Grade 07
Unit 02

Maths

Course Outline

- Simple equations
- Lines and Angles

MAT (Monthly Achievement Tests)

Short Code: 447308

Test ID: NMM07U020

SOUVENIR INFOTECH

Guide Lines

1.Each set consists of:

50 | Warm-up/Foundation Questions

30 | Regular Questions

20 | Thinking Ability Questions

2. The time allocation and instructions regarding the questions are printed clearly in the beginning of each question types. The answers should be written or tick marked as per the instructions given. It is suggested to use pencil initially, so as to enable you to reuse the practice papers.
3. **According to the new pattern of CBSE these practice papers will be very useful especially for syllabus related Quiz, Debates, Visuals related checking and Orals etc.,**
4. After marking the answers, the scores of students can be checked and for marks obtained guidelines are given along with the question solving instructions. Follow those instructions and if, you are fully satisfied with your performance then check for your expected grades as per the CBSE guidelines as given on the back of each set.
5. Remember that this is only a guideline not the finally worked out result. You can further improve your performance by increase your practice.
6. For your convenience please follow following essential examiner's advices:

   a.Answer all the questions
   b.Read all the Options carefully
   c.Understand and use correct scientific language in your responses.

We from SOUVENIR INFOTECH **wish skillful learning for your bright future.**

Before going for the test, look at least :

1. First of all go through the syllabus of the test according to the **Course Outline** provided at the front page of each MAT.
2. After going through the syllabus once or twice or even more time as per your satisfaction, first of all do the Warm-up questions. If you score A+ grade in those 50 questions go to the next level otherwise go through the chapter again.
3. The box for **Specific Information** is very useful as it adds to your concept building. Try to fill specific information in the proper way so that you will get the maximum benefit of it.
4. **Let's Chat** portion will help you to prepare for oral assessment. Through this you can increase your capacity to interact on a particular topic related to your syllabus.
5. The **Extra Diet** portion is also there to enhance you knowledge through visulization of concept. This portion provides you added knowledge on various related concepts.
6. The information related to time factor is there to enhance your time management skills.
7. From the examiners point of view it is always advised to use Pencil for initial efforts. The use of pen is fruitful only when the final effort comes.

Examiner's Tips:

- Read the question carefully. Make sure you understand exactly what is required.
- If you find that you are unable to do a part of a question, do not give up. The next part may be easier and may provide a clue to what you might have done in the part you found difficult.
- Note the number of marks per question as guide to the depth of response needed.
- Underline or note the key words that tell you what is required.
- Underline or note data as you read the question.
- Structure your answer carefully.
- Show all steps in calculations. Include equations you use and show the substitution of data. remember to work according to units given.
- Make sure that your answers contain suitable significant figures (wherever necessary) and must include units in numericals.
- Draw diagrams and graphs carefully.
- Read data from graphs carefully; note scales and prefixes on axes.
- Keep your eye on the clock but don't panic.
- If you have time at the end, use it. Check that your descriptions and explanations make sense. Consider whether there is anything you could add to an explanation or description. Repeat calculations to ensure that you have not made a mistake.

50 Warm-up/Foundation Questions

Opening Window

To enlighten your fundamental/basic topic knowledge.

A+. If you score 45 or above marks, move to the next section confidently.

A. If you score between 40 and 45 marks, it is satisfactory. Bit more knowledge will bring excellent result.

B. If you score below 40, kindly go through the topic more seriously.

Section A (50 marks) **Time given – 50 minutes + 5 minutes for revision**

Questions 1 to 50 carry 1 mark each.

Given one of them is the correct answer make your choice and write its name (a, b, c or d) in the answer box provided.

1. Find the complement of 50°.

(a) 60° (b) 40°

(c) 90° (d) 72°

T – 1 min
S – Lines and angles

Ans.

2. In ΔPQR, $\angle P = 60°$, $\angle Q = 90°$. Find $\angle R$.

(a) 30° (b) 90°

(c) 60° (d) 45°

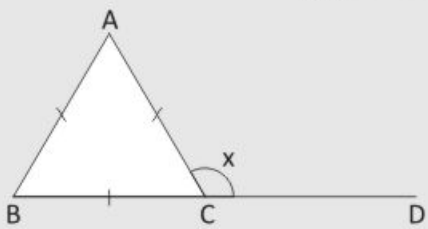
T – 1 min
S – Lines and angles

Ans.

