CHAPTER - III

CERTIFICATE PROGRAMME (SET-I)

3. Certificate Programme

The objective of the Certificate Programme is to produce technically skilled manpower in appropriate areas. The meritorious students who wish to study further may join the higher programmes of SLIET.

(a) Entry Qualification: The minimum qualification for admission to the Certificate Programme is Matric pass (Pass in English, Mathematics and Science is compulsory) from a State Education Board / CBSE / ICSE / National Open School or an equivalent examination recognized / approved by MHRD, Government of India.

(b) Duration: The duration of the Certificate programme is 2 years.

(c) Disciplines & Seats: Admission is available in the following Certificate disciplines. **General principles relating to reservations are given in Section 2.9.**

INTAKE AND DISTRIBUTION OF SEATS FOR THE ACADEMIC SESSION 2012-2013

Disciplines	No. of seats
Air Conditioning and Refrigeration **(CAC)**	46
Auto and Farm Machinery **(CAF)**	46
Computer Applications **(CCA)**	46
Foundry & Forging **(CFF)**	46
Food Technology **(CFT)**	46
Maintenance of Television **(CTV)**	47
Maintenance of Electrical Equipments**(CMEE)**	46
Paper and Printing Technology **(CPPT)**	46
Servicing and Maintenance of Electronics Instruments **(CSME)**	46
Servicing and Maintenance of Medical Instruments **(CSMM)**	46
Tool and Die Technology **(CTD)**	47
Welding Technology **(CWG)**	46
Total	**554**

(d) Territorial Quota:

Seats meant for certificate courses are bifurcated for the candidates of the State of Punjab and for the candidates belonging to other States, respectively in the following proportion:

Certificate Programme	
Quota for Punjab State (excluding Chandigarh)	75%
Quota for Other States and U.T. (including Chandigarh)	25%

(e) Admission Procedure: Admission to all Certificate courses shall be made on the basis of All India SLIET Entrance Test (SET-I).

(f) Entrance Test Schedule :

Test	Date	Time
SET-I (Certificate)	2nd June, 2012	10.00-12.30 Hours

(g) Fee Structure for Certificate Programme (Itemized fee structure is in Section 2.10 at Page No.14) :

FEE PARTICULARS		AMOUNT (In Rupees)
A.	REFUNDABLE FEE (Without any interest)	5000
B.	NON-REFUNDABLE FEE	2000
C.	OTHER FEE: (PER SEMESTER) (Non-Refundable)	4230
GRAND TOAL (A + B + C)		**11230**

Note : The fee structure may be revised from time to time with the approval of competent authority.

SYLLABUS OF SLIET ENTRANCE TEST (SET-I) FOR ADMISSION TO CERTIFICATE PROGRAMME, 2012

PATTERN OF SET- I

SLIET Entrance Test (SET-I) for admission to Certificate Programme will consist of one paper of two & half hours duration. This paper will have 150 objective type questions of 150 marks from English, General Knowledge, Mental Aptitude, Mathematics, Physics & Chemistry.

Note: Answers of all the objective type questions are to be filled in the OMR answer sheet given separately during the Examination. <u>There will be 25% negative marking for wrong answers</u>.

SYLLABUS AND MODEL QUESTIONS

Marks : 150 **Time : 2½ Hours**

ENGLISH, GENERAL KNOWLEDGE, MENTAL APTITUDE

Marks: 20 (20 Questions)

Syllabus :

1. Usage of Tenses
2. Fill in the Blanks with Prepositions
3. Active Passive Voice
4. General Knowledge/Awareness
5. Aptitude Test

MATHEMATICS

Marks: 50 (50 Questions)

Syllabus :

ALGEBRA : Integers, rational and irrational numbers, ratio and proportions. Polynomials, GCD and LCM of Polynomials by factorization method. Linear equations in one variable; solution of simultaneous equations. Quadratic equations and their solutions. Law of indices.

TRIGONOMETRY: Trigonometric ratios-sin x, cos x, tan x, cot x, cosec x and sec x for 0^o, 30^o, 45^o, 60^o and 90^o. Trigonometric Identities. Use of Trigonometric tables. Simple problems on heights and distances.

MENSURATION : Perimeter and area of a triangle, square, rectangle, rhombus, trapezium, quadrilateral and circle. Volume and surface area of cube, right prism, cylinder, cone and sphere.

GEOMETRY : Point, line, collinear points, intersecting and non-intersecting lines in a plane. Family of lines, concurrent lines, distance between two parallel lines. Angle-acute, obtuse and right angles. Triangle, its sides and angles. Similarity of triangles. Congurence of triangles. Pythagoras theorem and its converse. Circle. Diameter and circumference of a circle. Arc and sector of a circle. Chord and segment of a circle. Tangent to a circle. Family of concentric circles. Direct and transverse common tangents. Centroid, and orthocentre.

STATISTICS : Collection and tabulation of statistical data. Graphical representation of statistical data, bar diagram, histograms, pie-charts. Measures of central tendency (mean, median, mode).

