

**BOARD OF INTERMEDIATE EDUCATION, A.P., HYDERABAD**  
**REVISION OF SYLLABUS**  
**SUBJECT- MATHEMATICS-IIB (w.e.f. 2013-2014)**

| CHAPTERS   | PERIODS               |
|--|-----------------------|
| <b>COORDINATE GEOMETRY</b>   |                       |
| <b>01. Circle :</b>  |                       |
| 1.1 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.                        | 08                    |
| 1.2 Position of a point in the plane of a circle – power of a point-definition of tangent-length of tangent  | 06                    |
| 1.3 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. | 06                    |
| 1.4 Chord of contact - pole and polar-conjugate points and conjugate lines - equation of chord with given middle point.  | 06                    |
| 1.5 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.   | 08                    |
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| <b>02. System of circles:</b>  |                       |
| 2.1 Angle between two intersecting circles.  | 02                    |
| 2.2 Radical axis of two circles- properties- Common chord and common tangent of two circles – radical centre.  | 05                    |
| 2.3 Intersection of a line and a Circle.   | 05                    |
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| <b>03. Parabola:</b>   |           |
| 3.1 Conic sections –Parabola- equation of parabola in standard form-different forms of parabola- parametric equations.                                   | 08        |
| 3.2 Equations of tangent and normal at a point on the parabola ( Cartesian and parametric) - conditions for straight line to be a tangent.               | 07        |
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| <b>04. Ellipse:</b>  |           |
| 4.1 Equation of ellipse in standard form- Parametric equations.  | 06        |
| 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.                  | 07        |
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| <b>05. Hyperbola:</b>  |           |
| 5.1 Equation of hyperbola in standard form- Parametric equations.  | 04        |
| 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.  | 04        |
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| <b>CALCULUS</b>  |           |
| <b>06. Integration :</b>   |           |
| 6.1 Integration as the inverse process of differentiation- Standard forms -properties of integrals.  | 04        |
| 6.2 Method of substitution- integration of Algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Integration by parts. | 14        |

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| 6.3 Integration- Partial fractions method.  | 05         |
| 6.4 Reduction formulae.   | 05         |
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| <b>07. Definite Integrals:</b>  |            |
| 7.1 Definite Integral as the limit of sum   | 03         |
| 7.2 Interpretation of Definite Integral as an area.   | 03         |
| 7.3 Fundamental theorem of Integral Calculus.   | 04         |
| 7.4 Properties.   | 04         |
| 7.5 Reduction formulae.   | 06         |
| 7.6 Application of Definite integral to areas.  | 04         |
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| <b>08. Differential equations:</b>  |            |
| 8.1 Formation of differential equation-Degree and order of an ordinary differential equation. | 02         |
| 8.2 Solving differential equation by  |            |
| a) Variables separable method.  | 03         |
| b) Homogeneous differential equation.   | 03         |
| c) Non - Homogeneous differential equation.   | 04         |
| d) Linear differential equations.   | 04         |
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| <b>TOTAL</b>  | <b>150</b> |