GRADE: 7

LESSON: Perimeter and Area

Instructions:

1. The time given at the head of this Paper is the time allowed for writing the answers.
2. You will not be allowed to write during the first 10 minutes. Use this time to read the question paper carefully.
3. Attempt **all questions from Section A** and **any four questions from Section B**.
4. All working, including rough work, must be clearly shown.
5. Omission of essential working will result in loss of marks.

SECTION A (4 × 10 = 40 marks)

(Answer all questions)

1. Choose the correct option:

a) The perimeter of a square of side **7 cm** is:
- (i) 14 cm
- (ii) 28 cm
- (iii) 49 cm
- (iv) 21 cm

b) The formula for the area of a parallelogram is:
- (i) Base × Height
- (ii) ½ × Base × Height
- (iii) Side × Side
- (iv) 2 × (Length + Breadth)

c) If the circumference of a circle is **88 cm**, the radius is:
- (i) 7 cm
- (ii) 14 cm
- (iii) 28 cm
- (iv) 44 cm

d) The area of a triangle with base **8 cm** and height **5 cm** is:
- (i) 40 cm^2
- (ii) 20 cm^2
- (iii) 16 cm^2
- (iv) 10 cm^2

2. Solve the following:

a) A rectangular park is **60 m long** and **40 m wide**. Find its **perimeter** and **area**.

b) The area of a square is **121 cm^2**. Find the length of its **side** and **perimeter**.

c) Convert the following measurements:

- **3.5 km^2** into **m^2**
- **1200 cm^2** into **m^2**

3. Solve the following equations:

a) The perimeter of a **rectangle is 80 cm**. If the **length is 25 cm**, find the **breadth**.

b) A circle has a **radius of 14 cm**. Find its **circumference and area**.

c) The perimeter of a **triangle is 45 cm**. If two sides are **18 cm and 12 cm**, find the **third side**.

4. State whether the following statements are TRUE or FALSE:

a) The perimeter of a parallelogram is **2 × (Base + Height)**.
b) The unit of area is always in **square units**.
c) A rectangle with **length 10 cm and breadth 4 cm** has an area of **14 cm^2**.
d) The area of a **circle with radius 10 cm** is **314 cm^2**.

5. Solve the following problems:

a) Find the **area and perimeter** of a **triangle** with base **12 cm** and height **7 cm**.

b) A **veranda of width 2.5 m** is built around a **room of length 8 m and breadth 5 m**. Find the **area of the veranda**.

c) The **cost of fencing a rectangular plot** of land **50 m long and 30 m wide** is **₹12 per meter**. Find the **total cost**.

SECTION B (4 × 10 = 40 marks)

(Answer any four questions)

6. Graph-Based Question:

A farmer has **three rectangular fields** with the following dimensions:

Field	Length (m)	Breadth (m)
Field A	50 m	40 m
Field B	60 m	30 m
Field C	70 m	35 m

a) Represent this data using a **bar graph**.
b) Which **field has the largest area**?

7. Perimeter and Area Calculations:

a) A **path 3 m wide** is built **around a rectangular garden** of length **20 m** and breadth **15 m**. Find the **area of the path**.

b) A **wire is bent into the shape of a square** with a **side of 25 cm**. Find its **perimeter**. If the same wire is bent into a **circle**, find the **radius** of the circle.

c) A **triangular plot** has sides **30 m, 40 m, and 50 m**. Find its **area using Heron's formula**.

8. Real-Life Application Problems:

a) A **carpet of size 5 m × 3 m** is spread on a **floor of size 7 m × 4 m**. Find the **uncovered area**.

b) The **diameter of a circular park** is **56 m**. A **path 2 m wide** is built around it. Find the **area of the path**.

c) A **circular swimming pool** has a **radius of 14 m**. Find its **circumference and area**.

9. Compound Shapes & Paths:

a) A **rectangular field** of **length 50 m** and **breadth 35 m** has a **semicircular lawn** on one of the shorter sides. Find the **total area** of the **field and the lawn**.

b) A **square park of side 40 m** is surrounded by a **path of width 2 m**. Find the **area of the path**.

c) A **circular table** has a **diameter of 1.2 m**. A **decorative border of width 5 cm** is placed around it. Find the **area of the border**.

10. Higher Order Thinking Skills (HOTS):

a) A **triangular park** has a **base of 24 m** and a **height of 10 m**. If the **cost of planting grass is ₹15 per square meter**, find the **total cost**.

b) A **rectangular plot of land is 20 m wide**. The **cost of fencing it at ₹25 per meter** is **₹6000**. Find the **length of the plot**.

c) A **wheel of a bicycle** has a **radius of 35 cm**. How many **full revolutions** will it make to **cover 2.2 km**?

END OF THE QUESTION PAPER