3. Find x.

(a) 60° (b) 90°

(c) 120° (d) None of these



T – 1 min
S – Lines and angles

Ans.

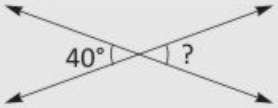
4. Find the length of the hypotenuse of the triangle with two sides of length $a = 15$ cm and $b = 8$ cm.

(a) 8 cm (b) 15 cm

(c) 17 cm (d) 14 cm

T – 1 min
S – Lines and angles

Ans.

5. 

T – 1 min
S – Lines and angles

(a) 140° (b) 50°
(c) 40° (d) 160°

Ans.

6. Find the length of the largest pole that can be placed in a hall 10 m long, 10 m wide, and 5 m height.

(a) 10 cm (b) 15 cm
(c) 13 cm (d) 9 cm

T – 1 min
S – Lines and angles

Ans.

7. Two supplementary angles differ by 50°. The measure of the large angle is

(a) 480° (b) 130°
(c) 144° (d) 158°

T – 1 min
S – Lines and angles

Ans.

8. If $10x - 30 = 40$ find x.

(a) 70 (b) 7
(c) 9 (d) 1

T – 1 min
S – Simple equations

Ans.

9. If $2(x + 3) = 12$ find x.

(a) 4 (b) 8
(c) 5 (d) 3

T – 1 min
S – Simple equations

Ans.

10. Find a number, such that one fifth of the number in 3 more than 9.

(a) 40 (b) 60
(c) 30 (d) 90

T – 1 min
S – Simple equations

Ans.

True or False

11. Two angles are said to be complementary if the sum of their measure is 180°.

T – 1 min
S – Lines and angles

Ans.

12. If two lines intersect each other then the vertically opposite angles are equal.

T – 1 min
S – Lines and angles

Ans.

13. A line which intersects two or more lines at distinct points is called parallel lines.

T – 1 min
S – Lines and angles

Ans.

14. The distance between parallel lines remains the same everywhere.

T – 1 min
S – Lines and angles

Ans.

15. The distance between two parallel lines remains the same every where.

T – 1 min
S – Lines and angles

Ans.

16. If $12x - 4 = 8$ then $x = 3$

T – 1 min
S – Simple equations

Ans.

17. If $3m = 18$ then $m = 6$

T – 1 min
S – Simple equations

Ans.

18. If $\frac{m}{2} = 4$ then $m = 8$

T – 1 min
S – Simple equations

Ans.

19. If $3x + 9 = 9$ then $x = 0$

T – 1 min
S – Simple equations

Ans.

20. If $2x+3=9$ then $x=4$

T	– 1 min
S	– Simple equations

Ans.

Fill in the blanks

21. When the sum of the measures of two angles is 90°, the angles are called _____ angles.

T	– 1 min
S	– Lines and angles

Ans.

22. An exterior angle of a triangle is equal to the sum of its _____ opposite angles.

T	– 1 min
S	– Lines and angles

Ans.

23. A line segment is symmetrical about its _____ .

T	– 1 min
S	– Lines and angles

Ans.

24. A line which intersects two or more lines at distinct point is called a _____ .

T	– 1 min
S	– Lines and angles

Ans.

25. Of all the line segment that can be drawn to a given line from a given point outside it, the _____ is the shortest.

T	– 1 min
S	– Lines and angles

Ans.

26. If $-2(x+4)=4$ then $x=$ _____.

T	– 1 min
S	– Simple equations

Ans.

27. An equation remains the _____, when the expressions on the left and on the right are interchanged.

T – 1 min
S – Simple question

Ans.

28. $4x+9=3x+6+\square+\square$

T – 1 min
S – Simple question

Ans.

29. $\frac{m}{2}+9=\frac{m}{4}+6+\square+\square$

T – 1 min
S – Simple question

Ans.

30. The sum of four times n and 12 in 45.

T – 1 min
S – Simple question

Ans.

For each questions, four options are given. One of them is the correct answer. Make your choice and then write its number (a, b, c or d) in the box provided.

31. $\frac{7x+3}{2}=19$, then $x=?$

T – 1 min
S – Simple question

(a) 3 (b) 4
(c) 5 (d) 6

Ans.

32. $\frac{x+8}{4}=2$, then $x=?$

T – 1 min
S – Simple question

(a) 0 (b) 1
(c) 2 (d) 3

Ans.

