



**INDIRA GANDHI NATIONAL TRIBAL UNIVERSITY
AMARKANTAK (M.P.)**

End Semester Examination- 2018

**M.Com. - I Semester
Commerce**

Advanced Statistical Analysis

Time:- Three Hours

Maximum Marks: 60

Note: Attempt question of all section as directed. Each question contains 12 marks.

- Q. 1** What do you mean by Trend and Measurement of Trend? Explain various methods of measuring Trend in detail with proper example.

OR

Fit a Straight Line Trend by the method of Least Square to the following data. Assuming that the same rate of change continues, what would be the predicted earnings for the year 2015?

Year	2001	2002	2003	2004	2005	2006	2007	2008
Earnings	38	40	65	72	69	60	87	95

- Q. 2** What do you mean by Probability and Theorem? Explain its all theorem with proper example taking proper imaginary problems.

OR

(A). A bag contains 5 white and 8 red balls. 3-3 balls are drawn the lines in such a way that (I) The balls are replaced in the bag before the second draw. (II) The balls are not replaced before the second draw. Find the probability that the first drawing will give 3 white and second 3 red balls in each case.

(B). A number is randomly selected from the numbers 1 to 20. What will be the probability that it will be the multiple of 2 or 5?

Q. 3 Five dice were thrown together 96 times. Fit a Binomial Distribution when 4, 5, 6, are supposed to be success.

OR

The distribution of marks in a certain examination was normal with 23% of candidates scoring above 60 and 21% below 40. Find mean and standard deviation.

(Given From table for .27 Area $Z = .74$ and for .29 Area $Z = .81$)

Q. 4 What do you understand by sampling? Discuss its role in economic analysis. Also Explain Standard Error.

OR

In a random sample of 600 men taken from a big city 400 are found to be smokers. In another simple random sample of 900 men taken from another city 450 are smokers. Do the data indicate that there is a significant difference in the habit of smoking in the two cities? Comment with justification.

Q. 5 What do you mean by Hypothesis Testing? Explain the Procedure to form a Hypothesis?

OR

What do you mean by Tests of Significance for Small Samples? What are the various properties, applications and Limitations of t-Distribution?
