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I Semester B.Com. Degree Examination, March/April - 2023**ACCOUNTS AND FINANCE****Business Mathematics and Logical Reasoning****(CBCS Scheme 2019-20)****Paper : 1.5****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

Answers should be written completely in English.

SECTION - AAnswer any **FIVE** of the following. Each answer carries **2** marks.**(5×2=10)**

1. a. What is syllogism?
- b. What is O-type propositions?
- c. What is sinking fund?
- d. Define factorial.
- e. Name any four types of matrices.
- f. What is the meaning of compound interest?
- g. What is ratio?

**SECTION - B**Answer any **THREE** of the following. Each answer carries **5** marks.**(3×5=15)**

2. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$, then prove that $\frac{a+b+c}{c} = 2$.
3. Solve $\frac{1}{2} \log_{10} 25 - 2 \log_{10} 3 + \log_{10} 18$.
4. What is the present value of Rs. 1 to be received after two years compounded annually @10% interest rate?
5. Find the number of different poker Hands in a pack of 52 playing cards.

[P.T.O.]



SECTION - C

Answer any **THREE** of the following. Each answer carries **15** marks.

(3×15=45)

6. Solve x , y and z .

$$\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 5, \quad \frac{2}{x} - \frac{3}{y} - \frac{4}{z} = -11, \quad \frac{3}{x} + \frac{2}{y} - \frac{1}{z} = -6.$$

7. a) On what sum will the compound interest @5% p.a for two years compounded annually be Rs. 1,640?
- b) Which is better investment 3% per year compounded monthly or 3.2% per year simple interest? Given the $(1+0.0025)^{12} = 1.0304$.
8. A committee of 7 members is to be chosen from 6 chartered accountants, 4 economist and 5 cost Accountants. In how many ways can this be done if in the committee, there must be at least one member from each group and at least 3 chartered Accountants?
9. a) Insert 3 Geometric means between $\frac{1}{9}$ and 9.
- b) Insert 4 Arithmetic means between 4 and 324.
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