33. $\frac{x}{7}-2=5$, then $x=?$

T – 1 min
S – Simple question

(a) 45 (b) 46
(c) 48 (d) 49

Ans.

34. $\frac{y}{3}-7=2$, then $y=?$

T – 1 min
S – Simple question

(a) 27 (b) 30
(c) 35 (d) 50

Ans.

35. $\frac{x-5}{4}=7$, then $x=?$

T – 1 min
S – Simple equations

(a) 30 (b) 33

(c) 36 (d) 39

Ans.

Questions 36–40. State whether a given pair of terms are like/unlike term.

36. 1, 100

T – 5 min
S – Simple equations

Ans.

37. $-7x, \frac{-5}{2}x$

Ans.

38. $4m^2p, 4mp^2$

Ans.

39. $7pq, 14p$

Ans.

40. $-xy^2, 2xy^2$

Ans.

41. ΔPQR is isosceles triangle with $PQ = PR$. If $\angle P$ is twice the measure of $\angle Q$, find the measure of all the angles of the triangle.

T – 1 min
S – Lines and angles

Ans.

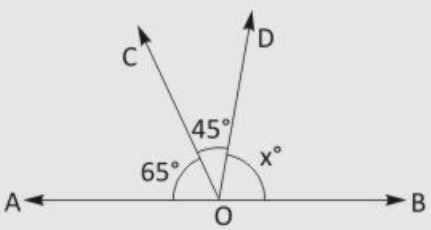
42. Two angles of a quadrilateral are of measure 65° each. The third angle measures 135°. Find the value of the fourth angle.

T – 1 min
S – Lines and angles

Ans.

43. In the figure, AOB is a straight line and the ray OC and OD stand on it. If $\angle AOC = 65°$, $\angle COD = 45°$, find x.

T – 1 min
S – Lines and angles



Ans.

44. Write a number which is 5 less than 2.

T – 1 min
S – Simple equations

Ans.

45. A number is 3 more than x. Write the number.

T – 1 min
S – Simple equations

Ans.

46. The sum of two numbers is y. If one number is 4 then the other number is

T – 1 min
S – Simple equations

Ans.

47. If 4 is added to x, it becomes z. Write z in terms of x.

T – 1 min
S – Simple equations

Ans.

48. If y is subtracted from x, it becomes z. Write z in terms of x.

T – 1 min
S – Simple equations

Ans.

State which of the following are monomials, binomials and trinomials.

49. $4x - 3y$

T – 2 min
S – Simple equations

Ans.

50. $x+y+2$

Ans.

30 Regular Questions

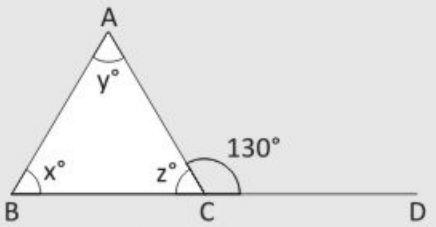
Opening Window

To enlighten your regular knowledge of topic. If you score more than 55 marks here, you have achieved this level brilliantly. Move to the next level of test papers.

Section B (60 marks) **Time given – 45 minutes + 5 minutes for revision**
Questions 51 to 80 carry 2 marks each.

51. In the given figure, $x:y = 2:3$ and $\angle ACD = 130°$. Find the values of x, y and z.

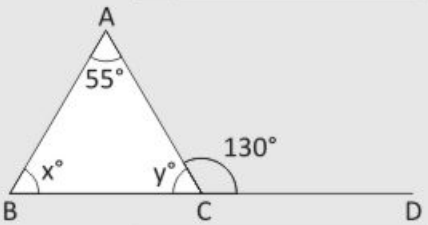
T – 1 min
S – Lines and angles



Ans.

52. Find the values of x and y.

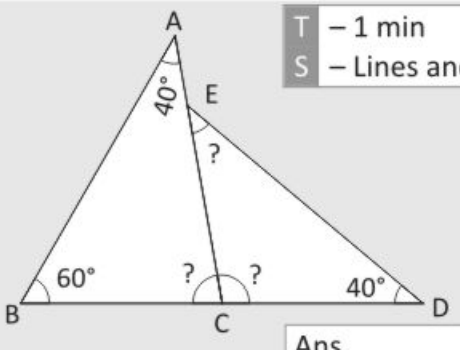
T – 1 min
S – Lines and angles



Ans.

