



MAYO COLLEGE, AJMER
COMMON APTITUDE ANALYSIS



SYLLABUS

CLASS - 4

English

1. **Functional Grammar**. Common Aptitude Analysis 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.
2. The student should be able to do the following :-
 - (a) Write a paragraph (100 – 150 words) on a given topic.
 - (b) Write a story or a short composition based on a picture.
 - (c) Simple Tenses (past, present and future).
 - (d) Comprehend an unseen passage and answer questions based on it, write the meanings and opposites of words from the passage and frame of the sentences with words taken from the passage.
 - (e) Parts of speech (noun, pronoun, verb, adjective).
 - (f) Punctuate sentences.
 - (g) Articles.

हिन्दी

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

Mathematics

7. **Numbers**. Reading and writing 3 digit numbers, place value and face value of digit in a number, expanding a number w.r.t. place values, counting in different ways – starting from any number, comparing numbers, predecessor and successor of a number, forming greatest and smallest numbers using given set of 3 digits.
8. **Operation in Numbers**. Addition and subtraction of 3 or 4 digits. Word problems of addition and subtraction, frame problems for addition and subtraction facts.

9. Multiplication. By one and two digit number, word problems based on multiplication. Division by a single digit number, word problems based on division.
10. Fractions. Concept of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{3}$, $\frac{3}{4}$ etc.
11. Time. Counting number of days from a given date to another date, counting the hours and minutes and reading the time from the clock.
12. Measurement. (Length, Mass, Capacity) : Standard units of length, mass and capacity, conversion of units of length, mass and capacity.
13. Pictorial Representation of Data. Reading and interpreting a pictograph.
14. Geometry. Identification of 2 dimensional shapes (Triangle, Square, Rectangle, Circle etc), describing the various 2 dimensional shapes by counting their sides, corners and diagonals.

CLASS - 5

English

15. **Functional Grammar**. Common Aptitude Analysis 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.
16. The student should be able to do the following :-
- Write an essay or composition on a given topic (150 – 200 words).
 - Write a story or a short composition based on a pictures or series of pictures.
 - Use direct and indirect speech.
 - Comprehend an unseen passage and answer questions based on it, write the meaning and opposites of words from the passage and frame of the sentences with words taken from the passage.
 - Workout sentences based on the functional use of grammar – parts of speech.
 - Punctuate sentences.
 - Tenses.

हिन्दी

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

Mathamatics

22. Regional and Roman Numbers. Representation of Hindu Arabic numbers in Roman numbers and vice versa.
23. The Number System . Place value and face value of a digit in a number, 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.
24. Operation in Numbers . Addition and subtraction of 4 or 5 digits. Multiplication of a 4 digit number by a 2 or 3 digit number. Division of 4 or 5 digit numbers by one or two digit number. Word problems based on addition, subtraction, multiplication and division.
25. Factors and multiples, test of divisibility of numbers by 2,3,5,10. LCM & HCF.
26. Fractional Numbers . Concept of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ types of fractions, equivalent fraction, addition and subtraction of fractional numbers.
27. Money . Conversion of rupees into paise, addition and subtraction of money, preparation of bill. Word problems of money based on addition, subtraction and unitary method.
28. 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 (like hours into minutes, minutes into seconds etc). Computation of the number of days between two dates. Word problems based on time.
29. 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.
30. Data Handling. Pictorial representation of data, interpreting a pictograph and bar graph.

31. Geometry . Line segment, ray, line, angles, measuring angles, types of angles, construction of an angle, 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

English

32. **Functional Grammar**. Common Aptitude Analysis 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.

33. The student should be able to do the following :-

- (a) Write an essay or composition on a given topic.
- (b) Write a story or a composition based on a given picture or a series of pictures.
- (c) Use direct and indirect speech.
- (d) Write an informal letter.
- (e) Comprehend an unseen passage and answer questions based on it, write the meanings and opposites of words from the passage and frame of the sentences with words taken from the passage.
- (f) Workout sentences based on the functional use of grammar – parts of speech
- (g) Tenses.

हिन्दी

34. निबंध - लेखन या चित्र पर आधारित कहानी या अनुच्छेद लेखन ।

35. औपचारिक या अनौपचारिक पत्र - लेखन

36. अपठित गद्यांश पर आधारित प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची शब्द ।

37. व्याकरण - विलोम, पर्यायवाची, वाक्यों का शुद्धिकरण, कारक, विराम - चिन्ह, वाक्यांश के लिए एक शब्द, अंग्रेजी शब्दों का हिन्दी पर्याय ।

