

**SAMPLE PAPER, TERM – II**  
**SESSION 2019–20**  
**MATHEMATICS**  
**CLASS – VIII**

**Time – 3 Hours**

**M. Marks – 80**

**General Instructions:-**

1. All questions are compulsory.
2. The question paper consist of 30 questions, divided into four sections A, B, C and D.
3. Section A contains 6 questions of 1 mark each.  
Section B contains 6 questions of 2 marks each.  
Section C contains 10 questions of 3 marks each.  
Section D contains 8 questions of 4 marks each.
4. Write the serial number of the question before attempting it.
5. There is no overall choice although internal choice is given in the sections C and D.

**SECTION – A**

1. Find a rational number between  $-1$  and  $1$ . (1)
2. Find the solution of the equation  $ax + b = 0$  (1)
3. Multiply  $2p^2q^3$  by  $\frac{1}{2}(pq)^3$ . (1)
4. Find the root of 64 by repeated subtraction method. (1)
5. How the quantities, number of workers and time taken by them to complete the given work, are related to each other; directly or inversely ? (1)
6. Write the coordinates of a point whose perpendicular distance from  $x$ -axis and  $y$ -axis are 3 unit and 4 unit respectively. (1)

**SECTION – B**

7. By what number should  $\frac{-28}{15}$  be divided to get  $\frac{-7}{5}$ ? (2)
8. From a rope 12 m long, two pieces of length  $\frac{3}{2}$  m and  $\frac{2}{5}$  m are cut off. What is the length of the remaining piece of rope? (2)
9. Factorise :  $x^2 - 16x + 28$ . (2)
10. Solve :  $\frac{x-2}{3} = \frac{x-1}{4} - 2$  (2)
11. The length of a rectangle is 15 cm greater than its breadth. Its perimeter is 150 cm. Find the dimensions of the rectangle. (2)
12. The circumference of the base of a cylinder is 88 cm and its height is 15 cm. Find the volume of the cylinder. (2)

**SECTION – C**

**13.** Divide the sum of  $\frac{-12}{15}$  and  $\frac{-28}{5}$  by the product of  $\frac{-2}{5}$  and  $\frac{31}{7}$  (3)

**14.** Sum of two numbers is 45 and their ratio is 7:8. Find the numbers. (3)

**OR**

Two numbers are such that the ratio between them is 3:5. If each is increased by 10, the ratio between the new numbers so formed is 5:7. Find the original numbers.

**15.** 7056 students are standing in stadium in such a manner that there are as many students in a row as there are rows in the stadium. How many rows are there in the stadium?

**16.** Find the least number which must be added to 5608 to make a perfect square.

**17.** Find smallest five digit number which is a perfect square and also find the square root of the number.

**18.** Evaluate using suitable identity : (3)

(a)  $93 \times 107$                       (b)  $(32)^2$

**19.** A cylindrical vessel open at the top has a diameter of 20 cm and a height of 14 cm. Find the cost of tin plating it on the inner surface at the rate of Re. 1 per 100 cm<sup>2</sup>. (3)

**OR**

A cylindrical vessel open at the top has a base radius 10.5 cm and height 14 cm. Find the cost of painting on the inner surface area of the vessel at the rate of 10 paise per cm<sup>2</sup>.

(3)

**20.** Suruchi has enough money to send 14 parcels each weighing 500 grams. What would be the weight of each parcel, if she has to send 20 parcels for the same money? (3)

**OR**

A man deposited a sum of Rs. 5000 in a bank and earned an interest of Rs. 600 in 2 years. How much would he earn on a deposit of Rs. 8000 for the same time. (Rate of Interest being same)

**21.** Factorise : (3)

(i)  $xy + x + y + 1$                       (ii)  $x^2 - 7x + 12$

**22.** Draw a line passing through the points (2, 4) and (4, 2). Find the co-ordinates of the points at which this line meets the x-axis and y-axis. (3)

**OR**

Draw a line passing through the points (2, 4) and (4, 2). Find the coordinates of the point where it meet  $x$  axis.

**SECTION – D**

- 23.** Four cubes of side 7 cm are joined together to form a cuboid. Find the surface area and volume of resulting cuboid.
- 24.** Factorise the following : (4)
- (a)  $x^4 - y^4$                       (b)  $x^2 + 14x + 49$
- 25.** 1000 soldiers in a fort had enough food for 20 days. But some soldiers were transferred to another fort and food lasted for 25 days. How many soldiers were transferred? (4)
- 26.** A pit  $2\text{m} \times 1.5\text{m} \times 80\text{m}$  was dug. The earth dug out is used to form a platform of height 15 cm. If the length of platform was 12.5 m long, find its width. (4)

**OR**

A cuboidal block of silver is 9 cm long, 4 cm wide and 3.5 cm high. If volume of each bead made from it is  $1.5 \text{ cm}^3$ , find the number of beads that can be made from the block.

- 27.** (i) Which is the smallest number that must be multiplied with 5400 to make it a perfect cube.
- (ii) Find the cube root of 74088. (4)
- 28.** (a) Find the product of  $(xyz + 4)(xyz - 2)$  using suitable identity. (4)
- (b) Find the value of the above product for  $x = -1$  and  $y = -2, z = 2$
- 29.** Draw a linear graph for the given data. (4)
- |     |    |    |    |    |
|-----|----|----|----|----|
| $x$ | 1  | 2  | 3  | 4  |
| $y$ | 15 | 30 | 45 | 60 |
- 30.** A rectangular piece of paper is 44 cm long and 20 cm broad. It is rolled along its length to form a cylinder. Find the volume and curved surface area of the cylinder so formed. (4)

**OR**

A rectangular piece of paper is 44 cm long and 22 cm broad. It is rolled along its breadth to form a cylinder. Find the volume and curved surface area of the cylinder so formed.