

SYLLABUS FOR APTITUDE ANALYSIS

CLASS - 4

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of grammar, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following :-

1. Write a paragraph (100 - 150 words) on a given topic.
2. Write a story or a short composition based on a picture.
3. Simple Tenses (Past, Present and Future).
4. Comprehend an unseen passage and answer questions based on it, write the meanings and opposites of words from the passage and frame structure with words taken from the passage.
5. Parts of speech.
6. Punctuate sentences.
7. Articles.

हिन्दी

1. निबंध - लेखन या चित्र को देखकर कहानी या अनुच्छेद लेखन।
2. अपठित गद्यांश पर आधारित प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची शब्द।
3. व्याकरण-संज्ञा, सर्वनाम विलोम पर्यायवाची, लिंग, वचन, अशुद्ध शब्दों की शुद्धि, अंग्रेजी शब्दों का हिन्दी पर्याय, वाक्यांश के लिए एक शब्द।
4. मुहावरों के अर्थ व प्रयोग।

MATHEMATICS

1. Numbers:- Reading and writing of 3 digit numbers, place value and face value of numbers, expands a number w.r. t place values, counts in different ways - starting from any number, comparing of numbers predecessor and successor of a number, forming greatest and smallest numbers using given set of 3 digits.
2. Operation in Numbers:- Addition and subtraction of 3 or 4 digits. Word problems of addition and subtraction, framing problems for addition and subtraction facts.
3. Multiplication:- By one or two digit numbers, word problems based on multiplication. Division by a single digit number, word problems based on division.
4. Fractions:- Concept of $1/2$, $1/3$, $1/4$, $2/3$, $3/4$ etc.
5. Time:- Counting number of days from a given date to another date from a months and dates; counting the hours and minutes and reading the time from the clock.

6. Measurement:- (Length, Mass, Capacity) : Standard units of length, mass and capacity, conversion of units of length, mass and capacity.
7. Pictorial Representation of Date :- Reading and interpreting a Pictograph.
8. Geometry:- Identification of 2 dimensional shapes (Triangle, Square, Rectangle, Circle etc), Describes the various 2 dimensional shapes by counting their sides, comers and diagonals.

CLASS - 5

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of functional grammar skills, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following:-

1. Write a composition on a given topic (150 - 200 words).
2. Write a story or a short composition based on a picture or series of pictures ..
3. Comprehend an unseen passage and answer questions based on it, write the meaning and opposites of words from the passage and frame sentences with words taken from the passage.
4. Attempt Questions based on the functional use of grammar - Parts of Speech.
5. Punctuate sentences.
6. Tenses.

हिन्दी

1. निबंध - लेखन या चित्र को देखकर कहानी या अनुच्छेद लेखन।
2. पत्र - लेखन (निजी या प्रार्थना)
3. अपठित गद्यांश पर आधारित प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची शब्द।
4. व्याकरण - संज्ञा, सर्वनाम, विशेषण, विलोम, पर्यायवाची, लिंग, वचन, अशुद्ध शब्दों की शुद्धि, अंग्रेजी शब्दों का हिन्दी पर्याय।
5. मुहावरों के अर्थ व प्रयोग।

MATHEMATICS

- 1. Regional and Roman Numbers:-** Representation of Hindu Arabic numbers in Roman numbers and vice versa.
- 2. The Number System:-** Place value and face value of numbers, Prime and composite numbers, Odd and even numbers, predecessor and successors of a number. Expanded form of a number. Expression of numbers as numerals and in words. Ascending and descending order.
- 3. Operation in Numbers:-** Addition and subtraction of 4 or 5 digits. Multiplication of a 4 digit number by a 2 or 3 digits number. Division of 4 or 5 digits numbers by one or two digits number. Word problems based on addition, subtraction, multiplication and division.
- 4. Factors and multiples, test of divisibility of numbers by 2,3,5,10. LCM & HCF.**
- 5. Fractional Numbers:-** Concept of $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ types of fractions, equivalent fraction, addition and subtraction of fractional numbers.
- 6. Money:-** Conversion rupees to paise, addition and subtraction of money, preparation of bill Unitary method word problems of money based on addition and subtraction.
- 7. Time:-** Leap year, reading of clock time to the nearest hours and minutes, expression of time using terms 'a.m. ' and 'p.m. '. Conversion of time from one unit to other unit and hour to min, min to sec etc. Computation of the number of days between two dates. Word problems based on time.
- 8. Measurement:-** (Length, Mass, Capacity) : Conversion of units of length, mass and capacity. Addition and subtraction of length, mass and capacity. Word problem based on addition and subtraction of length, mass and capacity.
- 9. Data Handling:-** Pictorial representation of data, interpreting a pictograph and bar graph.
- 10. Geometry:-** Line segment, ray, line, angles, measuring angles, types of an angles, construction of angles, Triangle, types of triangles, quadrilaterals, circle, construction of circle, symmetry, perimeter of rectilinear figures, area (Square and rectangle). Word problems based on area and perimeter.