53. Find the angles with mark.

T – 1 min
S – Lines and angles

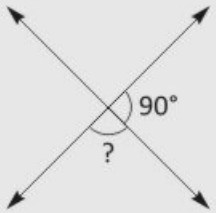


Ans.

Questions 54–59. Identify whether the marked angles in each of the figure are adjacent or not if not, why? Are the angles marked 1 and 2 adjacent?

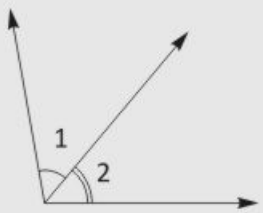
54. Find the angle.

T – 6 min
S – Lines and angles



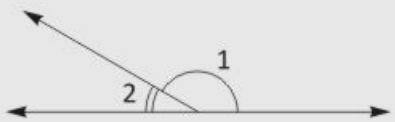
Ans.

55.



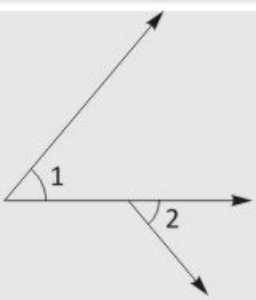
Ans.

56.



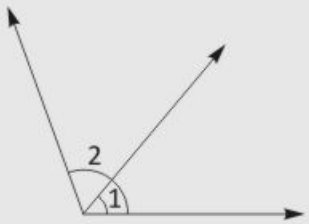
Ans.

57.



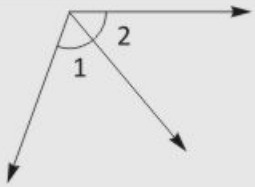
Ans.

58.



Ans.

59.

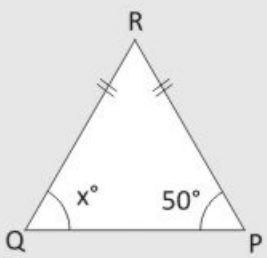


Ans.

Questions 60–64. Find the angle x in each figure.

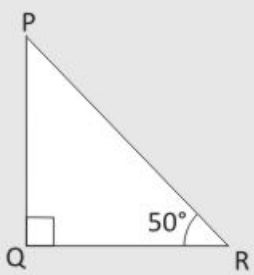
T – 5 min
S – Lines and angles

60.



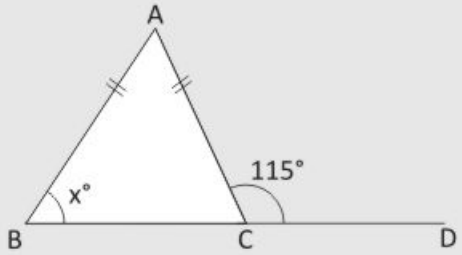
Ans.

61.



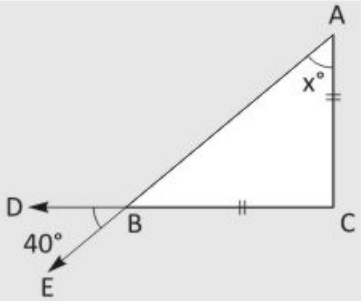
Ans.

62.



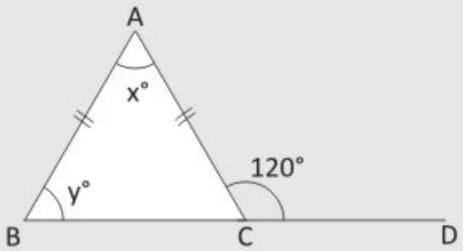
Ans.

63.



Ans.

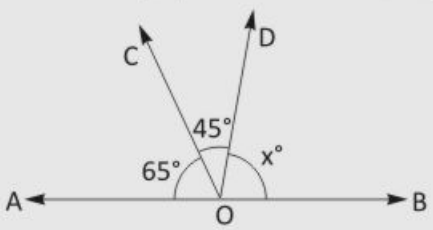
64.



Ans.

65. In the figure, AOB is a straight line and the ray OC and OD stand on it. If $\angle AOC = 65°$, $\angle COD = 45°$, find x.

T – 1 min
S – Lines and angles



Ans.

Write the following equations

66. Taking away 9 from y gives 8

T – 2 min
S – Simple equations

Ans.

67. Six times a number x is 21.

T – 2 min
S – Simple equations

Ans.

68. Add 9 to three times x to get 2.

T – 2 min
S – Simple equations

Ans.

