QP CODE: 19101703

19101703

Reg No : .....

Name : Antha

BBA DEGREE (CBCS) EXAMINATION, MAY 2019

Second Semester

Bachelor of Business Administration

Complementary Course - **BA2CMT09 - STATISTICS FOR MANAGEMENT**

2017 ADMISSION ONWARDS

88AC8360

Maximum Marks: 80 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. The probability that a boy will get scholarship is 0.9 and a girl will get is 0.8. What is the probability that at least one of them will get the scholarship?
2. If P (A) = 0.2, P (B) = 0.3 and A and B are independent. Find P (A/B) and P(B/A).
3. Check whether the following is a probability disribution

x	-2	-1	0	2
f (x)	1/8	2/8	3/8	2/8

4. Define discrete random variable
5. Four coins are tossed simultaneously.What is the probabality of getting 2 heads ?
6. Define variance of a random variable X .
7. Distinguish between statistic and parameter
8. Define sampling distribution
9. State central limit theorm
10. Define null hypothesis
11. Give any two use of chi-square test.
12. Mention any two limitations of chi-square test.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Define axiomatic approach to probability and state two of its limitations.

14. State and prove addition theorem for two events.

15. Define random variable .Give an example

16. Define Poisson distribution . Write any 2 properties of this distribution .

17. If X and Y are two independent variates with E (X) = 3 , E (Y) = 2.
Find 1) E (3X)
2) E (2X + 5Y)

18. What is the difference between simple random sampling and stratified sampling

19. Define standard error with examples

20. What do you understand by statistical test of hypothesis? Explain

21. Out of a sample of 120 persons in a village, 76 persons were administred a new drug for preventing influnza and out of them 24 persons were attacked by influenza. Out of those who were not administred a new drug , 12 persons were affected by influenza. Prepare (a) 2x2 contingency table showing the actual and expected frequencies. (b) Use chi-square test for finding out whether the new drug is effective or not.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. State Baye's theorem.

There are three urns having the following composition of black and white balls (i) 7 white and 3 black balls (ii) 4 white and 6 black balls (iii) 2 white and 8 black balls. One of these urns is chosen at random with probabilities 0.20, 0.60, and 0.20 respectively. From the chosen urn two balls are drawn at random without replacement. Calculate the probability that both these balls are white.

23. 1)Write down the properties of Normal distribution . 2) What are the area properties of Normal distribution ? 3) What are standard normal distribution and standard normal variate z .

24. (a) A sample of 100 students is taken from a large population.The mean heifgt of these students is 64 inches and the standard deviation 4 inches. Can it reasonably be regarded that in the population ,mean height is 66 inches.
(b) Derive the expression for the standard error of mean of a sample of size n if the population SD is known and if it is unknown.

25. (a) What is chi-square test and what are its conditions?
(b) A sample analysis of an examination result of 200 students were made.It was found that 46 students had failed, 68 secured III class, 62 scored II class, and the rest were placed in the first division.Are these figures are in agrrement with the general examination results which is in the ratio 2: 3: 3 : 2. for various categoris respectively.(significance level α =0.01)

(2×15=30)