# Sample Paper
## Class - XII
## Subject - Mathematics

**Time:** 3 hours **Max. Marks:** 100

**General Instructions:**

1. All questions are compulsory.
2. Section A consists of 20 questions carrying 1 mark each.
3. Section B consists of 6 questions carrying 2 marks each.
4. Section C consists of 6 questions carrying 4 marks each.
5. Section D consists of 4 questions carrying 6 marks each.
6. Use of calculator is not allowed.

**SECTION - A**

**Question 1** Let $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 \\ 4 & 5 \end{bmatrix}$, then $(AB)^T =$

**Question 2** $\int \frac{dx}{x^2 - 16} =$

**Question 3** $\int_{-\pi/2}^{\pi/2} \sin^2 x \, dx =$

**Question 4** $\int_0^1 \tan^{-1} x \, dx =$

**Question 5** $\int_0^1 \sqrt{x} \, dx =$

**Question 6** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 7** $\int_0^1 \frac{dx}{1+x} =$

**Question 8** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 9** $\int_0^1 \frac{dx}{1+x} =$

**Question 10** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 11** $\int_0^1 \frac{dx}{1+x} =$

**Question 12** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 13** $\int_0^1 \frac{dx}{1+x} =$

**Question 14** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 15** $\int_0^1 \frac{dx}{1+x} =$

**Question 16** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 17** $\int_0^1 \frac{dx}{1+x} =$

**Question 18** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 19** $\int_0^1 \frac{dx}{1+x} =$

**Question 20** $\int_0^1 \frac{dx}{1+x^2} =$

**SECTION - B**

**Question 21** Let $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & 0 \\ 4 & 5 \end{bmatrix}$, then $(AB)^T =$

**Question 22** $\int \frac{dx}{x^2 - 16} =$

**Question 23** $\int_{-\pi/2}^{\pi/2} \sin^2 x \, dx =$

**Question 24** $\int_0^1 \tan^{-1} x \, dx =$

**Question 25** $\int_0^1 \sqrt{x} \, dx =$

**Question 26** $\int_0^1 \frac{dx}{1+x^2} =$

**SECTION - C**

**Question 27** $\int_0^1 \frac{dx}{1+x} =$

**Question 28** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 29** $\int_0^1 \frac{dx}{1+x} =$

**Question 30** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 31** $\int_0^1 \frac{dx}{1+x} =$

**Question 32** $\int_0^1 \frac{dx}{1+x^2} =$

**SECTION - D**

**Question 33** $\int_0^1 \frac{dx}{1+x} =$

**Question 34** $\int_0^1 \frac{dx}{1+x^2} =$

**Question 35** $\int_0^1 \frac{dx}{1+x} =$

**Question 36** $\int_0^1 \frac{dx}{1+x^2} =$