CLASS - 6

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of functional grammar skills, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following:-

1. Write a composition on a given topic.
2. Write a story or a composition based on a given picture or a series of picture.

3. Write an informal letter.
4. Comprehend an unseen passage and answer questions based on it, write the meaning and opposites of words from the passage and framing of the sentences with words taken from the passage.
5. Workout sentences based on the functional use of grammar - Parts of Speech.
6. Tenses.

हिन्दी

1. निबंध - लेखन या चित्र पर आधारित कहानी या अनुच्छेद लेखन।
2. औपचारिक या अनौपचारिक पत्र - लेखन
3. अपठित गद्यांश पर आधारित प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यावाची शब्द।
4. व्याकरण - विलोम, पर्यायवाची, वाक्यों का शुद्धिकरण, कारक, विराम - चिह्न वाक्यांश के लिए एक शब्द, अंग्रेजी शब्दों का हिन्दी पर्याय।
5. मुहावरों के अर्थ व प्रयोग।

MATHEMATICS

1. **Numbers :-** Basics of numbers, Four operations, Roman number, Rounding off.
2. **L.C.M & H.C.F :-** Factors (All & Prime), Multiples, L. C.M, H.C.F, Property of L.C.M and H.C.F.
3. **Fractional Numbers :-** Division of Fractional Numbers Conversion of Mixed fraction to Improper fractions and vice-versa, Equivalent fraction, lowest form, and Ordering Four operation (+, -, ×, ÷).
4. **Decimal Number :-** Place value, Expanded form, conversion (Decimal to fraction and vice-versa), Percentage, Fractional and decimals as percentage and vice-versa, Four operation (+, -, ×, ÷).
5. **Measurement :-** Unit of length, Mass, Capacity, Conversion of one unit to other. Addition and subtraction. Problems related to daily life.
Time:- Conversion of units and 24 hour clock time, Addition, Subtraction.
Temperature:- Reading of Celsius and Fahrenheit scale.
6. **Money Transaction :-** Introduction, Unitary Method, Profit and loss.
7. **Pictorial Representation of Data:-** Pictograph (Collection, Recording of data) Drawing of pictograph.
8. **Basic Geometrical Concepts :-** Line, Ray, Segment, Angle (Measuring, Classification, Construction) Parallel lines, Perpendicular line.
9. **Triangles :-** Sum of the Angles of a triangle, Types of triangles.
10. **Circle :-** All definitions, Finding of radius, diameter and circumference.
11. **Perimeter, Area and Volume:-** Introduction of concepts, units of Perimeter, area and volume Finding of Perimeter, Area and Volume, Uses of their formulae.

CLASS - 7

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of grammar, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following:-

1. Write a composition on a given topic.
2. Unseen passage (Prose/Poem) - questions, meanings, sentences, opposites etc.
3. Write a short story based on a given picture.
4. Write an 'informal letter.
5. Direct and indirect speech.
6. Tenses.
7. Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition and interjection).
8. Correct the spellings.
9. Modals.
10. Infinitives, Gerund and Participle.
11. Punctuate sentences.
12. Prefix/ Suffix.

