

SGD-11-23

1123 Warning:- Please write your Roll No. in the space provided and sign. Roll No.....
(Inter Part – I) (Session 2019-21 to 2022-24) Sig. of Student

Business Mathematics (Objective)

(Commerce Group)

Paper (I)

Time Allowed:- 15 minutes

PAPER CODE 2641

Maximum Marks:- 10

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write PAPER CODE, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) The ratio between 7.5 kg and 3.5 kg is.
(A) 7:15 (B) 7 to 15 (C) $7 \div 15$ (D) $15/7$
- 2) Rs 88 is what percent of Rs. 400?
(A) 22% (B) 21% (C) 23% (D) 25%
- 3) Simple interest on Rs 10,000 at the rate of 10% in 10 years is:
(A) 100 (B) 1000 (C) 10000 (D) 100000
- 4) A First degree equation is called.
(A) Quadratic Equation (B) Linear Equation (C) Non-Linear Equation (D) Constant
- 5) Discriminant of a quadratic equation is
(A) $b^2 + 4ac$ (B) $b^2 - 4ac$ (C) $-b^2 - 4ac$ (D) $-b^2 + 4ac$
- 6) The point (-2,-3) lies in the quadrant:
(A) III (B) II (C) I (D) IV
- 7) In binary number system, '2' is equal to:
(A) $(10)_2$ (B) $(11)_2$ (C) $(101)_2$ (D) $(110)_2$
- 8) $(100)_2 + (10)_2 = ?$
(A) $(111)_2$ (B) $(011)_2$ (C) $(110)_2$ (D) $(100)_2$
- 9) If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$ then $|A| = ?$
(A) 11 (B) 10 (C) 6 (D) 8
- 10) The matrix $\begin{bmatrix} 2 & 0 \\ 0 & 3 \end{bmatrix}$ is
(A) Scalar (B) Diagonal (C) Identity (D) Null

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(Inter Part - I)

(Session 2019-21 to 2022-24)

Business Mathematics (Subjective)

Paper (I)

Time Allowed: 1.45 hours (Commerce Group)

Maximum Marks: 40

Section ----- I

2. Answer briefly any Six parts from the followings:-

6 × 2 = 12

- (i) Divide 20 pens between Ahmad and Ali in the ratio 3:2 (ii) Define direct proportion.
(iii) A radio was sold for Rs. 400 on 10% loss. Find the cost price of radio.
(iv) What must be rate of interest on Rs 4000 to produce Rs 200 in 8 months?
(v) 320 is what % of 800?
(vi) Define linear equation. (vii) Solve for x $\frac{3x}{4} - 2 = \frac{x}{3} + 3$.
(viii) The sum of a number and its reciprocal is 20. Find the quadratic equation in standard form.
(ix) Solve $5x^2 + 3x = 0$.

3. Answer briefly any Six parts from the followings:-

6 × 2 = 12

- (i) Define 'Domain' of function $y=f(x)$.
(ii) Draw the graph of $f(x) = 2x - 1$.
(iii) Convert 32 into binary number system. (iv) Simplify $(1110)_2 - (101)_2$
(v) Convert $(101)_2$ into Decimal base system. (vi) Define Column Matrix.
(vii) If $A = \begin{bmatrix} 2 & -1 \\ 2 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 2 \\ 1 & 1 \end{bmatrix}$ Find $A+B$. (viii) If $A = \begin{bmatrix} 3 & 4 \\ 5 & 6 \end{bmatrix}$, find $\frac{1}{2}|A|$.
(ix) Find A^{-1} , if $A = \begin{bmatrix} 1 & 2 \\ -1 & 2 \end{bmatrix}$.

Section ----- II

Note: Attempt any TWO questions.

(8 × 2 = 16)

4. (a) Rs. 4000 are sufficient for a family of 4 members for 40 days. For how many days Rs. 15000 will be sufficient for a family of 5 members.
(b) Compute compound interest on Rs. 5000 for $6\frac{1}{2}$ years at $2\frac{1}{2}\%$ compounded semi-annually.
5. (a) If $y = 3x - 6$ then find x - intercept and y -intercept and draw the graph.
(b) Solve $\frac{x+2}{x-3} + \frac{x-3}{x+2} = \frac{5}{2}$ for $x \neq 3, -2$.
6. (a) Solve by Cramer's rule $4x - y = 13$
 $3x - 2y = 6$
(b) Evaluate $(100111)_2 \times (111)_2$