69. You get 5, when you subtract 2 from one fifth of number p.

T – 2 min
S – Simple equations

Ans.

Match the following

T – 8 min
S – Simple equations

	Column A	***Column B***
70.	The sum of x and 5 is 9	(i) $\frac{x}{5}-8=3$
71.	One third of a number plus 5 is 9	(ii) $3x+12=92$
72.	One fifteenth of x is 3 more then 8	(iii) $x+5=9$
73.	Sum of three times x and 12 is 92	(iv) $\frac{x}{3}+5=9$

Solve the following equation and check your results:

74. $x-6=8$

T – 6 min
S – Simple equations

Ans.

75. $x+9=11$

Ans.

76. $x-\frac{2}{7}=\frac{5}{7}$

Ans.

Questions 77–78. When $x=-1$. Find the value of the following expression.

77. $2x-7$

T – 4 min
S – Simple equations

Ans.

78. $2x^2-x-2$

Ans.

79. Simplify the expression $3(x+2)+5x-7$

T – 2 min
S – Simple equations

Ans.

80. Express in the standard form

Solve $\frac{3}{4}y + 3 = 21$

T – 2 min
S – Lines and angles

Ans.

20 Thinking Ability Questions

Opening Window

To enlighten your regular knowledge of topic. If you score more than 50 marks here, you have achieved this level brilliantly. Move to the next level of test papers.

Section C (60 marks) **Time given – 45 minutes + 5 minutes for revision**

81. Four-fifth of a number is more than three-fourth of the number by 4. Find number.

T – 1 min
S – Simple equations

Ans.

82. Siddharth left one-half of his property for his son, one-fifth for his daughter, and the remainder for his wife. If wife's share in the property was worth Rs. 288000. Find the total worth of Siddharth's property.

T – 1 min
S – Simple equations

Ans.

83. Present age of Sonu's mother is six times sonu's age. Five years hence, her age will be 20 years more than that of Sonu's age. Find their present age.

T – 1 min
S – Simple equations

Ans.

84. A number is four less than three times another. If their sum is increased by five, the result is twenty-five. Find the numbers.

T	– 2 min
S	– Simple equations

Ans.

85. Rekha is three years older than Anita. Five years ago Rekha's age was four times Anita's age. Find the ages of Anita and Rekha.

T	– 2 min
S	– Simple equations

Ans.

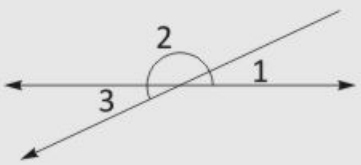
86. After 15 years, Neha's age will become four times that of her present-age. Find her present age.

T	– 2 min
S	– Simple equations

Ans.

87. In the given figure, if $\angle 1 = 30^\circ$ find $\angle 2$ and $\angle 3$.

T	– 2 min
S	– Lines and angles



Ans.

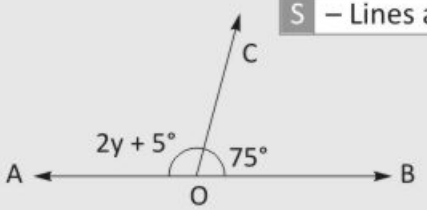
88. Give an example for vertically opposite angles in your surroundings.

T – 2 min
S – Lines and angles

Ans.

89. Find y ?

T – 2 min
S – Lines and angles



Ans.

Identify which of the following pairs of angles are complementary and which are supplementary.

90. 65°, 115°

T – 2 min
S – Lines and angles

Ans.

91. 112°, 68°

T – 2 min
S – Lines and angles

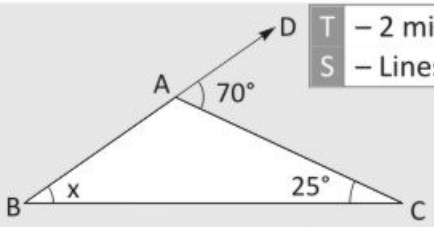
Ans.

92. The total number of students in a school is 1260. If the number of girls is 52 more than that of the boys, then find the number of boys in the school. Also find the number of girls.

T – 2 min
S – Simple equations

Ans.

93. Find x?

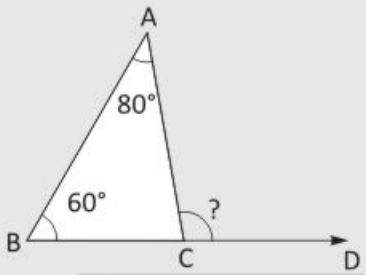


T – 2 min
S – Lines and angles

Ans.

