

SNGS TALENT REWARD TEST

SYLLABUS — GRADE 9

For Grade 9 Students Seeking Admission to Grade 10

Test Structure

Section	Questions
Mathematics	25 Questions
Science	25 Questions
Total	50 Questions
Duration	2 Hours
Marks per Question	2 Marks

No negative marking. Answers to be marked on the OMR answer sheet provided.

Syllabus

Mathematics	Science
1. General Aptitude • Logical reasoning and analytical thinking • Number series and pattern recognition • Analogies and relationships • Visual reasoning and spatial intelligence • Data interpretation and statistical analysis • Problem-solving strategies and techniques • Mathematical puzzles, code breaking, and deduction • Direction, distance, and time problems • Set theory and Venn diagrams 2. Number Systems • Natural numbers, whole numbers, and integers • Rational and irrational numbers • Real numbers and their properties • Number line representation • Operations and laws of exponents on real numbers • Rationalization of denominators • Decimal representation of rational numbers • Comparison and ordering of real numbers 3. Polynomials • Introduction, terminology, and types of polynomials. Degree, coefficients, and operations on polynomials • Remainder theorem and factor theorem • Factorization of polynomials • Zeros of polynomials • Algebraic identities and applications • Word problems involving polynomials 4. Coordinate Geometry • Cartesian coordinate system; plotting points • Graphical representation of linear equations • Introduction to coordinate geometry proofs	1. Exploring Mixtures and Their Separation • Classification of matter: pure substances and mixtures • Types of mixtures (homogeneous and heterogeneous) • Separation techniques for mixtures • Applications of separation methods 2. Journey Inside the Atom • Structure of the atom • Discovery of electrons, protons, and neutrons • Atomic models • Atomic number, mass number, and isotopes 3. Describing Motion Around Us • Distance, displacement, and speed • Velocity and acceleration • Equations of motion • Graphical representation of motion 4. How Forces Affect Motion • Newton's laws of motion • Inertia, momentum, and force • Action and reaction forces • Applications in daily life 5. Fundamental Unit of Life • Cell as the basic unit of life; cell theory • Structure and organization of cells • Prokaryotic and eukaryotic cells • Plant cell and animal cell differences • Cell organelles and their functions • Cell membrane and nucleus • Cell division (mitosis and meiosis basics) • Tissues and their types in plants and animals