29	38	34	32
Marks in Statistics :	43	46	49	41	36	32	31	30	33	39

20. The following data relate to the number of passenger cars (in millions) sold from 1996 to 2003.

Year :	1996	1997	1998	1999	2000	2001	2002	2003
Number :	6.7	5.3	4.3	6.1	5.6	7.9	5.8	6.1

    a) Fit a straight line trend to the data through 2001 only.
    b) Use your result to estimate the production in 2003 and compare with the actual production.

21. Eight coins are tossed at a time 256 times. Number of heads observed at each throw is recorded and the results are given below. Find the expected frequencies. What are the theoretical values of mean and standard deviation? Calculate also the mean and standard deviation of the observed frequencies.

Number of heads at a throw :	0	1	2	3	4	5	6	7	8
Frequency :	2	6	30	52	67	56	32	10	1

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