MAYO COLLEGE
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. Parts of speech: Noun,Pronoun,Verb,Adjective,Adverb, Preposition and Conjunction.
2. Punctuate sentences.
3. Articles: A, An The.
4. Spellings.
5. Tenses (Present, Past and Future).
6. Vocabulary: Homophones, One Word Substitution, Choose the correct pair, Odd one out.
7. **Comprehension passage.**
8. **Composition.**

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 - starring 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.
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),

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 Parts of Speech: Noun, Pronoun,Verb,Adjective,Adverb, Preposition and Conjunction.

2. Punctuate sentences.

3. Tenses (Present, Past and Future).

4. Articles: A, An and The.

5. Spellings.

6. Figures of Speech: Smile, Metaphor, Personification.

7. Vocabulary: Homophones, One Word Substitution, Choose the correct pair, Odd one out

8. Subject- Verb Agreement.

9. **Comprehension passage.**

10.**Composition.**

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 ½,¼,¾ types of fractions, equivalent fraction, addition and subtraction of fractional numbers.

6. Money:- Conversion rupees to paise, addition and subtraction of money, 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 'po m. '. Conversion of time from one unit to other unit and hour to min, min to see 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:- Interpreting a pictograph and bar graph.

10. Geometry:- Line segment, ray, line, angles, types of an angles, Triangle, types of triangles, quadrilaterals, 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. Parts of Speech: Noun,Pronoun,Verb,Adjective,Adverb, Preposition and Conjunction.
2. Tenses (Present, Past and Future).
3. Punctuate sentences.
4. Article: A, An, The.
5. Spellings.
6. Subject –verb Agreement.
7. Direct and Indirect speech.
8. Figures of speech: Smile, Metaphor, Personification, Onomatopoeia, Idiom.
9. Vocabulary: Homophones, One word Substitution, Choose the correct pair, Odd one out.
10. **Comprehension passage.**
11. **Composition.**

MATHEMEATICS

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 (+, -, x, ÷).

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 (+, -, x, ÷).

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, Analyzing of data).

8. Basic Geometrical Concepts :- Line, Ray, Segment, Angle (Classification) Parallel lines, Perpendicular lines.

9. Triangles :- Sum of the Angles of a triangle, Types of triangles.

10. Circle :- 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 formula

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. Direct and Indirect speech.
2. Tenses (Present, Past and Future).
3. Parts of speech (Noun, Pronoun, Adverb, Adjective, Verb, Conjunction, Preposition and Interjection).
4. Correct the spellings.
5. Modals.
6. Infinitives, Gerund and Participle.
7. Punctuate sentences.
8. Prefix/ Suffix.
9. Figures of speech: Smile, Metaphor, Personification, Onomatopoeia, Idiom, Alliteration.
10. Vocabulary: Homophones, One Word Substitution, Odd one out.
11. Sentences: Simple, Compound and Complex.
12. **Comprehension passage.**
13. **Composition.**

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:- 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: - Organization, Pictograph, Bargraph, (Their reading).
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.
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. Direct and Indirect speech.

2. Tenses (Present, Past and Future).

3. Parts of Speech: (Noun, Pronoun, Adverb, Adjective, Verb, Conjunction, Preposition and Interjection).

4. Correct the Spellings.

5. Modals.

6. Infinitives, Gerund and Participle.

7. Punctuate sentences.

8. Prefix/Suffix.

9. Jumbled sentences.

10. Figures of speech: Smile, Metaphor, Personification, Alliteration, Onomatopoeia, Oxymoron, Hyperbole, Irony, idiom.

11. Vocabulary: Homonyms, Homophones, One Word Substitution, Odd one out, Antonyms, synonyms, Meanings.

12. Active and passive voice.

13. Sentences: Simple, Compound and Complex.

14. **Comprehension passage.**

15. **Composition.**

MATHEMATICS

1. Integers:- Operation on integers; properties related to-operation on integers, word problems including integers (all operations).

2. Fractions and Decimals :- Operation 1m fractions .and decimals, word problems involving fractions (all operations), Rational numbers, operation 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. Liner 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 angels, 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. Symmetry:- Line symmetry, Rotational symmetry, line and rotational symmetry.

11. Visualising Solid Shapes:- 2 D shapes, 3 D shapes, 2 D representation of 3 D shapes.

12. Perimeter and area of a square, Rectangle, parallelogram and triangle. Circumference and area of circle, applications.

13. DATA Handling :- Mean, Median and Mode of Ungrouped data.

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. Direct and indirect speech.

2. Tenses (Present, Past and Future).

3. Parts of speech (Noun,Pronoun,Adverb,Adjective,Verb,Conjunction,Preposition and interjection).

4. Correct the spellings.

5. Modals.

6. Infinitives, Gerund and Participle.

7. Punctuate sentences.

8. Prefix/Suffix.

9. Jumbled sentences.

10. Figures of speech: Smile, Metaphor, Personification, Alliteration, Onomatopoeia, Oxymoron, Hyperbole, Irony, Idiom, Metonymy, Pathetic fallacy, pun.

11. Vocabulary: Homonyms, Homophones, One Word Substitution, Odd one out, Antonyms, Synonyms, Spellings.

12. Active and passive voice.

13. Sentences: Simple, Compound and Complex.

14. **Comprehension passage.**

15. **Composition.**

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. Generalized 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.

11. Visualizing Geometrical Shapes :- Identifying area matching pictures with objects, verification of Evler's relation of 3D figures.

12. Mensuration:- Area of trapezium and polygon, surface area and volume of cube, cuboid and cylinder.

13. DATA Handling:- Reading of 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.