



Roll No _____ to be filled in by the candidate

HSSC - (Part-I) A / 2023

(For All Sessions)

Paper Code 6 9 8 8

Business Mathematics (Commerce)

Time: 15 Minutes

Marks : 10

(Objective)

Note:- Write answers to the questions on the objective answer sheet provided. Four possible answers are given. Which answer you consider correct fill the corresponding circle A,B,C or D in front of each question with marker or ink on the answer sheet provided.

MCQS

- 1.1 If $2x - 3 = x + 4$, then value of x is:
- (A) 5 (B) 7 (C) 1 (D) 4
2. In quadratic equation the highest degree of variable is:
- (A) 1 (B) 2 (C) 3 (D) 4
3. Conversion of $(7)_{10}$ into binary system is :
- (A) $(110)_2$ (B) $(100)_2$ (C) $(111)_2$ (D) $(101)_2$
4. $(10110)_2$ in decimal number is:
- (A) 20 (B) 22 (C) 24 (D) 26
5. A rectangular array of elements is called:
- (A) Vector (B) Row Matrix (C) Columns (D) Matrix
6. The determinant Matrix $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ is:
- (A) Zero (B) One (C) Two (D) Three
7. The ratio between 3.5 and 7 is:
- (A) 5 : 1 (B) 1 : 5 (C) 1 : 2 (D) 2 : 1
8. 25 % of Rs 500 is:
- (A) 75 (B) 100 (C) 125 (D) 150
9. Loan is Rs 1000/- for 5 years @ 5 % p. a. Simple interest is:
- (A) 200 (B) 250 (C) 300 (D) 350
10. The function $f(x) = \frac{1}{x}$ is not defined as:-
- (A) 1 (B) -1 (C) 0 (D) 2

Rwp-11-23

HSSC - (Part-I) Annual / 2023

Roll No _____ to be filled in by the candidate

(For All Sessions)

Business Mathematics (Subjective)

Time: 1:45 Hours

Marks : 40

Section - I

2. Attempt any six parts from the following:-

(2x6=12)

- (i) Find the ratio between one hour and 30 minutes.
- (ii) Find the value of x , if $x : 250 :: 4 : 50$
- (iii) Calculate 5 % of Rs 5000.
- (iv) Find the simple interest on Rs 5000 invested for 3 years at 12 % per annum.
- (v) Define compound interest.
- (vi) Solve the equation: $9x + 4 = 4x + 29$
- (vii) Find x , if $2x - 7 = 13$
- (viii) Solve the Quadratic equation by factorization: $x^2 - 4x - 32 = 0$
- (ix) Write down the two methods to solve the quadratic equation.

3. Attempt any six parts from the following:-

(2x6=12)

- (i) If $f(x) = x^2 + 5x - 4$, then find $f(-1)$, $f(1)$
- (ii) Draw the graph of $f(x) = -x + 5$
- (iii) Convert $(11001)_2$ into decimal number system.
- (iv) Simplify $(1100)_2 - (111)_2$
- (v) Convert 241 into binary system.
- (vi) Find AB if $A = \begin{bmatrix} 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 4 \\ 5 \end{bmatrix}$
- (vii) If $A = \begin{bmatrix} 2 & -3 \\ -7 & 5 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 \\ 2 & -6 \end{bmatrix}$ Find $(A + B)^t$
- (viii) Find value of x , the matrix $\begin{bmatrix} x & 2 \\ 3 & 4 \end{bmatrix}$ has no inverse ?
- (ix) Find determinant $\begin{bmatrix} -7 & 5 \\ -2 & 3 \end{bmatrix}$

Section - II

Note:- Attempt any two question from the following:-

(8x2=16)

4. (a) Twenty men complete the construction of bridge in 7 days. How many men are required to complete the construction work in 5 days.
(b) If Rs 3000 are invested at 6 % interest compounded semi-annually. What would it amount at the end of 8 years.
5. (a) Draw the graph of $4x + 2y = 10$
(b) Solve $x^2 - 5x + 2 = 0$ by completing square.
6. (a) Solve by using inverse of a matrix
$$\begin{aligned} 5x - 4y &= -8 \\ -3x + 5y &= 7 \end{aligned}$$

(b) Simplify $\{(10111011)_2 - (101110)_2\} + (1000000)_2$

896-11-A

R