23127936

QP CODE: 23127936

Reg No : .....

Name : .....

BCA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2023

Third Semester

Bachelor of Computer Applications

COMPLEMENTARY COURSE - ST3CMT32 - ADVANCED STATISTICAL METHODS

2017 Admission Onwards

EB49E092

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What are the mean and SD of Bernoulli distribution?
2. What are the conditions under which Binomial distribution tends to Normal distribution?
3. What is the value of Z when the area under the normal curve is 0.5?
4. What are large and small samples?
5. What are the uses of standard error?
6. What is the degrees of freedom of t distribution?
7. Define interval estimation.
8. Define efficiency.
9. What is the 95% C .I. for population mean in sampling from normal population?
10. Define level of significance.
11. Give an example of a large sample test.
12. Define chi- square test.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Write down the situations where Binomial distribution can be applied.

14. The weekly wages of 1000 work men are normally distributed with a mean of 70 and SD of 5. Estimate the number of workers whose wages will be between 69 and 72.

15. In a Normal distribution 17% of the items are below 30 and 17% of the items are above 60. Find the mean & Standard deviation.

16. Write down the pdf of chi-square distribution?

17. Point out the relation between t and normal distribution.

18. Distinguish between point estimation and interval estimation.

19. Derive the confidence interval for proportion of a Binomial population.

20. How will you test the association between two attributes?

21. In two colleges affiliated to a university 46 out of 200 and 48 out of 250 candidates failed in an examination.If the percentage of failure in the university is 18 % ,examine whether the colleges differ significantly.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Between the hours of 8 and 10 PM, the average number of phone calls per minute coming into the switch board of a company is 1.5.Find the probability that during one particular minute there will be (i)no phone call (ii) exactly 3 calls (iii)at least 4 calls

23. Define F statistic. What is its pdf? Explain two important uses of it in statistical analysis.

24. Explain Neyman-Pearson approach method of testing statistical hypothesis.

25. In a cross between red flowered and the white flowered plants, it was found that of the 452 flowers obtained 119 were white and the rest red. Is this consistent with the hypothesis that red and white flowers are in the ratio3:1.

(2×15=30)