

Senior 1 Physics End of 2nd Term Assessment

Student Name:.....Duration: 3 Hours Total Marks: 100

Class:.....

Date:16/03/2026

Section A: Attempt all questions (55 Marks)

Choose the best answer. Each question is worth 2 marks.

1. Which of the following is a fundamental physical quantity?
 - A) Volume
 - B) Mass
 - C) Speed
 - D) Force
2. The SI unit for measuring temperature is:
 - A) Degree Celsius
 - B) Fahrenheit
 - C) Kelvin
 - D) Joule
3. A piece of metal has a mass of 50g and a volume of 10cm³. What is its density?
 - A) 500 g/3m³
 - B) 0.2 g/3cm³
 - C) 5 g/3cm³
 - D) 60 g/3cm³

4. Which state of matter has a definite shape and a definite volume?

A) Liquid

B) Gas

C) Solid

D) Plasma

5. Diffusion occurs fastest in:

A) Solids

B) Liquids

C) Gases

D) Ice

6. The process where a solid turns directly into a gas is called:

A) Melting

B) Evaporation

C) Sublimation

D) Condensation

7. Which of the following is a contact force?

A) Magnetic force

B) Gravitational force

C) Friction

D) Electrostatic force

8. Pressure is defined as:

A) Force /times Area

B) Force / Area

C) Mass / Volume

D) Distance / Time

9. A man weighing 600N stands on both feet. If he lifts one foot, the pressure he exerts on the ground:

A) Decreases

B) Stays the same

C) Doubles

D) Becomes zero

10. Atmospheric pressure is measured using a:

A) Thermometer

B) Barometer

C) Anemometer

D) Manometer

11. According to Archimedes' Principle, upthrust is equal to:

A) The weight of the object

B) The volume of the object

C) The weight of the fluid displaced

D) The density of the fluid

12. A material that allows electricity to flow through it easily is a:

A) Insulator

B) Semiconductor

C) Conductor

D) Plastic

13. Like magnetic poles:

- A) Attract each other
- B) Repel each other
- C) Neutralize each other
- D) Have no effect

14. The center of gravity of a uniform circular hoop is:

- A) On its rim
- B) Outside the hoop
- C) At its geometric center
- D) Non-existent

15. What happens to the particles of a liquid when it is heated?

- A) They slow down
- B) They move closer together
- C) They move faster and further apart
- D) They turn into solids

True or False (5 Marks)

16. Write 'T' for True and 'F' for False. Each question is worth 1 mark.

- a Mass changes depending on the planet you are on.
 - b A clinical thermometer has a constriction to prevent mercury from falling back quickly.
 - c In a series circuit, there is only one path for the current to flow.
 - d Friction always acts in the same direction as the motion.
 - e The SI unit of Force is the Newton (N).
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17. Match the instrument in Column A with the quantity it measures in Column B. (5 Marks)

Column A (Instrument)	Column B (Quantity)
1. Vernier Calliper	A. Current
2. Beam Balance	B. Internal diameter of a pipe
3. Ammeter	C. Liquid Pressure
4. Measuring Cylinder	D. Mass
5. Manometer	E. Volume of a liquid

18. Complete the sentences with the correct word(s). (5 marks)

- a. The three states of matter are solids, liquids, and _____.
- b. _____ is the pull of gravity on an object.
- c. A _____ is a material that does not allow heat or electricity to pass through it.
- d. The turning effect of a force about a pivot is called a _____.
- e. A magnet has two poles: the North pole and the _____ pole.
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19. a) Define "Physics." (2 marks)

b) List four laboratory safety rules. (2 marks)

20. a) Define density. (2 marks)

b) A stone has a mass of 120g. When lowered into a displacement can, it displaces 40cm³ of water. Calculate the density of the stone. (2 marks)

21. Convert **300 K** into Celsius and Fahrenheit. Show all steps clearly. (2 marks)

SECTION B: Attempt any three questions of your choice (30 marks)

22.a) Using the kinetic theory of matter, explain why solids have a fixed shape but liquids do not. (4 marks)

b) Describe Newton's Third Law of Motion and provide one example from sports that demonstrates this law. (6 marks)

23.a) State two effects of a force on an object. (4 marks)

b) Distinguish between a scalar quantity and a vector quantity, giving one example of each. (6 marks).

24.a) State the Law of Flotation. (4 marks)

b) Explain why an iron nail sinks in water, but a large iron ship floats. (6 marks)

25.a) Describe how to make a temporary magnet using the "electrical method." (6 marks)

b) List two uses of magnets in daily life. (4 marks)

26.a) Draw a simple circuit diagram containing a battery, a switch, and two bulbs in parallel. (6 marks)

b) Define an electric current and state its SI unit. (4 marks)

SECTION C: This question is compulsory. (15 marks)

27.Question: A student releases a trolley on a smooth inclined plane and records its velocity at different times. The data obtained is shown below:

Time(s)	Velocity(m/s)
0	0
2	4
4	8
6	12
8	16

(a) Plot a graph of velocity (y-axis) against time (x-axis). (8 marks)

(b) From the graph, determine the acceleration of the trolley.(3 marks)

(c) Explain what the shape of the graph tells you about the motion of the trolley.(4 marks)

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