



ITL PUBLIC SCHOOL

ANNUAL EXAMINATION (2023-24)

Date: 28.02.2024

Class: VII

MATHEMATICS (041) – SET A

Time: 3hrs

M. M: 60

General Instructions:

- This Question Paper has 5 sections A-E.
- Section A has 12 VSA questions 1 mark each.
- Section B has 6 questions carrying 02 marks each.
- Section C has 4 questions carrying 03 marks each.
- Section D has 4 questions carrying 04 marks each.
- Section E has 2 case based integrated units of assessment (04 marks) with subparts of the values of 1, 1 and 2 marks respectively.
- All Questions are compulsory. However, an internal choice in two questions of 4 marks, two questions of 3 marks and two questions of 2 marks has been provided. An internal choice has been provided in the 2 marks subpart of the questions of section E.

SECTION – A

- | | | |
|-----|--|---|
| 1. | Find the mean of first three even numbers. | 1 |
| 2. | Find the solution for the equation $y + 1 = 0$. | 1 |
| 3. | The width of a rectangle is 3 cm and its length is 5 cm. Find its area. | 1 |
| 4. | Find the value of x: 70% of $x = 14$. | 1 |
| 5. | Find the value of $(-5) \times (-6) \times (-7)$. | 1 |
| 6. | Find the additive inverse of 9. | 1 |
| 7. | Evaluate $(-31) \div [(-30) + (-1)]$ | 1 |
| 8. | Identify term having variable in $5x - 3$ and write its numerical coefficient. | 1 |
| 9. | Write down a pair of integers whose sum is -5 . | 1 |
| 10. | Write the exponential form of 100000. | 1 |

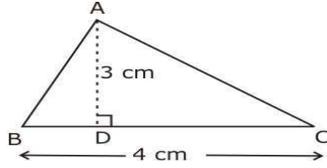
Directions:

Each of these questions contains an Assertion followed by Reason. Read them carefully and answer the question on the basis of following options. You have to select the one that best describes the two statements.

- (a) If both Assertion and Reason are correct and Reason is the correct explanation of Assertion.
- (b) If both Assertion and Reason are correct but Reason is not the correct explanation of Assertion.
- (c) If Assertion is correct but Reason is incorrect.
- (d) If Assertion is incorrect but Reason is correct
- | | | |
|-----|--|---|
| 11. | Assertion: $5 \times 0 = 0$.
Reason: Any number multiplied with zero is zero only. | 1 |
| 12. | Assertion: Simplifying the value $2^0 + 2$ gives 3
Reason: An exponential rule says $2^0 = 1$ | 1 |

SECTION – B

13. Find the area of given triangle. 2



14. A plane is flying at the height of 5000 m above the sea level. At a particular point, it is exactly above a submarine floating 1200 m below the sea level. What is the vertical distance between them? 2

OR

Verify $a - (-b) = a + b$ for $a = 21$ and $b = 18$.

15. Identify the greater number: 4^3 or 3^4 2

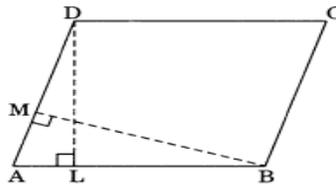
OR

Express 192 as a product of prime factors only in exponential form.

16. Raju's father's age is three times Raju's age. Find Raju's present age, if his father age is 36 years. 2
17. Reena's mother said, to make idlis, you must take three parts rice and two parts urad dal. What percentage of such a mixture would be rice and what percentage would be urad dal? 2
18. Represent a rational number $\frac{2}{3}$ on the number line. 2

SECTION – C

19. DL and BM are the heights on sides AB and AD respectively of parallelogram ABCD. If the area of the parallelogram is 1470 cm^2 , $AB = 35 \text{ cm}$ and $AD = 49 \text{ cm}$, find the length of BM and DL. 3



20. What must be subtracted from $3x^3 - 5x^2 - x + 2$ to get $4x^3 + 3x - 5$. 3
21. Check whether the value given in the brackets is a solution to the given equation or not: 3
- (i) $n + 5 = 19$; ($n = 1$)
- (ii) $4p - 3 = 13$; ($p = 0$)
- (iii) $2m = 0$; ($m = 0$)

OR

The sum of three consecutive multiples of 2 is 18. Find the numbers.

22. Rs. 7,000 is borrowed at 3.5% rate of interest p.a. for 2 years. Find the amount to be paid at the end of the second year. 3

OR

Rashmi obtains 480 marks out of 600. Rajan obtains 560 marks out of 700. Whose performance is better?

SECTION – D

23. Ratio of length and breadth of a rectangle is 3:2. If the length of the rectangle is 5 m more than the breadth, find the perimeter of the rectangle. 4

OR

Anand took a wire of length 44 cm and bent it into the shape of a circle. Find the radius of that circle. Also, find its area. If the same wire is bent into the shape of a square, what will be the length of each of its sides? Also, find its area. Which figure encloses more area the circle or the square?

24. Add $3x^2 - 5y - 2xy + 5$ and $5y - 3x^2 + xy$. Also, find the value of the result if $x = -1, y = 1$. 4
 25. Find: 2+2

(i) $\frac{5}{6} + \left(\frac{-8}{5}\right)$

(ii) $\frac{2}{13} \times \frac{52}{64}$

26. Express the following numbers in standard form. 4
 (i) 70000 (ii) 8,19,00,000 (iii) 580000 (iv) 0.00002

OR

Simplify: (i) $2^0 \div 4^2$

(ii) $2^3 - 2^2$

SECTION – E (Case Studies)

27. Two hundred students of 6th and 7th classes were asked to name their favourite colour so as to decide upon what should be the colour of their school building. The results are shown in the following table.

Favourite Colour	Red	Yellow	Blue	Green	Pink
Number of Students	43	19	55	49	34

Answer the following questions with the help of table:

- (i) Which is the most preferred colour? 1
 (ii) Which is the least preferred colour? 1
 (iii) Find the range of number of students. 2

OR

Find the mean of number of students.

28. A trader bought 25 boxes of soap from a retailer at Rs. 180 per box. If each box contains 12 bars of soaps and the trader sells the soap piece at Rs. 18 per bar.

Based on above information answer the following questions:

- (i) Find the C.P. of 25 boxes. 1
 (ii) Find profit % or loss% on this transaction. 1
 (iii) Find the number of soap bars in 25 boxes. 2

OR

Find selling price of 25 boxes and profit amount.