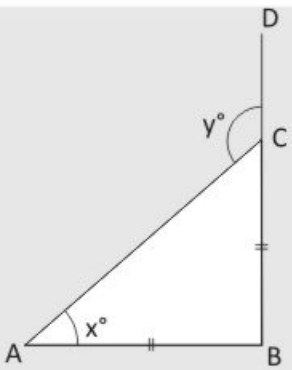
94. Find $\angle ACD$?

T – 2 min
S – Lines and angles



Ans.

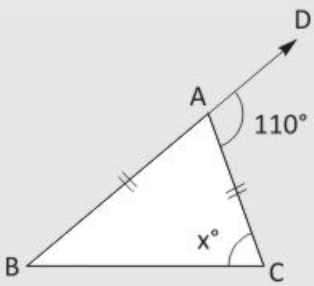
95. Find x and y.



T – 3 min
S – Lines and angles

Ans.

96. Find x.



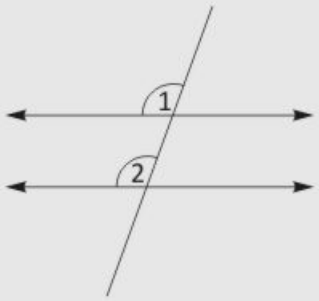
T – 3 min
S – Lines and angles

Ans.

Questions 97–100. Name the pair of angles in each figure.

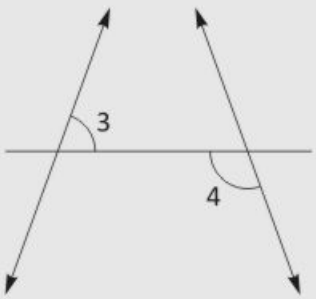
T – 12 min
S – Lines and angles

97.



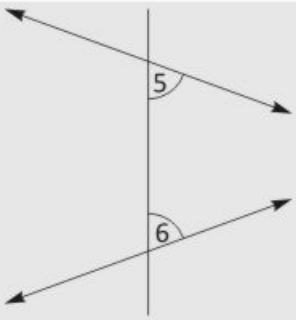
Ans.

98.



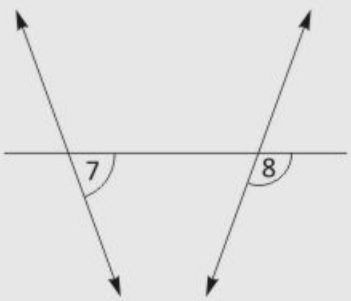
Ans.

99.



Ans.

100.



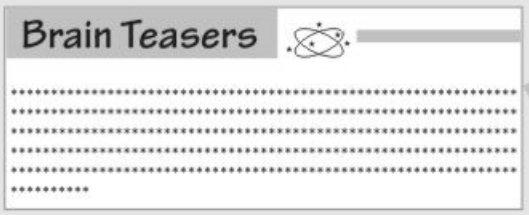
Ans.

Tools at a glance

Opening Window with instructions for your potential analysis and guideline to improve your performance.

Let's Chat, the feature with suggestive topics for discussion so as to improve your capacity to debate on various topics.

Box with time break-up of questions **(T)** and its concept (**S**, i.e., subject)



Brain Teasers i.e., Questions with difference to make the concepts of students crystal clear. These are the questions with higher difficulty levels to check the grip of the students over the concepts.

Extra Diet, the web link, the notation: www._____ to provide additional information regarding the concept for more clarity of thoughts.

CBSE GRADING PATTERN

As the new pattern includes **CCE** (Continuous and Comprehensive Evaluation) which will be run in two terms i.e., from April to September and October to March. Thus the school will conduct four **Formative** and two **Summative** Assessments.

However, the most generalised version of grades is given below:

MARKS PERCENTAGE	GRADE	GRADE POINT	CATEGORY
91 to 100	A1	10	Exceptional
81 to 90	A2	9	Excellent
71 to 80	B1	8	Very Good
61 to 70	B2	7	Good
51 to 60	C1	6	Ordinary
41 to 50	C2	5	Average
33 to 40	D	4	Below Average
21 to 32	E1	3	Improvement Needed
Below 20	E2	Below 2	Unsatisfactory