S.S.C. PART-I (9th CLASS) (SESSIONS 2007-09 & 2008-2010)

PHYSICS (GROUP-II)

TIME ALLOWED: 1.45 Hours

MAXIMUM MARKS: 48

SUBJECTIVE

NOTE: - Write short answers of any Fifteen questions of Section-I and attempt any two questions from Section-II. Write same question number and its part number in answer book, as given in the question-paper.

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SECTION-I

2\. Write short answers to any Fifteen questions out of the following. (30 = 2 x 15)

(i) [illegible] Physics and Geo Physics.

(ii) [illegible] random error and systematic error.

(iii) Define least count. What is the least count of Vernier Calipers.

(iv) Define Kinematics and Dynamics.

(v) State Rotatory Motion and give its example.

(vi) Define momentum and write its unit in system international.

(vii) State third law of motion. Give its one example.

(viii) Define Vector. Give its two examples.

(ix) Define Torque and write its equation.

(x) Define Centrifugal Force and give its unit.

(xi) Define Orbital Velocity and write its equation.

(xii) Define Kinetic Energy and Potential Energy.

(xiii) Define Power and write its unit in System International.

(xiv) Define Load and Effort.

(xv) What is lever? Give its principle.

(xvi) Define Stress and Strain.

(xvii) State Pascal's law and write its one application.

(xviii) Define Pressure. Is it vector or scalar?

(xix) State Charles law and write its formula.

(xx) Define Specific Heat and write its formula.

(xxi) Define Conduction.

(xxii) Define co-efficient of volume expansion and write its unit.

SECTION-II

NOTE: - Attempt any two questions.

3\. (a) Derive Third equation of motion. 4

(b) If a wooden block of mass 1.5 Kg is pushed along a smooth surface of a table with a force of 6N, find the acceleration of the block. 5

4\. (a) Define centripetal force and derive its equation. 4

(b) A ball of mass 0.25 kg is lifted at the height of 10m and then fall down. Calculate its potential energy at the highest point and kinetic energy during fall. 5

5\. (a) What is meant by co-efficient of linear expansion? Derive its equation $L_2 = L_1[1 + \alpha(T_2 - T_1)]$ 4

(b) Find the water pressure on a deep sea diver at a depth of 10m, where the density of sea water is 1030 Kgm^{-3}. 5