

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

CHAPTERS	PERIODS
ALGEBRA	
01 Complex Numbers:	
1.1 Complex number as an ordered pair of real numbers- fundamental operations	03
1.2 Representation of complex numbers in the form $a+ib$.	03
1.3 Modulus and amplitude of complex numbers –Illustrations.	03
1.4 Geometrical and Polar Representation of complex numbers in Argand plane- Argand diagram.	04
	13
02 De Moivre’s Theorem:	
2.1 De Moivre’s theorem- Integral and Rational indices.	05
2.2 n^{th} roots of unity- Geometrical Interpretations – Illustrations.	05
	10
03 Quadratic Expressions:	
3.1 Quadratic expressions, equations in one variable	02
3.2 Sign of quadratic expressions – Change in signs – Maximum and minimum values	04
3.3 Quadratic inequations	02
	08
04 Theory of Equations:	
4.1 The relation between the roots and coefficients in an equation	04
4.2 Solving the equations when two or more roots of it are connected by certain relation	06
4.3 Equation with real coefficients, occurrence of complex roots in conjugate pairs and its consequences	05
4.4 Transformation of equations - Reciprocal Equations.	06
	21

05 Permutations and Combinations:	03
5.1 Fundamental Principle of counting - linear and circular permutations	03
5.2 Permutations of 'n' dissimilar things taken 'r' at a time	03
5.3 Permutations when repetitions allowed	03
5.4 Circular permutations	04
5.5 Permutations with constraint repetitions.	03
5.6 Combinations-definitions and certain theorems	07
	23
06 Binomial Theorem:	
6.1 Binomial theorem for positive integral index	12
6.2 Binomial theorem for rational Index (without proof).	08
6.3 Approximations using Binomial theorem	04
	24
07 Partial fractions:	
7.1 Partial fractions of $f(x)/g(x)$ when $g(x)$ contains non-repeated linear factors.	02
7.2 Partial fractions of $f(x)/g(x)$ when $g(x)$ contains repeated and/or non-repeated linear factors.	03
7.3 Partial fractions of $f(x)/g(x)$ when $g(x)$ contains irreducible factors.	02
	07
<u>PROBABILITY</u>	
08 MEASURES OF DISPERSION	
8.1 Range	01
8.2 Mean deviation	03
8.3 Variance and standard deviation of ungrouped/grouped data.	07
8.4 Coefficient of variation and analysis of frequency distribution with equal means but different variances.	04
	15

09 Probability 9.1 Random experiments and events 9.2 Classical definition of probability, Axiomatic approach and addition theorem of probability. 9.3 Independent and dependent events conditional probability- multiplication theorem and Bayee’s theorem.	06 05 07 18
10 Random Variables and Probability Distributions: 10.1 Random Variables 10.2 Theoretical discrete distributions – Binomial and Poisson Distributions	04 07 11
TOTAL	150

ADDITIONAL READING MATERIAL

For the benefit of students who want to appear for competitive exams based on COBSE the following topics may be given as additional reading material.

1. Exponential and Logarithmic Series
2. Linear Programming.
