

SECOND SEMESTER M.A. DEGREE EXAMINATION, APRIL 2021
ECONOMICS
FECO2C08: QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS II

Time: 3 Hours**Maximum Weightage: 30**

Part A: Multiple Choice Questions. All questions can be answered. Each carries $\frac{1}{5}$ weightage.

1. The classical definition of probability was introduced by:
a) Bernoulli b) Von Mises c) Kolmogorov d) None of these
2. Probability of an impossible event is
a) 0 b) 1 c) -1 d) 0.5
3. If A and B are disjoint events with $P(A) = 0.5$ and $P(B) = 0.2$, then $P(A \cup B)$ is
a) 0.5 b) 0 c) 0.2 d) 0.7
4. If X is the number shown up on throwing of a fair die then X is a
a) Discrete random variable b) Continuous random variable
c) Not a random variable d) None of these
5. For a Binomial distribution which of the following is always true?
a) Mean = Variance b) Mean > Variance
c) Mean < Variance d) None of these
6. Name a discrete probability distribution.
a) Normal b) Lognormal c) Poisson d) Exponential
7. The random variable X follows lognormal distribution if $\log X$ is
a) Binomial b) Poisson c) Uniform d) Normal
8. The normal distribution is always
a) Mesokurtic b) Leptokurtic c) Platykurtic d) None of these
9. The mean of a chi square distribution with three degrees of freedom is
a) 0 b) 1 c) 2 d) 3
10. Standard error means the of the sampling distribution of a Statistic.
a) Mean b) Median c) Standard Deviation d) Variance
11. Rejecting the null hypothesis when it is actually true is termed as
a) Type I Error b) Type II Error c) Standard Error d) Power
12. To test the significance of single mean for a large sample we use
a) Z test b) t test c) F test d) None of these
13. For testing the equality of proportions we use
a) F test b) Z test c) t test d) χ^2 test

(PTO)

31. Explain the paired t test.
32. Explain the chi square test for independence of attributes.
33. Write down the null hypothesis and ANOVA table for one way classification.

Part D: Essay questions. All questions can be answered. Each carries four weightage. (Ceiling 8 weightage)

34. a) State Bayes' theorem.
- b) Contents of three urns are given below.

<u>Urn 1</u>	<u>Urn 2</u>	<u>Urn 3</u>
2 black and 3 white balls	3 black and 7 white balls	6 black and 4 white balls

An urn was chosen at random and a ball is drawn from it. If it is found to be white ball, what is the chance that it is drawn from the second urn.

35. Test whether the following samples are drawn from the same normal population.

Sample A:	6	2	10	4	8
Sample B:	9	11	5	8	7

36. Among 64 offsprings of a certain cross between guinea pigs 34 were Red, 10 were Black and 20 were White. According to the genetic model these numbers should be in the ratio 9:3:4. Are the data consistent with the model at 5% level?
37. Perform an analysis of Variance for the following data

Variety A :	7	3	5	4	1
Variety B:	5	6	8	9	7
Variety C:	8	10	11	12	4