हिन्दी

1. अनुच्छेद लेखन, निबंध लेखन (संकेत बिन्दुओं के आधार पर) या चित्र के आधार पर घटना, दृश्य आदि का वर्णन।
2. औपचारिक या अनौपचारिक पत्र - लेखन।
3. अपठित गद्यांश पर आधारित प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची शब्द।
4. व्याकरण - वाक्य-रचना, लिंग, वचन, विलोम, पर्यायवाची, वाक्यों का शुद्ध - लेखन, अंग्रेजी शब्दों का हिन्दी पर्याय।
5. मुहावरों व लोकोक्तियों के अर्थ व प्रयोग।

MATHEMATICS

1. **Numbers** :- Basics, Rounding off, Roman numbers. Indian and International system of numeration.
2. **Whole Numbers** :- Number line, Types (Even, Odd, Prime, Composite etc). Properties of whole numbers.
3. **L.C.M & H.C.F** :- Factors, Multiples, (Prime and All Factors), L.C.M, H.C.F, Word problems.
4. **Shapes** :- Straight line (drawing and Measuring), Angles, Perpendicular line, Triangles, Quadrilaterals, Polygons (Types and names), 3D Shapes (Face, Edge, Vertex).
5. **Integers**:- Negative numbers, Number line, Ordering, Addition, Subtraction.
6. **Fractions**:- Fractions on number line, Types, lowest form, equivalent, comparing, ordering, addition and subtraction.
7. **Decimal** :- As fraction, conversion of fractional number to

decimal Number and vice - versa, comparing, ordering, expanded form, use in length, mass, capacity, addition and subtraction of decimals.

8. **Data Handling**:- Recording, Organization, Pictograph, Bargraph, (Their reading and drawing).
9. **Mensuration**:- Perimeter and Area of Rectangle, Square, Irregular Figures use of formula for (Rectangle and square).
10. **Ratio & Proportion**:- Introduction, Unitary Method (Direct variation).
11. **Symmetry**:- Line of symmetry, Figures with multiple lines of symmetry.
12. **Practical Geometry**:- Construction of lines, Perpendicular lines, Angles with protractor and compass.
13. **Algebra** :- Introduction of variables through word problems.

CLASS - 8

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of functional grammar skills, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following:-

1. Write a composition on a given topic.
2. Unseen passage (Prose/Poem) - questions, meanings, sentences, opposites etc.
3. Write a short story based on a given picture.
4. Formal/Informal letter.
5. Direct and indirect speech.
6. Tenses.
7. Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition, and interjection).
8. Correct the spellings.
9. Modals.
10. Infinitives, Gerund and Participle.
11. Punctuate sentences.
12. Prefix/Suffix.
13. Jumbled sentences.

हिन्दी

1. अपठित गद्यांश - प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची, अनेकार्थी से संबंधित प्रश्न।
2. अनुवाद - शब्द का वाक्य का अंग्रेजी से हिन्दी में अनुवाद।
3. निबंध - लेखन- किसी एक विषय में लगभग 300 शब्दों में एक निबंध, अनुच्छेद लेखन, चित्र वर्णन।
4. पत्र - लेखन - औपचारिक या अनौपचारिक पत्र
5. शुद्ध कीजिए - वाक्य शोधन या अशुद्ध शब्दों को शुद्ध करना।
6. सामान्य व्याकरण- संधि (स्वर संधि), उपसर्ग, प्रत्यक्ष, तत्सम, तद्भव शब्द, मुहावरे, वाक्य ज्ञान व वाक्य भेदों का सामान्य ज्ञान।