PHYSICS

Marks : 40 (40 Questions)
Syllabus :

Motion : Uniform and non-uniform motion (qualitative idea only), displacement, speed and velocity, acceleration, equations of motion.
Force : Definition, Inertia of a body, balanced and unbalanced forces, acceleration, relationship between force, acceleration and mass of an object, action and reaction of forces.
Gravitation : Laws of gravitation, acceleration due to gravity.
Work : Work done by a force, relation between work and energy, kinetic energy and potential energy.
Wave Motion : Nature of wave, propagation of a wave through a medium, type of waves; longitudinal, transverse, simple harmonic motion (graphical representation), amplitude of wave, relationship between wave length, frequency and velocity of wave.
Light : Perception of energy carried by light waves, human eye structure and function of human eye, focal length of eye-lens, image formation on the retina, perception of color-composition of white light.
Heat : Mechanical work and heat, heat and temperature, measurement of temperature, specific heat, thermal expansion, change of state, idea of latent heat, idea about relative humidity.
Electricity : Conductors and resistors, measurement of current, potential difference and resistance. Heating effect of electric current, quantitative relationship between heat, current, resistance and time of flow of current, electric appliances based on heating effect of current, measurement of electric energy, units of electric power and energy.
Magnetic effects of Electric Current : Magnetic field of a current carrying conductor, coil and solenoid, electric motor & its applications, Electromagnetic induction.

Reference Book : Science: for Class-IX and X, Published by NCERT.

CHEMISTRY

Marks: 40 (40 Questions)
Syllabus :

Matter-Nature and Behaviour : Nature and behaviour of different types of substances, elements, compounds and their mixtures, structure of matter, atomic theory, molecules and atom; Structure of atom-electrons, protons and neutrons; composition of nucleus-atomic number and mass number, distribution of electrons in different energy levels in an atom, valence electrons and valency.
Atomic Mass and Molecular Mass: Mole concept; percentage composition of compounds.
Physical and Chemical Changes: Combination, displacement, decomposition, slow, fast, exothermic and endothermic reactions, catalyst; chemical equations.
Electrochemical Cell: Construction and working of a simple voltaic cell; lead storage battery and dry cell; electrolysis-movement of ions during electrolysis; Faraday's Laws; electroplating.
Classification of Elements: Periodic Law, periods & groups; General trend in properties of elements in periodic table.
Fuel : Type of fuels, coal; natural fuels, conditions for combustion, heat produced during combustion, combustion of food in living organisms.
Mineral Cycles : Carbon cycle, role of carbon and its compounds, nitrogen cycle, nitrogen fixation, oxygen cycle, oxidation process, water cycle, role of energy in different cycles.
Water : Water a natural resource, origin of life in it, a medium for the activity of the living, a solvent, uses, saturated and unsaturated solution, sea water as habitat of organism, salts from sea.

Air : Composition, Atmosphere & its role in radiation, Carbon dioxide and its diverse effects on living organism, role of trees, release of carbon dioxide from fossils, fuels and automobiles, corrosion of metals, damage of historical monuments from acidic gases, effect of metallic particles, asbestos, etc., on living organisms. Carbon monoxide and its ill effects, air pollution and its effects on human beings.

Dependence of Man on Natural Resources : Minerals from earth, metals and non-metals, uses of non-metals.

Carbon and its Compounds : Introduction, allotropes of carbon and their occurrence, structure, related properties and uses; hydrocarbons - their elementary structure, properties and uses; isomerism (elementary idea); simple compounds of carbon, hydrogen and oxygen and their uses; petroleum products; introductory account of synthetic fibres, plastics, rubber, soaps and detergents.

Extraction of Metals : Metals and non-metals (Si, P,S) occurrence, properties and uses; general metallurgical operations for extraction of pure metal (extraction of copper, iron and aluminum). Properties of metals, uses of metals and non-metals; properties of some alloys (brass, gunmetal, German silver, Solder, bronze), uses at home and in industry.

Reference Book : Science-A Text Book for Class IX & X, Published by NCERT.

Sample Objective Type Questions :

Fill the choice of the alternative you think to be correct answer in the OMR answer sheet.

Q.1 The name of the city which is known as a pink city.
(a) Chandigarh (b) Mumbai (c) Jaipur (d) Delhi

Q.2 In a right angled triangle the sides perpendicular to each other are 15 cm and 8 cm. Its perimeter is :
(a) 46 cm (b) 60 cm (c) 120 cm (d) 40 cm

Q.3 The least distance of distinct vision of normal eye is
(a) 30 cm (b) 25 cm (c) 15 cm (d) 20 cm

Q.4 To remove hypermetropia, lens used is
(a) concave (b) convex (c) cylindrical (d) plano-concave

Q.5 Isotopes of an atom have
(a) same mass number (b) different atomic number (c) same atomic number (d) none of the above

Q.6 Chemical name of baking soda is
(a) sodium chloride (b) sodium carbonate (c) sodium bicarbonate (d) none of above