QP CODE: 24019157

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Reg No : .....

Name : .....

BBA DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, MAY 2024

Second Semester

Bachelor of Business Administration

Complementary Course - BA2CMT09 - STATISTICS FOR MANAGEMENT

2017 ADMISSION ONWARDS

D98EB457

Time: 3 Hours Max. Marks : 80

.

Part A

*Answer any **ten** questions.*

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

1. State addition theorem for two events and state its conditions.
2. State Baye's theorem.
3. Show that the following is a probability distribution.

x	1	2	3	4	5
p(x)	0.1	0.3	0.15	0.25	0.2

4. What do you mean by a discrete random variable ?
5. For a normal distribution with Mean = 50 , SD = 10 .Find P (x > 50).
6. Define variance of a random variable X.
7. Define judgement sampling.
8. Distinguish between statistic and parameter.
9. State central limit theorm.
10. Define Type 2 error.
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 (1) Random experiment (2) Sample point (3) Sample space (4) Event

14. Probabilities that a husband and wife will be alive 20 years from now is given by 0.8 and 0.9 respectively. Find the probability that in 20 years (1) both will alive (2) neither will alive and (3) at least one will alive.

15. Define random variable .Give an example.

16. Bring out the fallacy in the following . " The mean of the Binomial distribution is 5 and Variance is 2.

17. What are the properties of V (x).

18. What is the difference between probability sampling and non probability sampling?

19. Define chi-square distribution and its properties .

20. A random sample of 500 pineapples was taken form a large consignment and 65 were found to be bad.Show that the S.E.of the population of bad ones in a sample of this size is 0.015.

21. 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).

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. (a) Explain conditional probability .
(b) A and B are consisting for the post of a chairman in the company. The probability for their winning is 0.6 and 0.4 respectively. If A wins, the probability of introducing a new product is 0.8 and if B wins the corresponding probability is 0.3. Find the probability that product will be introduced.

23. During an hour on average 2 number of calls per minute are reported on the switch board of a company . Find the probability that in a minute ,there will be
1) No phone call at all .
2)Exactly 3 calls 3) Atleast 2 calls

24. (a) The average height of a particular species of plants is known to be 78cms.The average height of a sample of 100 plants of this species to which a particular manure was

applied was found to be 80cms. and the SD of the sample 10cms. Examine whether the mean height has increased by the application of the particular manure.

(b) Explain one tailed tests in hypothesis testing.

25. (a) Write the procedure for testing independence of two attributes.

(b) Two groups of 100 people each were taken for testing the use of vaccine. 15 persons contracted the disease out of the innoculated persons, while 25 contracted the disease in the other group. Test the effiency of vaccine, use χ^2 test at 5% level of significance.

(2×15=30)