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Name.....■■■■■■■■■■■.

Reg. No.■■■■■■■■■■■.

FOURTH SEMESTER B.Com. DEGREE EXAMINATION, APRIL 2019

(CUCBCSS—UG)

B.Com.

BCM 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2017 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

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

Choose the correct answer :

1. What are the chances that no two boys are sitting together for a photograph if there are 5 girls and 2 boys ?

    (a) 1/21.

    (b) 4/7.

    (c) 2/7.

    (d) 5/7.

2. What is probability of drawing two clubs from a well shuffled pack of 52 cards ?

    (a) 13/51.

    (b) 1/17.

    (c) 1/26.

    (d) 13/17.

3. When two coins are tossed simultaneously, what are the chances of getting at least one tail ?

    (a) 3/4.

    (b) 1/5.

    (c) 4/5.

    (d) 1/4.

4. What is the possibility of having 53 Thursdays in a non-leap year ?

    (a) 6/7.

    (b) 1/7.

    (c) 1/365.

    (d) 53/365.

5. In a drawer there are 4 white socks, 3 blue socks and 5 grey socks. Two socks are picked randomly. What is the possibility that both the socks are of same color ?

    (a) 4/11.

    (b) 1.

    (c) 2/33.

    (d) 19/66.

Turn over

Fill in the blanks :

6. Two dice are thrown simultaneously. The probability of getting two numbers whose product is even is —————.

7. In a throw of dice, the probability of getting number greater than 5 is —————.

8. Probability of second event in situation if first event has been occurred is classified as —————.

9. Probability which is based on self-beliefs of persons involved in experiment is classified as —————.

10. Joint probability of independent events J and K is equal to —————.

$$(10 \times 1 = 10 \text{ marks})$$

Part B

*Answer any **eight** questions from the following.*
Each question carries 2 marks.

11. Define Quantitative Technique.   12. What is Rank correlation ?

13. Define Regression.   14. What is Addition theorem of probability ?

15. What is conditional probability ?   16. What is binomial distribution ?

17. What is non-parametric test ?   18. What is ANOVA ?

19. What is negative correlation ?   20. What is inverse probability ?

$$(8 \times 2 = 16 \text{ marks})$$

Part C

*Answer any **six** questions from the following.*
Each question carries 4 marks.

21. Distinguish between correlation and regression.

22. What is binomial distribution ? Explain its properties.

23. Explain the steps involved in F test.

24. The blood groups of 200 people is distributed as follows : 50 have type A blood, 65 have B blood type, 70 have O blood type and 15 have type AB blood. If a person from this group is selected at random, what is the probability that this person has O blood type ?

25. Find the Binomial distribution with mean 3 and variance 2.

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

27. The scores of students in a test follow Normal Distribution with mean = 80 and SD = 15. A sample of 1000 students has been drawn from the population. Find the appropriate number of students scoring between 65 and 95.

28. A man wants to marry a girl having qualities : white complexion - the probability of getting such a girl is one in twenty; handsome dowry-the probability of getting this is one in fifty; and westernized manner and etiquettes - the probability here is one in hundred. Find out the probability of his getting married to such a girl when the possession of these three attributes is independent.

$(6 \times 4 = 24 \text{ marks})$

Part D

*Answer any **two** questions from the following.*
Each question carries 15 marks.

29. Quotations of Index Numbers of security prices of a certain joint stock company are given below :

Year	Debenture price	Share price
1	97.8	73.2
2	99.2	85.8
3	98.8	78.9
4	98.3	75.8
5	98.4	77.2
6	96.7	87.2
7	97.1	83.8

Using rank correlation method, determine the relationship between debenture prices and share prices.

30. The following data show the number of seeds germinating out of 10 on damp filter for 80 set of seeds. Fit a binomial distribution to this data :

x	0	1	2	3	4	5	6	7	8	9	10
f	6	20	28	12	8	6	0	0	0	0	0

31. Twelve dice were thrown 4096 times. Each 4, 5 or 6 spot appearing was considered to a success, while a 1, 2 or 3 spot was a failure. Calculate the theoretical frequencies for 0, 1, 2,... 12 successes.

$(2 \times 15 = 30 \text{ marks})$