

C 33501

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Name.....

Reg. No.....

**THIRD SEMESTER B.Com./B.B.A. DEGREE (SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2017**

(UG—CCSS)

BB 111C 03—QUANTITATIVE TECHNIQUE FOR BUSINESS MANAGEMENT

Time : Three Hours

Maximum : 30 Weightage

Part A

Answer all the questions.

Each question carries a weightage of ¼.

A. Fill in the blanks :

- 1 Quantitative techniques do not deal with the _____ data
- 2 The number of ways of arranging 4 books on a shelf is _____.
- 3 The mean and variance of a binomial variate are 16 and 8, then the size of the sample is _____.
- 4 Whether a test is one-sided or two-sided depends on _____ hypothesis.

B. Choose the correct answer from brackets :

- 5 Two mutually exclusive events A and B are :
 - (a) Always independent.
 - (b) Never independent.
 - (c) Never independent if $A \neq \Phi, B \neq \Phi$.
 - (d) None of these.
- 6 If X and Y are independent Poisson variates with parameters λ_1 and λ_2 respectively, then X + Y is distributed as :
 - (a) Binomial.
 - (b) Normal.
 - (c) Poisson.
 - (d) None of these.
- 7 Power of a test is related to :
 - (a) Type 1 error.
 - (b) Type II error.
 - (c) Both (a) and (b).
 - (d) None of these.

Turn over

- 8 When one regression Coefficient is negative the other would be ?
- (a) Negative. (b) Positive.
(c) Zero. (d) Either positive or negative.

C. State whether True or False :

- 9 A normal distribution is mesokurtic.
10 The hypothesis $H_0 : \theta > \theta_0$ is a simple hypothesis.
11 Students' t test was invented by RA Fisher.
12 The degree of relationship between the variables is termed as correlation.

(12 × ¼ = 3 weightage)

Part B

*Answer all nine questions in one or two sentences each.
Each question carries 1 weightage.*

- 13 Define a quantitative technique.
14 Define Statistical independence.
15 Define a binomial distribution.
16 What do you mean by hypothesis ?
17 What is meant by ANOVA ?
18 Distinguish between regression and correlation.
19 Define coefficient of determination.
20 What is conditional probability ?
21 Distinguish between significance level and power of the test.

(9 × 1 = 9 weightage)

Part C

*Answer any five questions.
Each question carries 2 weightage.*

- 22 What are the main limitations of quantitative techniques.
23 Explain the different approaches to Probability.
24 Explain the assumptions and properties of binomial distribution.
25 What are the main properties of Normal distribution ?

- 26 The probability of P, Q, R, S and T solving a problem are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{6}$ respectively. Find the probability that a problem given to them will be solved.
- 27 Assume the mean height of the soldiers to be 68.22 inches with a variance of 10.8 inches. How many soldiers of a regiment of 1000 would you expect to be over six feet tall ?
- 28 A sample of 400 observations was taken from the population with standard deviation 15. If the mean of the sample is 27. Test the hypothesis that whether the mean of the population is equal to 24 at 5% level of significance.

(5 × 2 = 10 weightage)

Part D*Answer any two questions.**Each question carries 4 weightage.*

- 29 What are the important techniques used in quantitative techniques ? Explain their limitations.
- 30 The following table shows the ages (X) and blood pressure (Y) of 8 persons :

X	:	52	63	45	36	72	65	47	25
Y	:	62	53	51	25	79	43	60	33

Obtain the two regression lines and also find the expected blood pressure of a 49 year old persons.

- 31 Three varieties A,B and C of paddy were sown in 4plots each and the following yield in quintals per acre were obtained. Set up analysis of variance (ANOVA) table and find out whether there is a significant differences between the mean yields of the three varieties :

plots	Varieties		
	A	B	C
1	10	9	4
2	6	7	7
3	7	7	7
4	9	5	6

(2 × 4 = 8 weightage)