1122 Warning:- Please write your Roll No. in the space provided and sign. Roll No----------

(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 origen

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 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) $\begin{bmatrix} d & -b \\ c & a \end{bmatrix}$

1122 Warning:- Please, do not write anything on this question paper except your Roll No.

(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

2. **Answer briefly any Six parts from the followings:-** $6 \times 2 = 12$

S40-22

(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 $x^2-6x-7=0$

3. **Answer briefly any Six parts from the followings:-** $6 \times 2 = 12$

(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.** $(8 \times 2 = 16)$

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 $\begin{aligned} x+5y&=14\\ 2x-5y&=10\end{aligned}$

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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