

## APPENDIX

### ACHIEVEMENT TEST

**Gender:** ☐Female ☐Male

**Total Marks: 20 /Time: 30 minutes**

**Class/Grade Level:**

**School:**

#### **INSTRUCTION:**

Read the following questions carefully and answer according to your true opinion. Mark only one answer for each item. This questionnaire is designed to gather information from teachers and educators for the study titled "**A Study on the Impact of Game-Based Pedagogy on the Achievement of Class 8 Students in Mathematics.**" Please answer all questions honestly. Your responses will be kept confidential and will be used solely for research purposes.

Attempt all questions. Show all necessary steps for full marks. Use of calculator is not allowed. Section A: Objective Type Questions (1 mark each) – [5 Marks]

#### **Section A: Objective Type Questions (1 mark each) – [5 Marks]**

- 1) The area of a square is  $49 \text{ cm}^2$ . What is the length of one side?
  - a) 5 cm
  - b) 6 cm
  - c) 7 cm
  - d) 8 cm
- 2) Which of the following units is used to measure volume?
  - a) cm
  - b)  $\text{cm}^2$
  - c)  $\text{cm}^3$
  - d) m
- 3) The area of a rectangle is  $60 \text{ cm}^2$  and its length is 10 cm. What is its breadth?
  - a) 6 cm
  - b) 5 cm
  - c) 10 cm
  - d) 12 cm

- 4) A circle has a radius of 7 cm. What is its area? (Take  $\pi = 22/7$ )
- a)  $154 \text{ cm}^2$
  - b)  $44 \text{ cm}^2$
  - c)  $100 \text{ cm}^2$
  - d)  $49 \text{ cm}^2$
- 5) The volume of a cube is  $125 \text{ cm}^3$ . What is the length of each edge?
- a) 4 cm
  - b) 5 cm
  - c) 6 cm
  - d) 8 cm

**Section B: Very Short Answer Questions (2 marks each) – [4 Marks]**

- 6) Write the formula to find the surface area of a cube.
- 7) A rectangular box has length = 5 cm, breadth = 4 cm, height = 3 cm. Find its volume.

**Section C: Short Answer Questions (3 marks each) – [6 Marks]**

- 8) A cylindrical can has a radius of 3.5 cm and height 10 cm. Find its curved surface area.  
(Take  $\pi = 22/7$ )
- 9) A square field has a side of 20 m. A path of width 2 m runs around it inside the boundary. Find the area of the path.

**Section D: Long Answer Question (5 marks) – [5 Marks]**

- 10) A rectangular tank is 12 m long, 7 m wide and 3 m high. It is full of water.
- a) Find the volume of water it contains.
  - b) How many litres of water are in the tank? ( $1 \text{ m}^3 = 1000 \text{ litres}$ )
  - c) A game involves pouring water into buckets that hold 15 litres each. How many full buckets can be filled?