Board of Intermediate Education, Andhra Pradesh.

Intermediate – II Year Syllabus w.e.f. 2013 – 14

Subject : MATHEMATICS – IIB

S. No.	Topics	Page No.
1.	**COORDINATE GEOMETRY** **Circle :** Equation of circle -standard form-centre and radius of a circle with a given line segment as diameter & equation of circle through three non collinear points - parametric equations of a circle. Position of a point in the plane of a circle – power of a point-definition of tangent-length of tangent Position of a straight line in the plane of a circle-conditions for a line to be tangent – chord joining two points on a circle – equation of the tangent at a point on the circle- point of contact-equation of normal. Chord of contact - pole and polar-conjugate points and conjugate lines - equation of chord with given middle point. Relative position of two circles- circles touching each other externally, internally common tangents –centers of similitude- equation of pair of tangents from an external point.	
2.	**System of circles:** Angle between two intersecting circles. Radical axis of two circles- properties- Common chord and common tangent of two circles – radical centre. Intersection of a line and a Circle.	
3.	**Parabola:** 3.1 Conic sections –Parabola- equation of parabola in standard form-different forms of parabola- parametric equations. 3.2 Equations of tangent and normal at a point on the parabola (Cartesian and parametric) - conditions for straight line to be a tangent.	
4.	**Ellipse:** 4.1 Equation of ellipse in standard form- Parametric equations. 4.2 Equation of tangent and normal at a point on the ellipse (Cartesian and	

	parametric)- condition for a straight line to be a tangent.	
5	**Hyperbola:** 5.1 Equation of hyperbola in standard form- Parametric equations. 5.2 Equations of tangent and normal at a point on the hyperbola (Cartesian and parametric)- conditions for a straight line to be a tangent- Asymptotes.	
6.	**CALCULUS** **Integration :** 6.1 Integration as the inverse process of differentiation- Standard forms – properties of integrals. 6.2 Method of substitution- integration of Algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Integration by parts. Integration- Partial fractions method. Reduction formulae.	
7.	**Definite Integrals:** Definite Integral as the limit of sum Interpretation of Definite Integral as an area. Fundamental theorem of Integral Calculus. Properties. Reduction formulae. Application of Definite integral to areas.	
8.	**Differential equations:** Formation of differential equation-Degree and order of an ordinary differential equation. Solving differential equation by a) Variables separable method. b) Homogeneous differential equation. c) Non - Homogeneous differential equation. Linear differential equations.	

Topics deleted under 30% reduction of Syllabus due to COVID-19

1.	Circles	1.5-> Relative positions of two circles including Ex 1(e) and solved problems	60 - 70
3.	Parabola	3.2-> Tangents & Normal including Ex 3(b)	117 -128
4.	Ellipse	4.2-> Equations of tangents & Normal including Ex 4(b)	148 – 158
6.	Intergation	Evaluation of	
7.	Definite Integrals	7.1 and 7.2 -> Definite integral as the limit of the sum and limit of	

		the sum and related problems in exercise 7(a) and 7(b) and Examples 7.6-> Application of Definite integrals to areas including ex 7(d)	262 – 268 283 – 286 297 - 308
8.	Differential Equations	8.17-> Formation of Differential Equations and problems related to it 8.2(C): Non – Homogeneous Differential Equations including Ex 8(d) Solution of linear differential Equations of the type dx+Px=Q, Where P and Q	317 341 - 345