

March 2022

BBA(GEN) -I SEMESTER

Business Mathematics (BBA-GEN-102)

Time: 90 Minutes

Max. Marks:25

- Instructions:**
1. It is compulsory to answer all the questions (1 marks each) of Part -A in short.
 2. Answer any three questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other.

PART -A

- Q1 (a) Write down all the subsets of $\{1,2,3\}$. (1)
- (b) If $A=\{1,2,3,4\}$, $B=\{2,4,5,8\}$ and $C=\{3,4,5,6,7\}$, Find $A \cap (B \cup C)$ (1)
- (c) Simplify $\log_2 \sqrt{6} + \log_2 \sqrt{\frac{2}{3}}$ (1)
- (d) Simplify $\log_c b \times \log_a c \times \log_b a$ (1)
- (e) Solve $x^4 - 13x^2 + 36 = 0$ (1)
- (f) If $(n+1)P_3 = 10 \times (n-1)P_2$, then what is the value of n? (1)
- (g) If two coins are tossed, in how many ways they can fall? (1)
- (h) The middle term of the expansion $(x^2 + \frac{1}{x})^9$ (1)
- (i) If $y = \sqrt{\frac{2x+1}{x+1}}$, find $\frac{dy}{dx}$ (1)
- (j) Evaluate $\int_3^4 \frac{dx}{x^3}$ (1)

PART -B

- Q2 (a) In a survey of 400 students in school, 100 were listed as drinking apple juice, 150 as drinking orange juice and 75 listed as drinking both apple and orange juice. Find how many students were drinking neither apple juice and nor orange juice? (3)
- (b) In a certain town the inhabitants speak Assamese and Bengali . If 64% can speak Assamese and 55% can Speak Bengali , Find in percent how many can speak both. (2)
- Q3 (a) Prove that $\frac{1}{\log_a(abcd)} + \frac{1}{\log_b(abcd)} + \frac{1}{\log_c(abcd)} + \frac{1}{\log_d(abcd)} = 1$ (2)
- (b) How many terms of the series $27+24+21+18+\dots$ will add upto 126? (3)
- Q4 How many words(may not be meaningful words) can be formed with the word TRIANGLE such that (5)
- a)the words begin with N
- b)The words begin with N but do not end with R?
- Q5 (a) Four students while entering a room found that seven chairs were lying vacant . In how many ways could the seats be occupied? (3)
- (b) The sum of three consecutive terms of a G.P is 35 and their product is 1000. Find the terms. (2)
- Q6 Solve the following system of linear equations using Gauss-jordan Method (5)
- $x+2y+z=7; x+3z=11; 2x-3y=1$
