



MFE 12

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

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** sub-questions. **Each** question carries **two** marks.

(2×5=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.

(5×7=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 ?

P.T.O.



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.

(2×10=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.

(1×15=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.

Plots	Varieties			
	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.
