Academic Heights Public School

Jungle Dhusar, Gorakhpur

Session 2017-18

Syllabus of Class - X, Subject - Maths

W. Days	Topics	Activity
24	**UNIT I: NUMBER SYSTEMS**	
	1. REAL NUMBERS	
	Euclid's division lemma, Fundamental Theorem of Arithmetic – statements after reviewing work done earlier and after illustrating and motivating 1,2 3 and 4 through examples, Proofs of results - irrationality of √2, √3, √5, decimal Good Behaviour in expansions of rational numbers in terms of terminating/ non-terminating human interaction recurring decimals	One Project Pythagoras Theory
16	**UNIT II: ALGEBRA**	
	Zeros of a polynomial. Relationship between zeros and coefficients of	
	quadratic polynomials. Statement and simple problems on division	
	algorithm for polynomials with real coefficients.	
10	**2. PAIR OF LINEAR EQUATIONS IN TWO VARIABLES**	
	Pair of linear equations in two variables and their graphical solution.	
	Geometric representation different possibilities 5	
	of solutions/inconsistency.	
	Algebraic conditions for number of solutions. Solution of a pair of linear	
	equations in two variables algebraically - by substitution, by elimination	
	and by cross multiplication method. Simple situational problems must be	
	included. Simple problems on equations reducible to linear equations may be included.	
Periodic Test - 1		
24	**UNIT III: GEOMETRY**	
	1. TRIANGLES	
	Definitions, examples, counter examples of similar triangles.	Basic Proportionalities theorem for a triangles
	1. (Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.	
	2. (Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.	
	3. (Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.	

	4. (Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.	
	5. (Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the	
	two triangles are similar.	
	6. (Motivate) If a perpendicular is drawn from the vertex of the right angle of a right triangle to the hypotenuse, the triangles on each side of the perpendicular are similar to the whole triangle and to each other.	
	7. (Prove) The ratio of the areas of two similar triangles is equal to the ratio of the squares on their corresponding sides.	
	8. (Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides.	
	9. (Prove) In a triangle, if the square on one side is equal to sum of the squares on the other two sides, the angles opposite to the first side is a right triangle.	
24	**UNIT IV: TRIGONOMETRY**	
	1 . INTRODUCTION TO TRIGONOMETRY	
	Trigonometric ratios of an acute angle of a right-angled triangle.	
	Proof of order their existence (well defined); motivate the ratios,	
	whichever are defined at 0° and 90°. Values (with proofs) of the	
	trigonometric ratios of 30°, 45° and 60°. Relationships between the ratios.	
	2. TRIGONOMETRIC IDENTITIES	
	Proof and applications of the identity $\sin_2 A + \cos_2 A = 1$. Only simple identities	
	to be given. Trigonometric ratios of complementary angles.	
24	**Trigonometrry**	
	Height and Distance	
Half Yearly		

Principal/Director