SUMMATIVE ASSISEMENT – 1, JANUARY - 2022

MATHEMATICS PAPER – 1

(Modal Paper – 2)

Class: 8th **Max. Marks: 80 (PART A & B)** **Time: 2hr 45 min**

PART – A

Instructions to students:

1. **The question paper comprises of three sections I, II,III.**
2. **There is an internal choice to the questions in Section – 111**
3. **Write all questions visible and legibly.**
4. **15 Minutes are given for reading the question paper and 2hr 30 min given for writing answers.**

Section – 1

Note: 1. Answer all the questions

2. Each question carries 2 mark. **4 × 2 = 8 M**

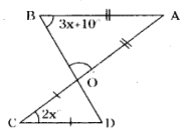
1. Find a rational number between $\frac{1}{3}$ and $\frac{1}{2}$.
2. Write any two differences between a Rhombus and a square?
3. "Size of the bacteria is 0.0000004 m". Express this information in standard form.
4. Write the formula for calculating amount with compound interest and explain the terms in the formula?

Section – II

Note: 1. Answer all the questions.

2. Each question carries 4 marks. **5 × 4 = 20 M**

5. Find two integers A and B such that, A < $\frac{29}{5}$ < B, and represent them on a number line?
6. A table was sold for Rs. 2142 at a gain of 5%. At what rate should it be sold to gain 10%?
7. Simplify and give reasons $\left[\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3}\right] \div \left(\frac{1}{5}\right)^{-2}$.
8. Find 'x' in the adjacent figure.



9. Complete the following table by writing 'Yes' if the property holds and 'No' if property does not hold?

Property	Parallelogram	Rectangle	Rhombus	Square
Opposite sides are parallel				
Diagonal are equal				

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Section – III

Note: 1. Answer all the questions.

2. Each questions carries 8 marks.

3. There is internal choice for each question. **4 × 8 = 32 M**

10. Take three rational numbers $\frac{1}{2}, \frac{1}{4}\ and\ \frac{1}{8}$ and check whether the following properties satisfy under subtraction. Give reasons for your answers.

    a) Closure b) Associative c) Commutative d) Distributivity of multiplication over addition.

    OR

    Calculate compound interest on Rs. 1000 over a period of 1 year at 10% per annum, if intrest is compounded quarterly?

11. Two equal sides of a triangle are each 5 metres less than twice the third side. If the perimeter of the triangle is 55 m, find the length of its sides?

    OR

    The present age of Vijaya's mother is four times the present age of Vijaya. After 6 years the sum of their ages will be 62 years. Find the present age of Vijaya?

12. Simplify:

    A) $(4^0 + 5^{-1}) \times 5^2 \times \frac{1}{3}$ B) $(2^{-1} + 3^{-1} + 4^{-1}) \times \frac{3}{4}$.

    OR

    The cost price of a book is Rs. 1500, marked price of the book is Rs. 2000 and discount percent is 15%. Then

    A) Find the discount amount?

    B) Find the selling price of the book?

    C) Find profit/ loss on the book?

    D) Find profit/ loss percent on the book?

13. Construct a quadrilateral ABCD in with AB = 5 cm, ∠ A = 60^0, ∠ B = 120^0, BC = 4.5 cm and AD = 4.5 cm. what type of quadrilateral is this? Find ∠ C and ∠ D? write the steps of construction.

    OR

    Draw a rhombus ABCD in which diagonals AC = 8 cm and BD = 6 cm. Find the length of side of the rhombus?

Time: 30 Mins. **PART – B** **Marks:20**

Instructions:

1. Answer All the questions. 20 × 1 = 20 M
2. Each question has 4 options. Write the capital letter indicating the answer in the given brackets.
3. Marks are not awarded for over writing answers.
4. Each question carries 1 mark.

