

2021
Class VIII (Phase-2)
MATHEMATICS

Total marks : 40

Time : 1½ hours

General Instructions:

i) Approximately 8 minutes is allotted to read the question paper and revise the answers.

ii) The question paper consists of 13 questions.

iii) All questions are compulsory.

iv) Internal choice has been provided in some questions.

v) Marks allocated to every question are indicated against it.

N.B: Check to ensure that all pages of the question paper is complete as indicated on the top left side.**Section - A**

1. Choose the correct answer from the given alternatives.

(a) The ratio 3 : 4 converted to percentage is 1

- (i) $\frac{3}{4}\%$ (ii) $\frac{400}{3}\%$ (iii) 50% (iv) 75%

(b) The area of the rhombus whose diagonals are 7.5 cm and 12 cm is 1

- (i) 19.5 cm² (ii) 39 cm² (iii) 45 cm² (iv) 900 cm²

(c) The volume of a cuboid of length l , breadth b and height h is 1

- (i) lbh (ii) $lb + bh + hl$
(iii) $2(lb + bh + hl)$ (iv) $2(l + b)h$

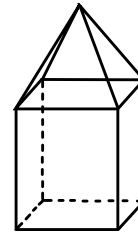
(d) 6020000000000000 is equal to 1

- (i) 6.02×10^{-15} (ii) 6.02×10^{15}
(iii) 602×10^{15} (iv) 6.02×10^{-1}

(e) x and y are in inverse proportion if 1

- (i) $\frac{x}{y} = k$ (ii) $xy = k$ (iii) $x + y = k$ (iv) $x - y = k$

Section – B2. Find the cube root of 13824 by prime factorisation method. 2



- 3. Verify Euler's formula for the adjoining solid: 2
- 4. Factorise: $am^2 + bm^2 + bn^2 + an^2$ 2
- 5. Find the digits A and B: 2

$$\begin{array}{r} 3 \quad A \\ + 2 \quad 5 \\ \hline B \quad 2 \end{array}$$

Section – C

- 6. **a.** Calculate the amount and compound interest on ₹62,500 for $1\frac{1}{2}$ years at 8% per annum compounded half yearly. 3
Or
- b.** The cost of an article was ₹15,500. ₹450 were spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.
- 7. Simplify: $\frac{25 \times t^{-4}}{5^{-3} \times 10 \times t^{-8}}$, ($t \neq 0$) 3
- 8. **a.** A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours? 3
Or
- b.** A factory requires 42 machines to produce a given number of articles in 63 days. How many machines would be required to produce the same number of articles in 54 days?
- 9. **a.** Factorise the expression: $p^2 + 6p + 8$ 3
Or
- b.** Factorise the expression and divide it: $(5p^2 - 25p + 20) \div (p - 1)$
- 10. Draw the line passing through (2, 3) and (3, 2). Find the coordinates of the points at which this line meets the x-axis and y-axis. 3

Section -D

11. **a.** Fabina borrows ₹12,500 at 12% per annum for 3 years at simple interest and Radha borrows the same amount for the same time period at 10% per annum, compounded annually. Who pays more interest and by how much?

Or

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- b.** A VCR and TV were bought for ₹8,000 each. The shopkeeper made a loss of 4% on the VCR and a profit of 8% on the TV. Find the gain or loss percent on the whole transaction.

12. **a.** A suitcase with measures 80 cm × 48 cm × 24 cm is to be covered with a tarpaulin cloth. How many metres of tarpaulin of width 96 cm is required to cover 100 such suitcases?

Or

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- b.** The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m² is ₹4

13. A godown is in the form of a cuboid of measures 60 m × 40 m × 30 m. How many cuboidals boxes can be stored in it if the volume of one box is 0.8m³? **4**
