

**SRI SATHYA SAI HIGHER SECONDARY SCHOOL, PRASANTHINILAYAM**  
**XI Entrance Syllabus: Admissions 22-23**

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**Papers to be attempted for various groups:**

**English:** (for all students regardless of the group applied)

50 Marks:

- 30 Marks – Multiple Choice Questions (MCQs);
- 10 Marks – Descriptive writing (Essay)
- 10 marks – Comprehension (unseen passage/poem)

**Group wise papers:**

**Note:**

1. Each of these papers contain 30 MCQs which are to be attempted in 30 minutes for 30 marks
2. Each question in MCQs will carry 1 mark for correct answer and a -0.25 mark for wrong answer

Group	Paper to be attempted
<b>MPC CS</b>	Standard Mathematics
	Physics
	Chemistry
	Computer Science

Group	Paper to be attempted
<b>MCAE</b>	Standard Mathematics
	Economics
	Reasoning & Aptitude

Group	Paper to be attempted
<b>MBPC</b>	Standard Mathematics
	Physics
	Chemistry
	Biology

Group	Paper to be attempted
<b>MAECS</b>	Standard Mathematics
	Economics
	Reasoning & Aptitude
	Computer Science

Group	Paper to be attempted
<b>MPC Language</b>	Standard Mathematics
	Physics
	Chemistry

Group	Paper to be attempted
<b>MAE Language</b>	Standard Mathematics
	Economics
	Reasoning & Aptitude

Group	Paper to be attempted
<b>BPC Language</b>	Biology
	Physics
	Chemistry

Group	Paper to be attempted
<b>CAE Language</b>	Basic Mathematics
	Economics
	Reasoning & Aptitude

**Marking Scheme (for MCQs of all subjects):**

Your option	Mark	Positive / Negative
Correct answer	1	Positive
Wrong answer	-0.25	Negative
Unanswered	0	Neither positive nor negative

## **SYLLABUS**

### **English:**

1. Identifying common errors.
  2. Ability to write a report or a letter.
  3. Familiarity with the following grammar:
    - a) Tenses
    - b) Use of prepositions
    - c) Active and Passive forms of verbs
    - d) Spelling
    - e) Direct – Indirect speech
  4. A creative piece of writing in about 150 words:
  5. Comprehension of an extract, a poem or a piece of prose.
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### **Standard Mathematics:**

1. Algebra-Real numbers, polynomials, Linear equations in variables, HCF, LCM of polynomials, Rational Expressions, Quadratic equations, Arithmetic progression.
  2. Geometry- Similarity of triangles, Circles & tangents to circles.
  3. Trigonometry-Identities, Ratios of complimentary Angles, Heights and Distances.
  4. Mensuration- Areas and Volumes.
  5. Statistics- Mean Median & Mode, Probability.
  6. Co-ordinate Geometry-Distance between two points, Section formula.
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### **Physics:**

1. Scalars & Vectors, Equations of Motion, Newton's laws of Motion, Work, Power & Energy, Gravitation, Coulombs law
  2. Heat - Expansion of liquids and solids, specific heat, temperature and its measurement, Wave motion – frequency, wave length and velocity, Lens and Mirror equations.
  3. Defects of human eye, Current electricity- Ohms law, resistors in series and parallel, Magnetic effects of currents and electromagnetic induction-Fleming's Rules' Nuclear fission and fusion, Solar energy.
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### **Chemistry:**

1. Atomic Structure: Elementary atomic theories by Dalton, Rutherford, Bohr etc; Laws of chemical combinations; valencies, predicting formula-molecular and empirical; Bonding between atoms- ionic and covalent compounds and their properties.
  2. Matter: types of matter like elements, compounds, mixtures, colloids, solutions etc- their properties separation techniques, preparation; States of matter
  3. Mole concept: ways of expressing concentration of solutions such as molarity, percentage etc.
  4. Physical and chemical changes: types of chemical reactions; writing reactions.
  5. Classification of elements: Periodicity, periodic law, periods and groups; gradation in properties along periods and groups.
  6. Carbon and its compounds: alkanes, alkenes, alkynes; versatile nature of carbon, homologous series, covalent bonding, electron dot structures.
  7. Metals and non-metals – distinction between metals and non-metals
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## **Biology:**

1. Cell structure and function: Brief account of structure and function of cell organelles. Plant and animal tissues- location, structure and function.
  2. Diversity in the Living World: Classification and gross features of plants and animal groups with examples.
  3. Life processes: Basic concepts of nutrition, respiration, control and co-ordination, transport, excretion and reproduction in plants and animals.
  4. Health and Disease: Communicable and non communicable diseases- pathogens, mode of Spread, control and preventive measures.
  5. Heredity and evolution: Basic concepts of Mendel's laws of inheritance, sex determination in humans and basic concepts of evolution.
  6. Natural resources: Conservation and judicious use of soil, water and air. Biogeochemical cycles- nitrogen, carbon and water cycles. Green house effect and ozone depletion. Ecosystem-food chains.
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## **Basic Mathematics:**

1. Algebra: Linear Equations in 2 variables, Polynomials, Quadratic Equations and Arithmetic progressions.
  2. Mensuration: Areas and volumes.
  3. Statistics: Mean, Median, Mode and Probability.
  4. Arithmetic: Percentage, Profit and loss, Ratio and proportion, SI and CI.
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## **Computer Science and Informatics:**

1. Computer Fundamentals, History of computers
  2. Binary, Octal and Hexadecimal number system
  3. Basics of MS word, Excel  
Functions like Sum, Round, If, Len, And, Or, Power, Left, Right, Mid, Find, Trim, Concatenate, Mod, Count, Countif
  4. Mental-ability, mathematical reasoning and aptitude test
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## **Reasoning & Aptitude:**

1. Series completion
2. Venn diagrams
3. Blood relation test
4. Arithmetic Reasoning
5. Direction sense test
6. Dice
7. Artificial Language
8. Character puzzles
9. Classification
10. Data Sufficiency
11. Clock
12. Time & distance

EXAMPLES:

1. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?  
a) East      b) North      c) West      d) South
  
  2. BMQ, EOQ, HQS?  
a) KSU      b) LMN      c) SOV      d) SOW
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**Economics:**

1. Factors of production: land, labour, capital and organization; Human capital; Importance of Education and Health; Unemployment and its types; Poverty; Food security: Fair Price Shops.
2. National income and PCI; Sectors in the Economy: Primary, Secondary and Tertiary-Organized and unorganized- Public and Private; credit; formal and informal sources; Modern forms of money; Globalization: MNCs and their role; Consumer Rights: COPRA, Consumer Forums, Consumer Courts.
3. The making of a global world: Pre-modern world- silk routes; Colonialism; Indentured labour migration; Global trade in the 20<sup>th</sup> Century. Industrialisation; Proto-industrialisation; coming up of factories; Industrialisation in India.

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