MFE 12

I Semester M.B.A. (FE) Examination, Dec. 2009/Jan.2010
STATISTICS AND ECONOMETRICS

Time: 3Hours **Max. Marks: 80**

SECTION – A

Answer all sub-questions. Each question carries two marks. **(2x5=10)**

1. a) Define Econometrics.
   b) What is variance analysis?
   c) Define conditional probability.
   d) Define central limit theorem.
   e) Define random variable.

SECTION – B

Answer any five questions. Each question carries seven marks. **(5x7=35)**

2. Explain methods of Moments. What are the advantages and disadvantages of this Method.
3. Describe the relation between statistics and probability.
4. What are the assumptions on which regression analysis is made?
5. State the properties of variance.
6. Explain stationary random function.
7. The probability that a boy will get a scholarship is 0.9, and a girl will get is 0.80. What is the probability that at least one of them will get the scholarship?
8. In a random sample of 1000 persons from town A, 400 are found to be consumers of wheat. In a sample of 800 from town B, 400 are found to be consumers of wheat. Discuss the question whether the data reveal a significant difference between A and B so far as the proportion of wheat consumers is concerned.

SECTION – C

Answer any two questions. Each question carries ten marks. **(2x10=20)**

9. Explain the properties of a normal curve.
10. What is test of hypothesis? Discuss type I and type II errors.
11. If three coins are tossed, find the expectations of the variance of the number of heads.
12. A sample analysis of examination results of 500 students was made. It was found that 220 students had failed, 170 has secured a third class, 90 were placed in second class and 20 got a first class. Are these figures commensurate with the general examination result which is in the ratio of 4:3:2:1 for the various categories respectively (χ^2 for 3 d.f at 5% level of significance is 7.81).

SECTION – D

Answer any one question. Each question carries fifteen marks. **(1x15=15)**

13. The following data relate to the yield of four varieties of cotton each sown on 3 Plots. Find whether there is a significant difference between the mean yield of these varieties.

	Varieties			
Plots	**A**	**B**	**C**	**D**
1	200	230	250	300
2	190	270	300	270
3	240	150	145	180

14. Discuss Chebyshev's inequality with examples.