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BUSINESS MATHEMATICS HSSC–I

SECTION – A (Marks 10)

Time allowed: 15 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اوّل لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر ناظم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Version No.				
3	0	1	6	1

ROLL NUMBER					

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پُر کریں۔ **Invigilator Sign.** _____

Fill the relevant bubble against each question according to curriculum: **Candidate Sign.** _____

	Question سوال	A	B	C	D	A	B	C	D
.	If the simple interest on Rs.1000 for 5 years is Rs.200, the rate is:	2%	4%	5%	6%	○	○	○	○
.	If payments is made at the beginning of the time intervals, it is called:	Annuity due	Ordinary annuity	Perpetuity	Interest	○	○	○	○
.	The amount paid to person as the remuneration of his services is called:	Profit	Commission	Loss	Interest	○	○	○	○
.	The equality of two ratios is called:	Proportion	Direct proportion	Indirect proportion	Percentage	○	○	○	○
.	Matrix multiplication is **not:**	Singular	Distributive	Commutative	Associative	○	○	○	○
.	$(11010)_2$ in decimal system is:	20	22	24	26	○	○	○	○
.	The roots of the equation function $x^2 - 3x = 0$ are	0, 3	0, –3	0, 2	–3, 2	○	○	○	○
.	If $f(x) = 5x^2 + 2x + 2$, then $f(2) =$	20	22	24	26	○	○	○	○
.	The multiplicative inverse of $\begin{bmatrix} 2 & 1 \\ 5 & 3 \end{bmatrix}$ is:	$\begin{bmatrix} 2 & -1 \\ -5 & 3 \end{bmatrix}$	$\begin{bmatrix} 3 & -1 \\ -5 & 2 \end{bmatrix}$	$\begin{bmatrix} 3 & -5 \\ -1 & 2 \end{bmatrix}$	$\begin{bmatrix} 2 & -5 \\ -1 & 3 \end{bmatrix}$	○	○	○	○
10.	If two linear equations in two unknowns have common solution, then equations are:	Consistent	Inconsistent	Dependent	Simultaneous	○	○	○	○

BUSINESS MATHEMATICS HSSC–I

Time allowed: 2:15 Hours **Total Marks Sections B and C: 40**

NOTE: Answer any eight parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 24)

Q. 2 Attempt any EIGHT parts. All parts carry equal marks. **(8 x 3 = 24)**

(i) Three people invested Rs.900, Rs.600 and Rs.300 in a business. How should they share a profit of Rs.900?

(ii) A motorcycle worth Rs.29500 was sold at a loss of 40% after an accident. Find the loss and selling price.

(iii) Find the solution set of $x = y$ and $2x + y = 3$

(iv) The sum of two numbers is 148. The larger number is two less than five times the smaller number. Find the two numbers.

(v) The cost function $C(x) = 0.005x + 0.80$, where x is the cost of the item. What is the cost of storing 84 items?

(vi) Calculate compound interest earned for Rs.5000 invested for 6 years at the rate of 7% per annum.

(vii) Find the inverse of the matrix $A = \begin{bmatrix} 4 & -6 \\ 10 & -8 \end{bmatrix}$

(viii) Ratio of the ages of three children is $2:5:1$. The sum of their ages is 32 years. Find the ages of the youngest and the eldest children.

(ix) Solve the equation $\frac{x-1}{4} - \frac{x-2}{6} = \frac{2}{3}$

(x) Find the value by changing into decimal system $[(945)_{10} + (1111)_2]$

(xi) Find the value of x if $\begin{bmatrix} 8 & x \\ 2 & 4 \end{bmatrix}$ is a singular matrix.

SECTION – C (Marks 16)

Note: Attempt any TWO questions. All questions carry equal marks. **(2 x 8 = 16)**

Q. 3 **a.** A salesman is paid a salary of Rs.500/- per month and 1% commission on sales. If his total income in one month is Rs.750/-, find the value of his sales in that month. **(04)**

b. Mr. Hassan has invested Rs.25000/-, at 6% compounded annually. What amount would be received after 4 years? **(04)**

Q. 4 **a.** A factory owner produces and sells a product with monthly revenue $C(x) = 15x + 1200$ and $R(x) = 30x$. Find the profit function and the profit of 500 units. **(04)**

b. Find the value of $[(100111)_2 + (10101)_2 - (101111)_2]$ **(04)**

Q. 5 **a.** A factory makes 1554 units in 14 days with the help of 21 workers. If 7 workers go on leave, how many units can be produced, if there is only 1 day? **(04)**

b. If $A = \begin{bmatrix} 2 \\ 1 \\ 3 \end{bmatrix}$ and $B = [2 \quad 1 \quad 4]$, find the products AB and BA if possible. **(04)**