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Reg. No. | | | | | | | | |

I Semester B.B.A. Degree Examination, August - 2021
BUSINESS ADMINISTRATION
Quantitative Methods for Business - I
Paper : 1.5
(CBCS Scheme Repeater)

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates : Answer should be written in English.

SECTION - A

Answer any **Five** sub - questions from the following. Each carries **Two** marks. **(5×2=10)**

1. a) What do you mean by Compound Interest?
b) An article costing Rs. 84 was sold for Rs. 105. Find the gain percent.
c) Find the geometric Mean between 8 and 12.
d) What are composite numbers?
e) Calculate the rate of interest at which Rs. 750 will amount to Rs. 825 in 5 years.
f) Find the L.C.M of 16, 24, and 36.
g) Solve x; $2x-4=10$.

SECTION - B

Answer any **Three** of the following. Each carries **Six** marks. **(3×6=18)**

2. What is a matrix? Briefly explain the types of Matrices.

3. Find the compound Interest on Rs. 20,000 at 6% p.a for 4 years. What is the simple Interest on the same?

4. Solve $9x+5y=37xy$,

$7x-4y=13xy$.

5. Find the
a) Banker's Discount.
b) True discount.
c) Banker's gain.
d) Discounted value in the following bills.
i) Rs. 8000 for 3 months at 4.5% p.a
ii) Rs. 10,200 for 146 days at 5% p.a
iii) Rs. 14,450 for 35 days at 6% p.a

6. Divide Rs. 118 among A, B and C, so that $A:B=3:4$ and $B:C=5:6$.

P.T.O.

SECTION - C

Answer any **Three** of the following. Each carries **Fourteen** marks. **(3×14=42)**

7. a) The income of A and B are in the ratio of 5:3, their expenses are in the ratio of 8:5, and their savings are in the ratio of 2:1. If the total annual savings of A and B is Rs. 3,600. Find their individual incomes.

b) If $A=\begin{bmatrix}0 & 2 & 3\\ 2 & 1 & 4\end{bmatrix}$ and $B=\begin{bmatrix}7 & 6 & 3\\ 1 & 4 & 5\end{bmatrix}$. Find

i) $2A+4B$.

ii) $5B-3A$.

8. a) The sum of the first two terms of a G.P is 15 and the sum of first three terms of the same G.P is 63. Find the 5^{th} term.

b) Solve by Matrix Method.

$$2x+3y=8$$

$$3x-y=1$$

9. a) Two years ago a man was six times as old as his son. In 18 years he was twice as old as his son. Determine their present ages.

b) Solve for x;

$$\frac{2}{x-1}+\frac{3}{x+4}=\frac{5}{x+3}$$

10. If $A=\begin{bmatrix}1 & 5 & 6\\ 7 & 8 & 9\\ 0 & 1 & 2\end{bmatrix}$, $B=\begin{bmatrix}4 & -2 & 3\\ 0 & 1 & 2\\ 3 & 4 & 5\end{bmatrix}$ and $C=\begin{bmatrix}2 & 3 & 1\\ 1 & 4 & 5\\ 3 & 8 & 6\end{bmatrix}$. Find

i) $A+B$

ii) $A-B$

iii) $A+C$

iv) $A+2B-3C$

v) Prove

a) $A+B=B+A$

b) $A-(B+C)=(A+B)+C$

11. a) Nine tables and eight chairs cost Rs. 5280. Eight tables and twelve chairs cost Rs. 5280. Determine the cost of each table and of each chair.

b) Solve for x: $(5x+1)(x+3)=3(x-1)$.