

**XI Mathematics and Statistics (Part I)
for Arts and Science**

Competency Statement

The student will be able to

1. Understand angle of any measure.
2. Understand different systems of measurement of angle and relations between them.
3. Convert an angle from one system to the other.
4. Understand definitions of trigonometric functions of angle of any measure.
5. Find the values of trigonometric functions of angles.
6. Draw graphs of trigonometric functions.
7. Find the trigonometric functions of sum or difference of the angles.
8. Find the trigonometric functions of $2\theta, 3\theta$, half
9. Angle and angles of triangle.
10. Express the sum or difference of two trigonometric functions as product.
11. Find value of a determinant.
12. Reduce determinant to simple form.
13. Solve linear equations in 2 or 3 variables
14. Find area of triangle using determinants.
15. Understand types of matrices.
16. Perform algebraic operations of the matrices.
17. Understand locus and its equation.
18. Find equation of a straight line in different forms.
19. Find angle between given two straight lines and the distance of a point from given line.
20. Find equation of circle satisfying given conditions.
21. Identify the properties of circle.
22. Find the equation of tangent to the circle.
23. Find the equations of conic sections satisfying given conditions.
24. Identify the properties of a conic.
25. Find the equation of tangent to the conic.
26. Calculate range, standard deviation and variance from given data.
27. Calculate probability of an event and learn conditional probability
28. Baye's theorem and its applications