

St. Claret College

Roll No:

Date:

Autonomous, Bengaluru

UG END SEMESTER EXAMINATION-NOVEMBER 2025

B.COM - I SEMESTER

BC 1424: BUSINESS QUANTITATIVE ANALYSIS

11

TIME: 3 hours

MAX. MARKS: 80

This paper contains THREE printed pages and FOUR parts

Instructions:

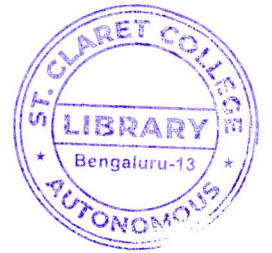
1. Verify and ensure that the question paper is completely printed.
2. Any discrepancies or questions about the exam paper must be reported to the COE within 1 hour after the examination.
3. Students must check the course title and course code before answering the questions.

PART-A

Answer TEN questions. Each answer carries ONE mark.

[10 x 1 = 10]

1. A ratio equivalent to 3 : 7 is
a) 3 : 12 b) 6 : 10 c) 9 : 21 d) 18 : 49
2. The mean proportional between 4 and 36.
a) 9 b) 12 c) 32 d) 40
3. The value of 'x' in $3(4x+1) - (4x-1) = 6(x+10)$
a) 3 b) 32 c) 28 d) 60
4. Which of the following is a type of equation in which the highest power of any given variable is 2.
a) Linear b) Binomial c) Polynomial d) Quadratic
5. If U is all natural numbers less than or equal to 5, set $A = \{1,3,4\}$ then the Complement of set A is:
a) $\{\Phi\}$ b) $\{1,3,4\}$ c) $\{2,5\}$ d) $\{0,1,3,4\}$
6. $A \cup A'$ is equal to
a) $A \cap B$ b) U c) A' d) AUB
7. Out of 6 consonants and 3 vowels, how many words can be formed with 4 consonants and 2 vowels?
a) 45 b) 18 c) 40 d) 210



17. Solve $3x-4y+22 = 0$, $4x-3y+13 = 0$ by both elimination and substitution method.
18. Verify De-Morgan's Law for the given sets.
Set A = {a, b, d, e, g}, Set B = {b, c, e, f} and U = {a, b, c, d, e, f, g, h}
19. A committee of 5 persons is to be constituted from a group of 5 women and 7 men. In how many ways can the committee be selected if it consists of atleast 2 women?
20. a) Mr. Arora is depositing Rs. 25,000 in a recurring deposit which pays 9.5% p.a. compound interest. Analyse how much amount he will get at the end of 6th year. (4 marks)
b) A businessman borrowed Rs.62,500 and paid Rs.67,600 in full settlement after two years. Find the rate of compound interest? (4 marks)
c) Find the present value of an annuity of Rs.400 per annum for 4 years at 6%. (4 marks)

PART - D

Answer the following question. (Case Study)

[1 x 10 = 10]

21. Bright Electronics Ltd. is specializing in the manufacturing of various electronic products. They are currently assessing their production effectiveness to expand output and reduce costs. The company produces two types of products: products Alpha and products Beta. The production manager has furnished the following information with relevant to those two products.
- Production Rate for every 12 units of product Alpha produced, the company produces 16 units of product Beta.
 - The cost of production for product Alpha is Rs.400 per unit, and for product Beta, it is Rs.250 per unit.
 - Selling Price fixed for product Alpha is Rs.500 per unit, and the selling price of product Beta is Rs.400 per unit.
 - Activity Level has been observed that the production unit can produce a total of 700 products per day (Production capacity of both product Alpha and product Beta).
- Analyse and answer the following questions:
- a) If the company wants to produce 300 units of product Alpha, how many units of product Beta can they produce within their daily production capacity?
- b) How much would be total revenue and total cost if they produce 330 units of product Alpha and the maximum number of product Beta units, they can fit into the remaining production capacity.
- c) Suggest the production manager which product yields more percentage of profit on sales.
