BA DEGREE EXAMINATION DECEMBER 2017
(Fourth Semester)

Branch – ECONOMICS

STATISTICAL METHODS-II

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 x 2 = 20)

1   What are Index numbers?
2   Define Time Reversal test.
3   State any two uses of Time series Analysis.
4   Give two examples for irregular component.
5   Define the term Probability.
6   A bag contains 4 white, 6 red balls and 5 green balls, what is the probability that the ball drawn is a white or green?
7   What are the constraints of binomial distribution?
8   What do you mean by passion distribution?
9   State the basic assumptions in an analysis of variance.
10 Write two uses of Chi-square test.

SECTION - B (25 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks (5 x 5 = 25)

11 a   Calculate const of living Index Number from the following data

Items	Price		Weight
	Base Year	Current Year	
Food	30	47	4
Fuel	8	12	1
Clothing	14	18	3
House rent	22	15	3
Miscellaneous	25	30	1

OR

b   List out the steps in the construction of accost of living index.

12 a   The number of employed in a factory is given below:

Year	No. of Employees	Year	No. of Employees
1990	63	1996	90
1991	68	1997	93
1992	74	1998	96
1993	80	1999	100
1994	82	2000	12
1995	86	2001	108

Using three yearly moving average and estimate the trend.

OR

b   What is time series? Specify the different components of a time series.

13 a   Write a short note on (i) Addition theorem   (ii) Multiplication theorem

OR

b   A hen hatches 9 chicks out of which 2 are white, 3 are black and rest are brown. One chick is drawn at random, what is the probability that is a white or brown?

Cont...

14 a   Point out the characteristics of binomial, Poisson and normal distribution.

                      OR

   b   The height of students in a class is normally distributed with mean 164cms and a standard deviation of 155cms find the percentage of students whose height falls between 137 and 172cms.

15 a   What is Chi-Square test? Write the properties of Chi-square distribution.

                      OR

   b   The number of defects per unit in a sample of 330 units of manufactured product was found as follows:

No. of defects	0	1	2	3	4
No. of units	214	92	20	3	1

SECTION - C (30 Marks)
Answer any THREE Questions
ALL Questions Carry EQUAL Marks (3 x 10 = 30)

16   From the Chain base index given below prepare fixed base index.

Year	1999	2000	2001	2002	2003	2004
CBI	376	392	408	380	392	400

17   Fit a straight line trend equation but the method of least squares and estimate the value for 1999

Year	1990	1991	1992	1993	1994	1995	1996	1997
Value	38	40	65	72	69	60	87	93

18   Three coins are tossed simultaneously, what is the probability that the three coins show (i) 3 heads, (ii) 2 heads and 1 tail?

19   The weights of 200 apples are normally distributed with a mean weight of 70gms and with standard deviation of 5gms. Estimate the number of apples whose weights will be: (a) Between 70 and 72gms, (b) More than 75gms and (c) Less than 63gms

20   Apply the technique of analysis variance to the following data showing in the yield of 4 varieties of wheat in 3 blocks and test whether the mean yields of the varieties are equal or not. Also test the equality y of the block means.

Varieties	Blocks		
	1	2	3
I	10	9	8
II	7	7	6
III	8	5	4
IV	5	4	4

Z-Z-Z   END