PAPER CODE - 6641

11th CLASS – 12022

BUSINESS MATHEMATICS

TIME: 15 MINUTES
MARKS: 10

OBJECTIVE

OCK-22

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.

QUESTION NO. 1

Sr.No	QUESTIONS	A	B	C	D
1	2 : 7 :: x : 14 , then value of x is	2	4	6	8
2	20 percent of 200 is	80	60	40	20
3	Formula for simple interest is	Prt	$P(1+i)^n$	$P(1+i)$	SRi
4	If f(x) = c for all x , then f(x) is called ………… function	Linear	Quadratic	Identity	Constant
5	If 5x + 50 = 0 , then value of x is	-5	-10	-15	-20
6	Product of roots of equation $x^2 - 3x + 5 = 0$	5	-5	3	-3
7	Base of binary system is	10	5	2	3
8	In binary system 3 is equal to	$(101)_2$	$(100)_2$	$(10)_2$	$(11)_2$
9	A square matrix A is called symmetric if A^t equals	A	-A	A^2	$-A^2$
10	The determinant of identity matrix is equal to	2	0	-1	1

BUSINESS MATHEMATICS

TIME : 1.45 HOURS
MARKS : 40

SUBJECTIVE
SECTION-I   DGK-22

QUESTION NO. 2 Write short answers of any Six (6) parts of the following   12

i	Find third proportional to the numbers 4 , 42
ii	Mr. Zahid paid zakat of Rs 3700 at the rate of $2\frac{1}{2}$% . Find value of his wealth
iii	Divide Rs 96 in the ratio 3:1
iv	Define annuity due
v	Define simple interest and write its formula
vi	Find two consecutive integers whose sum is 41
vii	Solve the equation $4(x - 7) = 3(2x + 1) - 5$
viii	Solve the Quadratic equation by Factorization $x^2 - 4x - 32 = 0$
ix	If $2^x = 16$, find value of x

QUESTION NO. 3 Write short answers of any Six (6) parts of the following   12

i	Define domain and range
ii	Give two applications of functions in Business
iii	Find the sum of $(1010111)_2 + (11011)_2$
iv	Find the product of $(111)_2 \times (101)_2$ give the answer in decimal form
v	Define the order of a matrix with example
vi	Show that $A = \begin{bmatrix} 0 & -2 & 3 \\ 2 & 0 & 4 \\ -3 & -4 & 0 \end{bmatrix}$ is a skew – symmetric matrix
vii	If $A = \begin{bmatrix} 4 & 9 \\ 7 & 6 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 2 \\ 3 & 0 \end{bmatrix}$ then find $|AB|$
viii	If $f(x) = 2x + 5$ then find $f(2)$, $f(3)$
ix	If $A = \begin{bmatrix} 4 & 2 & 10 \\ 2 & 8 & 0 \\ 1 & 2 & 1 \end{bmatrix}$ find A^2

SECTION-II

Note: Attempt any Two questions from this section   8 x 2 = 16

Q.4 (A)	15 men can finish a job in 8 days. How many men are required to do the same job is 5 days
(B)	Find the compound interest on Rs 2500 invested at 6 % per annum. Compounded semi-annually for 8 years
Q.5 (A)	Draw a graph as defined by the function $y = 2x + 3$
(B)	Solve simultaneously $x - y = 2$ $3x + 4y = 7$
Q.6 (A)	Use Cramer's rule to solve the system $3x + y = 1$ $x - 2y = -2$
(B)	Without converting into decimal system , simplify