MATHEMATICS

1. **Integers:-** Operation on integers; properties related to-operation on integers, word problems including integers (all operations).
2. **Fractions and Decimals :-** Operation on fractions and decimals, word problems involving fractions (all operations), Rational numbers, operations on rational numbers, word problems.
3. **Exponents:-** Laws of exponents, decimal number system, expressing large numbers in the standard form.
4. **Algebraic Expressions :-** Addition, subtraction and finding value of Algebraic expressions, Rules and Formulas using algebraic expressions.
5. **Linear equations in one variables :-** Their formulation, solution and application as word problems.
6. **Comparing Quantities:-** Ratio & Proportion, unitary method, percentage and its application, profit and loss, simple interest.
7. **Lines and Angles:-** Supplementary angles, complementary angles, vertically opposite angles, linear pair, angles made by transversal and properties related to parallel lines.
8. **Triangles and its properties:-** Types of triangles, angle sum property, exterior angle property, triangle inequality, right angled triangle and Pythagoras theorem.
9. **Congruence of plane figures:-** Congruence of triangles using criteria, SSS, SAS, ASA, RHS.
10. Construction of different angles, construction of parallel lines, construction of triangles, using SSS, SAS, ASA and RHS criteria.
11. **Symmetry:-** Line symmetry, Rotational symmetry, line and rotational symmetry.
12. **Visualising Solid Shapes:-** 2 D shapes, 3 D shapes, 2 D representation of 3 D shapes, oblique sketch, Isometric sketch.
13. Perimeter and area of a square, Rectangle, parallelogram and triangle. Circumference and area of circle, applications.
14. **DATA Handling :-** Organising of Data, Mean, Median and Mode of Ungrouped data, construction and Reading of bar graphs, chance and probability.

CLASS - 9

FUNCTIONAL/COMMUNICATIVE ENGLISH

The test does not aim at checking rigid rules of functional grammar skills, but at evaluating the student's command over the language, his fluency of expression, vocabulary, originality of thoughts and ideas.

The student should be able to do the following:-

1. Write a composition on a given topic.
2. Unseen passage (Prose/Poem) - questions, meanings, sentences, opposites etc.
3. Write a short story based on a given picture.
4. Formal/ Informal letter.

5. Direct and indirect speech.
6. Tenses.
7. Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition and interjection).
8. Correct the spellings.
9. Modals.
10. Infinitives, Gerund and Participle.
11. Punctuate sentences.
12. Prefix/Suffix.
13. Jumbled sentences.

हिन्दी

1. अपठित गद्यांश - प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची, अनेकार्थी से संबंधित प्रश्न।
2. अनुवाद - अंग्रेजी से हिन्दी में भाषा दक्षता तथा वाक्य विन्यासकी परख हेतु।
3. विराम चिह्नों का प्रयोग।
4. पत्र - लेखन - औपचारिक या अनौपचारिक पत्र।
5. अनुच्छेद - लेखन - संकेत बिन्दुओं पर आधारित, चित्र वर्णन।
6. शुद्ध कीजिए - वाक्य या दिए गए शब्दों को।
7. सामान्य व्याकरण - संधि, समास, उपसर्ग, प्रत्यय, लोकोक्ति, मुहावरे, युगम शब्द, लिंग, वचन, कारक, वाक्य, अनेकार्थी, वाक्यांशों के लिए एक शब्द।
8. संवाद लेखन।

MATHEMATICS

1. **Rational Numbers:-** Properties of Rational numbers, operation on Rational numbers, representation on number line, word problems.
2. **Exponents:-** Integers as exponents, Laws of exponents.
3. Square roots, cube, cube roots. Finding square root by division method. Finding square root and cube root using factor method. Estimating square roots and cube roots.
4. Generalised form of numbers, number puzzles, divisibility test rules of 2,3,5,9, 10. H.C.F and L.C.M of numbers.
5. **Algebra :-** Algebraic expressions, operations on algebraic expressions, algebraic identities.
6. Solving linear equations in one variable form, word problems.
7. Ratio and Proportion, advanced problems involving applications on percentage, profit and loss, overhead expenses, discount, tax.
8. Simple Interest, compound interest, difference between simple interest and compound interest.
9. Direct and inverse variations, time and work problems.

GEOMETRY

10. **Quadrilaterals:-** Properties of quadrilaterals, sum angle property, type of quadrilaterals, properties of parallelogram with verification, construction of quadrilaterals.
11. **Visualizing Geometrical Shapes :-** Identifying area matching pictures with objects, drawing 2D representation of 3D object, verification of Euler's relation of 3D figures.
12. **Mensuration:-** Area of trapezium and polygon, surface area and volume of cube, cuboid and cylinder.
13. **DATA Handling:-** Grouping of Raw data, Bar graph, pie chart, mean, median and mode.
14. **Introduction to Graphs :-** Cartesian plane, plotting points for different conditions, reading of different types of graphs.