Business Mathematics		L.K.No. 1135	Paper Code No. 6641
Paper I	(Objective Type)	Inter – A – 2022	
Time :	15 Minutes	Inter (Part – I)	(Commerce Group)
Marks : Rwp-22	10	Session (2020 – 22) to (2021 – 23)	

Note : Four possible choices A , B , C ,D to each question are given. Which choice is correct fill that circle in front of that Question No. Use Marker or Pen to fill the circles. Cutting or filling two or more circles will result in Zero Mark in that Question.

Q.No.1 (1)	If $x : \frac{1}{4} :: 12 : 3$, then value of 'x' is : (A) 1 (B) 2 (C) 3 (D) 4
(2)	The sum of money paid by the purchaser for any article is called : (A) Cost Price (B) Sale Price (C) Profit (D) Loss
(3)	The Simple Interest on Rs. 5000/- borrowed for 4 years at 11 % per annum is : (A) 2000 (B) 2100 (C) 2200 (D) 2400
(4)	If a line passes through the points A (1 , 2) and B (7 , 8) then its slope is : (A) 0 (B) 1 (C) 2 (D) 3
(5)	If 6 times a number is 240 , then the number is : (A) 10 (B) 20 (C) 30 (D) 40
(6)	If $2x^2 = 32$, then solution set is : (A) $\{-4, 4\}$ (B) $\{2, 4\}$ (C) $\{4, 8\}$ (D) $\{-4, -8\}$
(7)	If $A = \begin{bmatrix} 2 & 4 \\ 6 & x \end{bmatrix}$ is a Singular Matrix, the value of 'x' is : (A) 10 (B) 12 (C) −10 (D) −12
(8)	The order of Matrix $\begin{bmatrix} 2 \\ 3 \end{bmatrix}$ is : (A) 1 x 2 (B) 1 x 1 (C) 2 x 1 (D) 2 x 2
(9)	$(1001)_2$ to its equivalent number in decimal system is : (A) 6 (B) 7 (C) 8 (D) 9
(10)	The sum $(101)_2 + (11)_2$ will be : (A) $(1001)_2$ (B) $(1100)_2$ (C) $(1000)_2$ (D) $(1010)_2$

Roll No.	1155 - 2)00	Session (2020 – 22) to (2021 – 25)	Inter (Part – I)
Business Mathematics (Subjective)	Inter – A –2022	Time 1 : 45 Hours Marks : 40	(Commerce Group)

Note: It is compulsory to attempt any (6 – 6) Parts each from Q.No. 2 and Q.No.3 while attempt any (2) Questions from Part – II. Write same Question No. and its Part No. as given in the Question Paper.

Bwp -22

Part - I

12 x 2 = 24

Q.No.2	(i)	8 men can dig a trench in 15 hours. How long will 6 men take ?
	(ii)	The State sales tax is 15 %, what is the amount of the sales tax on a purchase of Rs. 5238/- ?
	(iii)	If the amount for 2 years at 6 % is Rs. 3920/- what was the Principal Amount ?
	(iv)	Define Annuity.
	(v)	Solve the equation : $\frac{1}{x+3} - \frac{1}{x-3} = 3$
	(vi)	Find the Sum and Product of the Roots of $4x^2 + 5x - 21 = 0$
	(vii)	Solve the Linear Equation $\frac{3x+2}{4} = \frac{2x+6}{5}$
	(viii)	If the Simple Interest on Rs. 15000/- for 3 years is Rs.900/-, find the Rate of Interest.
	(ix)	Solve by Quadratic Formula : $4x^2 + 5x - 21 = 0$
Q.No.3	(i)	Find the Slope and Y – intercept of the equation $2y - 3x = 4$
	(ii)	If $f(x) = 2x + 1$, then find $f(-1)$ and $f(0)$
	(iii)	Change $(1110)_2$ into Decimal Number.
	(iv)	Solve : $(111)_2 - (101)_2$
	(v)	Evaluate : $(1101)_2 \times (101)_2$
	(vi)	Find A^{-1} if $A = \begin{bmatrix} 2 & 3 \\ 5 & 4 \end{bmatrix}$
	(vii)	If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 6 & 8 \\ 4 & -4 \end{bmatrix}$ then find $A+B$ and A^2
	(viii)	Differentiate between Row and Column Matrix.
	(ix)	Define Transpose of a Matrix by giving one example.

Part - II

8 x 2 = 16

Q.No.4	(a)	If 20 men can prepare 10 office tables in a day, how many men are required to prepare 25 such office tables in a day ?	(4)
	(b)	Calculate the compound interest earned for Rs.5000/- invested for 6 years at the rate of 7 % per annum.	(4)
Q.No.5	(a)	Solve the equation $x^2 - 3\left(x + \frac{25}{12}\right) = 9x$ by using Quadratic Formula.	(4)
	(b)	Sketch the graph of $y = x^2 - 2x - 8$	(4)
Q.No.6	(a)	Prove that $AB \neq BA$ if $A = \begin{bmatrix} 1 & 3 \\ 2 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 6 & 3 \\ 1 & 7 \end{bmatrix}$	(4)
	(b)	Divide $(110110)_2$ by $(1001)_2$	(4)

18-07-2022