

**St .JOSEPH'S COLLEGE OF ARTS & SCIENCE, (AUTONOMOUS)
CUDDALORE-1.**

SUBJECT : STATISTICAL METHODS FOR COMPUTER APPLICATIONS-II

SUBJECT CODE : ASCS402T

DEPARTMENT : STATISTICS

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Section-A (2×2=20)

Answer All Question

1. Define independent event.
2. Define sample space.
3. What are the condition should be satisfied by a probability mass function.
4. If X and y are two random variables and a and b constants then find $E(ax+b)$.
5. Define Binomial distribution.
6. What is moment generation function.
7. Define null hypothesis.
8. State the two types of errors.
9. What is large Sample.
10. Write any two assumption of ANOVA

Section-B (5×5=25)

Answer ALL Question

11. a. State prove Addition theorem probability.

(Or)

b. One bag contains 4 white and 2 black balls , Another contains 3 white and 5 black balls. If one ball is drawn from each bag find the probability that

i) both are white

ii) both are black

iii) One is white and another is black.

12. a. State and prove the multiplication theorem of expectation.

(or)

b. Prove the $Ea(x)+b$ where a and b are constants.

13. a. Derive the mean and variance of binomial distribution.

(or)

b. Derive the moment m.g.f of normal distribution

14 .a. Two independent sample of 8 and 7 items gave the following value

Sample A: 9, 11, 13, 11, 15, 9, 12, 14

Sample B: 10, 12, 10,14, 9, 8,10

Examine whether the difference between the means of the two sample is significant at 5% level of significance.

b. Explain the test for independence of attributes.

15. a. Write the ANOVA Table for two way classification.

(or)

b. Explain the concept of local control

Section-c (3×10=30)

Any Three Question

16.State and prove Baye's Theorem

17. State and prove Chebychev's inequality.

18. Write the chief characteristics of normal distribution.

19. A fertilizer mixing machine is set to give 12 kg of bags are examined and percentage of nitrate is as follows, 11, 14,13,12,13,12,13,14,11,12 is there reason to believe that the machine is defective?

20. The following data relates to production in kgs of three variety A,B and of wheat sown on 12 plots.

A 14 16 18

B 14 13 15 22

C 18 16 19 19 20

Is there any significance in the production of the varieties.