QP CODE: 19102260

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Reg No : .....

Name : .....

BCA DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Third Semester

Bachelor of Computer Applications

COMPLEMENTARY COURSE - ST3CMT32 - ADVANCED STATISTICAL METHODS

2017 Admission Onwards

CE440935

Maximum Marks: 80 Time: 3 Hours

Part A

*Answer any **ten** questions.*

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

1. Write down the probability function of Bernoulli distribution for p=0.6.
2. Define continuous uniform distribution.
3. What are the conditions under which Binomial distribution tends to Poisson distribution?
4. What are large and small samples?
5. Wha is the variance of t distribution?
6. Define F distribution?
7. What is an estimate?
8. What are the branches of statistical inference?
9. Obtain 95% confidence interval for population proportion in sampling from binomial population.
10. Define simple hypothesis.
11. Write notes on small sample test.
12. Write down the test statistic for testing equality of mean when population SD's are known.

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. 3% of defective bulbs manufactured by a company are defective, find the probability that in a sample of 100 bulbs exactly five bulbs are defective .

14. The height of the school children is normally distributed with mean of 54 inches and SD of 12 inches. What proportion of students have height between 46 and 56 inches?

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. Derive the sampling distribution of means of samples chosen from a normal population.

17. Write down the pdf of chi-square distribution.

18. Derive a 95 % Confidence interval for the mean of a normal population.

19. Obtain the mle of population mean in Poisson population.

20. What are the uses of chi-square test?

21. What are the conditions for applying chi-square test?

(6×5=30)

Part C

Answer any two questions.

Each question carries 15 marks.

22. The incidence of occupational disease in an industry is such that the workers have 20% chance of suffering from it. Five workers are chosen at random. Find the probability that (i) None (ii) Exactly 2 (iii)At least 3 of them would be suffering from the disease.

23. Write down the inter relation ships between various sampling distributions.

24. How will you calculate confidence interval for mean of a normal population ..Explain.

25. Apply suitable test to examine whether the following figures provide evidence of the effectiveness of innoculation.

	Attacked	Not attacked
Innoculated	20	300
Not innoculated	80	360

(2×15=30)