

20U246

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Name:.....

Reg. No.

SECOND SEMESTER B.Com. PROFESSIONAL DEGREE EXAMINATION, APRIL 2021

(CUCBCSS-UG)

(Regular/supplementary/Improvement)

CC17U BCP2 B08 - QUANTITATIVE TECHNIQUES FOR BUSINESS

(Core Course)

(2017 Admission onwards)

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.5/7 c. 2/7 d.4/7
2. Programming techniques are generally known as
a. Statistical techniques b. Mathematical techniques
c. Operation research techniques d. None
3. Non linear correlation is also called as
a. Zero correlation b. Curvi-linear correlation
c. Correlation graph d. None of the above
4. Chi-square distribution is a
a. Symmetrical distribution b. Discrete distribution
c. Skewed distribution d. None
5. For a normal distribution the value of β_2 shall be
a.1 b.3 c.2 d.0

Fill in the blanks:

6. Two dice are thrown. Find the probability of getting an odd face
7. Type I error is denoted by the symbol
8. In a 5x6 contingency table degree of freedom is
9. The probability of the intersection of two mutually exclusive events is always
10. The numerical value given to the likelihood of occurrence of an event is called

(10 × 1 = 10 Marks)

PART B

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

11. Define regression?
12. Define conditional probability?
13. Define partial correlation?
14. What is meant by Standard Error?
15. Define E(x) and V(x)?
16. Explain unit normal variate?
17. What do you mean by degree of freedom?
18. Define binomial distribution?
19. Give an example of non parametric test?
20. Define uncertain events?

(8 × 2 = 16 Marks)

PART C

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

21. Explain Type I & Type II Errors.
22. The Coefficient of rank correlation of Marks obtained by 10 Students in statistics & cost accounting was 0.2. It was later discovered that difference in ranks of one of the students was wrongly taken as 7 instead of 9. Find the correct correlation?
23. Blood group of 200 people is distributed as follows:
50 have type A blood, 65 have type B blood, 70 have type O blood, 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?
24. Find a binomial distribution with Mean 4 & Variance 12/9.
25. Find the regression equation of Y on X.

Income	120	90	83	130	110	75	105	95	125	115
Expenditure	40	39	53	107	102	70	98	90	115	108

26. Of the two salesmen, X claims that he has made larger sales than Y. For the accounts examined which were comparable for the two men, results are:

	No of Sales	Avg Size	S.D.
X	10	6200	690
Y	17	5600	600

Do these average sizes of sales figures differ significantly? Test the validity of the claim.

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27. Distinguish between Correlation & Regression.
28. Define School of thoughts of Probability.

(6 × 4 = 24 Marks)

PART D

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

29. Using rank correlation determine the relationship between Debenture prices and Share prices

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

30. In Big food, a fast food chain feels that it is gaining bad reputation because it takes too much time to serve its customers. Since the chain has 4 restaurants in this town, it is concerned with whether the four restaurants have the same average service time. One of the owners of the fast food chain has decided to visit each of the stores & monitor the service time for 5 randomly selected customers. He recorded the following time in minutes. Test whether all restaurants have same mean service time.

Restaurants	Service time for 5 customers				
A	3	4	5.5	3.5	4
B	3	3.5	4.5	4	5.5
C	2	3.5	5	6.5	6
D	3	4	5.5	2.5	3

31. (a) What do you understand by the term Probability?
(b) State the addition theorem & multiplication theorem of Probability.
(c) Explain Bayes theorem.

(2 × 15 = 30 Marks)

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