14. If market price = Rs. 20, discount = Rs. 2 then discount % is _____ [ ]

A) 5% B) 10 % C) 15 % D) 20 %

15. The rational number between 'a' and 'b' is _____ [ ]

A) $\frac{ab}{2}$ B) $\frac{a+b}{2}$ C) $\frac{a}{b}$ D) ab

16. The value of 'x' in $4x - \frac{5}{3} = 9$ is _____ [ ]

A) $\frac{22}{12}$ B) $\frac{32}{12}$ C) $\frac{58}{12}$ D) $\frac{128}{12}$

17. Choose the correct answer following. [ ]

Statement P: The compound ratio of a:b and c:d is ad : bc

Statement Q: The inverse ratio of a : b is $\frac{1}{a} : \frac{1}{b}$

A) P true, Q false B) P false, Q true C) Both P, Q are true D) Both P, Q are false

18. If $5^x = 1$, then value of 'x' is _____ [ ]

A) $\frac{1}{2}$ B) 1 C) 0 D) – 1

19. Which of the following is not correct among the given _____ [ ]

A) $(x^{-3})^2 = x^{-6}$ C) $x^{-2} = \sqrt{x}$

B) $\frac{x^{-3}}{x^{-2}} = \frac{1}{x}$ D)$x^{-3} \times x^{-5} = x^{-8}$

20. The ratio between the number of vowel and the number of consonants in ÄLERT" is [ ]

A) 2 : 3 B) 3 : 2 C) 1 : 4 D) 5 : 1

21. If diagonals of a parallelogram are equal then it is _____ [ ]

A) Rectangle B) Square C) Rhombus D) Trapezium

22. $(2^0 - 3^0) \times 4^0$ = _____ [ ]

A) $(24)^0$ B) $(-4)^0$ C) 0 D) Both A & B

23. Match the following. [ ]

A. $\frac{x}{2} + \frac{x}{3} = 5$ then 'x' = ( ) i) 4

B. 2x – 3 = 7 then 'x' = ( ) ii) 5

C. 2^{x+1} = 32 then 'x' = ( ) iii) 6

A) A – i, B – ii, C – iii B) A – iii, B – ii, C – i C) A – iii, B – i, C – ii D) A – iii, B – i, C – i

24. Which of the following is a linear equation? [ ]

A) x + 3 = 0 B) x + y = 3 C) Both A & B D) None of these

25. The distance between two places was 200 km. it was measured as 280 km. The percentage of error is _____ [ ]

A) 20 % B) 40 % C) 45 % D) 80 %

26. The product of a number and its reciprocal is _____ [ ]

A) 0 B) 1 C) 2 D) the same number.

27. In a parallelogram ABCD, $\angle C$ - $\angle A$ = _____ [ ]

A) 45^0 B) 90^0 C) 180^0 D) None of these

28. If two complementary angles are differ by 12^0, then the angles are _____ [ ]

A) 45^0, 45^0 B) 60^0, 30^0 C) 51^0, 39^0 D) 59^0, 31^0

29. Assertion: All parallelograms are rectangles.

Reason: A rectangle satisfies the properties of a parallelogram. [ ]

A) Assertion and reason are true and reason is the correct explanation of assertion.

B) Assertion and reason are true but reason is not the correct explanation of assertion.

C) Assertion is true but reason is false.

D) Assertion is false but reason is true.

30. Which of the two rational numbers lies in between 2 and 3? [ ]

A) $\frac{5}{2}$, $\frac{7}{2}$ B) $\frac{7}{2}$, $\frac{5}{3}$ C) $\frac{11}{4}$, $\frac{7}{2}$ D) $\frac{5}{2}$, $\frac{11}{4}$

31. Sum of two numbers is 29. If one of the numbers is 'x' , then the other one is [ ]

A) x + 29 B) x – 29 C) x × 29 D) none of these

32. 1m = 100 cm, then which of the following is correct? [ ]

A) 1sq.m = 100 sq.cm C) 1sq. m = 10000 sq. cm

B) 100sq.m = 10000 sq. cm D) 10000 sq. m = 10000 sq. cm

33. If ACBD is a rectangle, then which of the following is correct? [ ]

A) AC = BD B) AB = CD C) AD = AC D) AB = BC