38. मुहावरों के अर्थ व प्रयोग ।

Mathematics

38. Numbers. Basics of numbers, four operations, Roman numbers, rounding off.
39. 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.
40. Fractional Numbers . Fractional numbers as division, conversion of mixed to improper and vice-versa, equivalent fractions, lowest form, and ordering four operation (+, -, x, ÷) or simplifying using BODMAS.
41. Decimal Number . Place value, expanded form, conversion (Decimal to Fraction and vice-versa), percentage, conversion of fractions and decimals into percentage and vice-versa, four operations (+, -, x, ÷).
42. Measurement . Units of length, mass, capacity, conversion of one unit to other. Addition and subtraction. Daily life problems.
- (a) Time. Conversion of units, 24 hour clock time, addition and subtraction.
- (b) Temperature. Conversion of Celsius into Fahrenheit and vice-versa.
43. Money Transaction . Introduction, unitary method, profit and loss.
44. Pictorial Representation of Data. Pictograph (Collection, Recording of data) Drawing of pictograph.
45. Basic Geometrical Concepts . Line, ray, segment, angle (Measuring, Classification and Construction) parallel lines, perpendicular lines.
46. Triangles. Sum of the angles of a triangle, types of triangles.
47. Circle . All definitions, finding of radius, diameter and circumference.
48. Perimeter, Area and Volume. Introduction, units, finding of perimeter, area and volume, formula for perimeter and area of square and rectangle. Formula for volume of cube and cuboid.

CLASS - 7**English**

49. **Functional Grammar**. Common Aptitude Analysis 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.
50. The student should be able to do the following :-
- (a) Write an essay or composition on a given topic.

- (b) Unseen passage (prose/poem) – questions, meanings, sentences, opposites etc.
- (c) Write a short story based on a given picture.
- (d) Write an informal letter.
- (e) Direct and indirect speech.
- (f) Tenses.
- (g) Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition and interjection).
- (h) Correct the spellings.
- (i) Modals.
- (j) Infinitives, gerund and participle.
- (k) Punctuate sentences.
- (l) Prefix/suffix.

हिन्दी

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

Mathematics

- 56. Numbers . Basics, rounding off, Roman numbers. Indian and International system of numeration.
- 57. Whole Numbers. Number line, types (Even, Odd, Prime, Composite... etc). Properties of whole numbers.
- 58. L.C.M & H.C.F. Factors, multiples, (Prime and all factors), L.C.M , H.C.F, word – problems.
- 59. Shapes. Straight lines (Drawing and Measuring), angles, perpendicular lines, triangles, quadrilaterals, polygons (Types and Names), 3D shapes (Face, Edge and Vertex)
- 60. Integers. Negative numbers, number line, ordering, addition, subtraction.

61. Fractions. Fractions on number line, types, lowest form, equivalent, comparing, ordering, addition and subtraction.
62. Decimal. As fraction, conversion of fraction into decimal and vice-versa, comparing, ordering, expanded form, use in length, mass, capacity, addition and subtraction of decimals.
63. Data Handling . Recording, organization, pictograph, bargraph, (Reading and Drawing).
64. Mensuration. Perimeter and area of rectangle, square and irregular figures. Formula of area of rectangle and square.
65. Ratio & Proportion . Introduction, unitary method (Direct Variation).
66. Symmetry . Line of symmetry, figures with multiple lines of symmetry.
67. Practical Geometry . Construction of lines, perpendicular lines, angles with protractor and compass.
68. Algebra. Introduction of variables through word problems.

CLASS - 8

English

69. **Functional Grammar**. Common Aptitude Analysis 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.
70. The student should be able to do the following :-
- (a) Write an essay or composition on a given topic.
 - (b) Unseen passage (prose/poem) – questions, meanings, sentences, opposites etc.
 - (c) Write a short story based on a given picture.
 - (d) Formal/informal letter.
 - (e) Direct and indirect speech.
 - (f) Tenses.
 - (g) Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition, and interjection).
 - (h) Correct the spellings.
 - (i) Modals.
 - (j) Infinitives, gerund and participle.
 - (k) Punctuate sentences.
 - (l) Prefix/suffix.
 - (m) Jumbled sentences.

हिन्दी

71. अपठित गद्यांश - प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची, अनेकार्थी से संबंधित प्रश्न।
72. अनुवाद - शब्द का, वाक्य का अंग्रेजी से हिन्दी में अनुवाद ।
73. निबंध - लेखन - किसी एक विषय में लगभग ३०० शब्दों में एक निबंध ।
74. पत्र - लेखन - औपचारिक या अनौपचारिक पत्र ।
75. शुद्ध कीजिए - वाक्य शोधन या अशुद्ध शब्दों को शुद्ध करना ।
76. सामान्य व्याकरण - संधि (स्वर संधि), उपसर्ग, प्रत्यय, तत्सम -तद्भव शब्द, मुहावरे, वाक्य रचना व वाक्य भेदों का सामान्य ज्ञान ।

Mathamatics

77. Integers. Basic operations, properties related to operations on integers, word problems (All operations).

78. Fractions and Decimals. Basic operations on fractions and decimals, word problems involving fractions (All operations), rational numbers, operations on rational numbers, word problems.

