C 80791 (Pages : 4) Name.....

Reg. No.....

FOURTH SEMESTER B.Com./B.B.A. DEGREE EXAMINATION
APRIL 2020

(CUCBCSS—UG)

B.Com.

BCM 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Normal distribution was developed by ———.

   (a) De-Moivre. (b) Karl Pearson.

   (c) James Bernoulli. (d) Saimon Dennis.

2. Mean, Median and Mode are equal in ——— distribution.

   (a) Binomial. (b) Poisson.

   (c) Normal. (d) All the above.

3. From the following which is non-parametric test :

   (a) Chi-square test. (b) Sign test.

   (c) Run test. (d) All the above.

4. What is the probability of getting 3 white balls in a draw of 3 balls from a box containing 6 white and 5 red balls :

   (a) 2/33. (b) 4/33.

   (c) 100/990. (d) 150/990.

5. ——— is the statistical measure which measures reliability and dependability of the value of co-efficient of correlation.

6. Number of different arrangements that can be made by taking some or all the items are called ——— of those items.

7. ——— is the subset of the sample space of a random experiment.

8. If P (A) = 0.5, P (B) = 0.7, $P(A \cap B) = 0.3$, Then, $P(A \cup B) =$ ———.

9. A random variable which assumes specified values in a given interval is known as ———.

10. Statistical test applied to test the equality of variances of two population is ———.

(10 × 1 = 10 marks)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What is Regression Analysis ?

12. What is Random experiment ?

13. What do you mean by co-efficient of correlation ?

14. How many ways a cricket team containing 11 players can be formed from 15 high-class players available ?

15. Write down the Law of statistical regularity.

16. What is Critical Region ?

17. What are Type I and Type II errors ?

18. Point out the assumptions of *t*-test.

19. What is a contingency table ?

20. Write down the Multiplication theorem of Probability.

(8 × 2 = 16 marks)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

21. Explain the uses of X^2 test.

22. Explain the functions of Quantitative Techniques.

23. Differentiate between Correlation and Regression.

24. Define Binomial distribution. Explain the situations in Binomial distribution can be applied.

25. Rahul is selected for an interview for 3 posts. For the first post, there are 5 candidates, for the second there are 4 and for the third there are 6. If the selection of each candidate is equally likely, find the chance that Rahul will be selected for atleast one post.

26. Assume the mean height of soldiers to be 68.82 inches with a variance of 10.8 inches. How many soldiers in a regiment of 1,000 would you expect to be over six feet tall ?

27. In a random sample of 2,000 farmers selected from the state of Punjab in the year 2005, 50 % farmers stated that the level of rainfall during the paddy season was satisfactory. In the year 2010, 60 % out of a random sample of 2,500 farmers observed the same for that year. Using .01 level of significance, test the hypothesis whether the average level of rainfall during the paddy season in Punjab was the same in both the years.

28. Calculate co-efficient of correlation from the following :

Case	:	1	2	3	4	5	6	7	8
X1	:	10	6	9	10	12	13	11	9
X2	:	9	4	6	9	11	13	8	4

(6 × 4 = 24 marks)

Part D

Answer any **two** *questions.*
Each question carries 15 *marks.*

29. Define Quantitative Techniques. What are the different methods of Quantitative Techniques ? Also, explain the role of quantitative techniques in Business and Industry.

30. The heights in cm. of a group of fathers and sons are given below :

Height of father :	158	160	163	165	167	170	172	175	177	181
Height of son :	163	158	167	170	160	180	170	175	172	175

Find the lines of Regression and estimate the height of the son when the height of father is 164 cm.

31. One fifth percentage of the blades produced by a blade manufacturing factory turn out to be defective. The blades are supplied in packets of 10. Use Poisson distribution to calculate the approximate number of packets containing no defective, one defective and two defectives respectively in a consignment of 1,00,000 packs.

(2 × 15 = 30 marks)