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(Inter Part – I)

(Session 2018-20 to 2021-23)

Sig. of Student -----

Business Mathematics (Objective)

(Commerce Group)

Paper (I) **SGD-22**

Time Allowed:- 15 minutes

PAPER CODE 2641

Maximum Marks:- 10

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

- 1) The simplify form of the ratio 12 : 9 is
(A) 4 : 3 (B) 3 : 3 (C) 3 : 2 (D) 2 : 1
- 2) The 5% of 200 is
(A) 8 (B) 9 (C) 10 (D) 11
- 3) The formula for simple interest is
(A) $I = \frac{p \times r \times t}{100}$ (B) $I = \frac{p \times r}{100}$ (C) $I = \frac{p \times r \times t}{10}$ (D) $I = \frac{r \times t}{100}$
- 4) If $P = R \left[\frac{1 - (1+i)^n}{i} \right]$ is the formula for
(A) Annuity (B) Sum of Annuity (C) Perpetuity (D) Present Value
- 5) The graph of a linear equation $y = mx + c$ represents.
(A) Parabola (B) Stright line (C) Parabola open down (D) Line passing from origin
- 6) If 5 is subtracted from 2 times a number then the result is 5. The unknown number is.
(A) 2 (B) 3 (C) 5 (D) 7
- 7) The degree of the Quadratic equation is
(A) 1 (B) 3 (C) 2 (D) 4
- 8) The binary form of a decimal number 3 is
(A) $(10)_2$ (B) $(111)_2$ (C) $(11)_2$ (D) $(101)_2$
- 9) If A is a square matrix of any order then $AA^{-1} =$
(A) $-A$ (B) A^{-1} (C) $\frac{1}{A}$ (D) I
- 10) If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ then $\text{Adj}(A) =$
(A) $\begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$ (B) $\begin{bmatrix} -d & -b \\ -c & a \end{bmatrix}$ (C) $\begin{bmatrix} a & -b \\ -c & d \end{bmatrix}$ (D) $\begin{bmatrix} d & -b \\ c & a \end{bmatrix}$

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(Inter Part - I)

(Session 2018-20 to 2021-23)

Business Mathematics (Subjective)

Paper (I)

Time Allowed: 1.45 hours

(Commerce Group)

Maximum Marks: 40

Section ----- I

3. Answer briefly any Six parts from the followings:-

6 × 2 = 12

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- (i) Define Ratio, what is its unit? (ii) Find 10% of 1500.
(iii) Define Direct proportion and give its example. (iv) What do you know about Annuity Due?
(v) Find simple interest on Rs. 5000 for 10 years at 8% rate.
(vi) Solve $\frac{1}{2x} + \frac{1}{4x} = 4$ (vii) Write down the standard form of linear equation in one and two variables.
(viii) Factorize $2x^2 - x - 6 = 0$
(ix) Find Discriminant of $x^2 - 6x - 7 = 0$

4. Answer briefly any Six parts from the followings:-

6 × 2 = 12

- (i) If $f(x) = 3x^2 + 2x - 1$ then find $f(-2)$ and $f(0)$
(ii) Define an even and odd function.
(iii) Convert into decimal system $(101010)_2$ (iv) Convert 32 into binary system.
(v) Evaluate $(1011)_2 \times (1001)_2$ (vi) Define an identity matrix with one example.
(vii) Find A if $2A + \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix} = 0$ (viii) If $A = \begin{bmatrix} 4 & 5 \\ 2 & 3 \end{bmatrix}$ find A^2
(ix) If $A = \begin{bmatrix} 3 & 1 \\ 2 & 0 \end{bmatrix}$, $B = \begin{bmatrix} 4 & -1 \\ 2 & 3 \end{bmatrix}$ then find AB.

Section ----- II

Note: Attempt any TWO questions.

(8 × 2 = 16)

4. (a) A factory makes 560 units in 7 days with the help of 20 machines. How many units can be made in 10 days with the help of 18 machines.
(b) Rs. 3000 amounts to Rs. 5843.70 in 17 days compounded annually what is the interest rate.
5. (a) Draw the graph of function $f(x) = 10 - 4x$
(b) Solve $x + 5y = 14$
 $2x - 5y = 10$
6. (a) If sum of two numbers is 180 and difference is 20, then find the two number by using Crammer's Rule.
(b) Give the answer in decimal number of the sum. $(86)_{10} + (1111)_2 - (101)_2$

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