79. Exponents, Laws of exponents, decimal number system, expressing large numbers in the standard form.

80. Algebraic Expressions. Addition, subtraction and finding value of algebraic expressions. Generate algebraic expressions involving one or two variables. Identifying constant, coefficient, like and unlike terms.

81. Linear equations in one variable – their formulation, solution and application as word problems.

82. Comparing Quantities . Ratio & Proportion, unitary method, percentage and its application, profit and loss, simple interest.

83. Lines and Angles . Supplementary angles, complementary angles, vertically opposite angles, linear pair, angles made by transversal and properties related to parallel lines.

84. Triangles and its properties, types of triangles, angle sum property, exterior angle property, triangle inequality, right angled triangle and Pythagoras Theorem.

85. Congruence of plane figures, congruence of triangles using criteria, SSS, SAS, ASA, RHS.

86. Construction of different angles (Multiples of 15°), construction of parallel lines, construction of triangles, using SSS, SAS, ASA and RHS criteria.

87. Symmetry . Line symmetry, rotational symmetry, order of line and rotational symmetry.

88. Visualising Solid Shapes. 2D shapes, 3D shapes, 2D representation of 3D shapes, oblique sketch, isometric sketch.

89. Perimeter and area of a square, rectangle , parallelogram and triangle. Circumference and area of circle, applications.

90. DATA Handling. Organising data, mean, median and mode of ungrouped data, construction and reading of bar graphs, chance and probability.

CLASS – 9

English

91. **Functional grammar.** Common Aptitude Analysis 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.

92. The student should be able to do the following :-

- (a) Write an essay or composition on a given topic.
- (b) Unseen passage (prose/poem) – questions, meanings, sentences, opposites etc.
- (c) Write a short story based on a given picture.
- (d) Formal/informal letter.
- (e) Direct and indirect speech.
- (f) Tenses.
- (g) Parts of speech (noun, pronoun, adverb, adjective, verb, conjunction, preposition and interjection).
- (h) Correct the spellings.
- (i) Modals.
- (j) Infinitives, gerund and participle.
- (k) Punctuate sentences.
- (l) Prefix/suffix.
- (m) Jumbled sentences.

हिन्दी

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| 93. | अपठित गद्यांश | - प्रश्नोत्तर, शब्दार्थ, विलोम, पर्यायवाची, अनेकार्थी से संबंधित प्रश्न । |
| 94. | अनुवाद | - अंग्रेजी से हिन्दी में , भाषा दक्षता तथा वाक्य विन्यास की परख हेतु। |
| 95. | विराम चिन्हों का प्रयोग | - पूर्ण विराम, अर्धविराम, अल्पविराम, प्रश्नवाचक चिन्ह, विस्मयादिबोधक चिन्ह आदि । |
| 96. | पत्र - लेखन | - औपचारिक या अनौपचारिक पत्र |
| 97. | अनुच्छेद - लेखन | - संकेत बिन्दुओं पर आधारित । |
| 98. | शुद्ध कीजिए | - वाक्य या दिए गए शब्दों का अशुद्धि शोधन । |
| 99. | सामान्य व्याकरण | - संधि, समास, उपसर्ग, प्रत्यय, लोकोक्ति, मुहावरे, युग्म शब्द, लिंग, वचन, कारक, वाक्य , अनेकार्थी, वाक्यांशों के लिए एक शब्द । |

MATHAMATICS

100. Rational Numbers . Properties of rational numbers, operations on rational numbers, representation on number line, word problems.
101. Exponents. Integers as exponents, laws of exponents.
102. Square, Square Root, Cube, Cube Root. Finding square root by division method. Finding square root and cube root using factor method. Estimating square roots and cube roots.
103. Generalised form of numbers, number puzzles, divisibility test rules of 2,3,5,9,10. H.C.F. and L.C.M. of numbers.
104. Algebra . Algebraic expressions, operations on algebraic expressions, algebraic identities.
105. Solving linear equations in one variable, word problems.
106. Ratio and proportion, advanced problems involving applications on percentage, profit and loss, overhead expenses, discount, tax.
107. Simple Interest, compound interest, difference between simple interest and compound interest.
108. Direct and inverse variations, time and work problems.

Geometry

109. Quadrilaterals. Properties of quadrilaterals, angle sum property, types of quadrilaterals, properties of parallelogram with verification, construction of quadrilaterals.
110. Visualizing Geometrical Shapes . Identifying and matching pictures with objects, drawing 2D representation of 3D object, verification of Euler's relation of 3D figures.
111. Mensuration . Area of trapezium and polygon, surface area and volume of cube, cuboid and cylinder.
112. DATA Handling . Grouping of raw data, bar graph, pie chart, mean, median and mode.
113. Introduction to Graphs . Cartesian plane, plotting points for different conditions, reading of different types of graphs.
