

21P258

(Pages: 3)

Name:

Reg. No:

SECOND SEMESTER M.A DEGREE EXAMINATION, APRIL 2022

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P ECO2 C08 - QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS-II

(Economics)

(2019 Admissions)

Time: 3 Hours

Maximum: 30 Weightage

Part A

Answer *all* questions. Each question carries 1/5 weightage.

1. The definition of probability based upon statistical regularity was originally given by
(a) Von Mises (b) Laplace (c) Kolmogorov (d) Gosset
2. The probability of the intersection of two mutually exclusive events is always
(a) Infinity (b) Zero (c) One (d) None of the above
3. The distribution function of a random variable is always:
(a) Decreasing (b) Non decreasing (c) Zero (d) Greater than one
4. If X is a r.v. having the pdf f(x), then E(X) is called
(a) Arithmetic mean (b) Geometric mean (c) Harmonic mean (d) First quartile
5. If X and Y are random variables, then $E(X+Y) = \dots$, provided all the expectations exist:
(a) E(XY) (b) E(Y) (c) E(X)+E(Y) (d) None of these
6. Binomial distribution was discovered by
(a) James Bernoulli (b) Simeon Denis Poisson
(c) Laplace (d) None of the above
7. If $X \sim P(3)$, then $E(X) = V(X)$ is equal to
(a) 3 (b) 6 (c) 9 (d) None of the above
8. If $Y = \log X$ has normal distribution then X follows:
(a) Normal (b) Lognormal (c) Standard Normal (d) None of these
9. Sampling distributions describe the distribution of:
(a) population parameters (b) sample statistics
(c) both parameters and statistics (d) neither parameters nor statistics
10. The students t distribution is introduced by:
(a) Karl Pearson (b) Laplace (c) William S Gosset (d) None of these
11. The concepts of consistency, efficiency and sufficiency are due to:
(a) J. Neyman (b) R. A. Fisher (c) C.R. Rao (d) J. Bernoulli

12. The boundaries of a confidence interval are called:
 (a) The confidence limits (b) Significance levels
 (c) Confidence levels (d) None of these
13. Level of significance is also called:
 (a) Size of the test (b) Size of the critical region
 (c) Producer's risk (d) All the above
14. To test the significance of proportion, we use:
 (a) t-test (b) F-test (c) Normal test (d) Chi-square test
15. When the number of treatments in Kruskal-Wallis test is two, the statistic H reduces to:
 (a) Mann-Whitney U statistic (b) Wilcoxon's U statistic
 (c) both (a) and (b) (d) neither (a) nor (b)
- (15 × 1/5 = 3 Weightage)**

Part B (Very Short Answer Questions)

Answer any *five* questions. Each question carries 1 weightage.

16. Distinguish between discrete and continuous random variables.
17. Define variance of a random variable using expectation.
18. Write down the form of Binomial distribution with parameters $n = 4$ and $p = 1/3$.
19. Define Normal distribution.
20. Define statistic and parameter.
21. Define F distribution.
22. Define Kruskal Wallis test.
23. What is ANOVA?
- (5 × 1 = 5 Weightage)**

Part C (Short Answer Questions)

Answer any *seven* questions. Each question carries 2 weightage.

24. Define (i) Mutually exclusive events: (ii) Equally likely events: and (iii) Independent events.
25. State and prove the addition theorem of probability.
26. State and prove Bayes' theorem.
27. What is the importance of Lognormal distribution?
28. Distinguish between point estimation and interval estimation.
29. Explain how you would find interval estimates for the variance of a normal population.
30. Explain the terms (i) Critical region (ii) size of the test (iii) Type I and Type II errors.
31. Mention the procedure for testing the given value of a population proportion.

32. Explain the test for independence of attributes.
33. Explain two way ANOVA technique.

(7 × 2 = 14 Weightage)

Part D (Essay questions)

Answer any *two* questions. Each question carries 4 weightage.

34. State and prove addition and multiplication theorem of expectation
35. Explain the Poisson distribution. Derive its mean and variance.
36. Explain different methods of estimation.
37. Explain the terms (i) simple and composite hypothesis (ii) Null and alternative hypothesis
 (iii) Type I and Type II error (iv) Level of significance (v) Power of the test.

(2 × 4 = 8 Weightage)
