

MODEL ENTRANCE TEST PAPER

(BRITISH SECTION)

SUBJECT: PHYSICS

Grade: 9

TOTAL MARKS: 25

I. Choose the correct answer:

[10 × 1 = 10 Marks]

1. A spring is stretched by hanging a piece of metal from it. What is the name given to the force that stretches the spring?

- A. friction B. Mass C. Pressure D. Weight

2. Warm water enters a tank of cold water from the side inlet. What happens to the warm water and why?

	Warm water	Why
A	rises	It is less dense than cold water
B	rises	It is more dense than cold water
C	sinks	It is less dense than cold water
D	sinks	It is more dense than cold water

3. The distance between two crests of a wave are called ...

- A. frequency B. amplitude C. Wavelength D. Displacement

4. The molecules of a gas at room temperature

- A. do not move B. Move about randomly
C. move around each other in orbits D. Vibrate about fixed positions

5. Music is produced by the loud speaker of a radio. Which property of the sound waves increases when the music is made louder?

- A. amplitude B. Frequency C. Speed D. Wavelength

6. Two apples are placed on a balance. The balance stays level. What does this show about the mass and the weight of the apples?

	Mass of apples	Weight of apples
A	different	different
B	different	the same
C	the same	different
D	the same	the same

7. A student shouts when standing by a cliff. A short time later the student hears an echo. Which property of sound causes the echo?

- A. diffraction B. Dispersion C. Reflection D. Refraction

8. A person lifts a hot pan from a stove. Although the pan is hot, the handle is cold. What is the handle made of?

- A. aluminum B. Copper C. Iron D. Wood

9. Which two electrical quantities are measured in volts?

- A. current and emf B. Current and resistance
C. emf and potential difference D. Potential difference and resistance

10. In a car engine, energy stored in the fuel is converted into thermal energy (heat energy) and energy of motion (kinetic energy). In which form is the energy stored in the fuel?

- A. chemical B. Geothermal C. Hydroelectric D. Nuclear

II. Fill in the blanks:

[5 × 1 = 5 Marks]

- The SI unit of specific heat capacity is
- The electrical pressure exerted by a cell is called
- The speed of light in water is than the speed of light in air.
- If the vibrations of a wave are along the direction of the wave it is called a wave.
- A light year is a unit of

III. Match the following:

[5 × 1 = 5 Marks]

- | | |
|--------------------------------|-----------------------|
| (i) Low frequency | (a) optical fiber |
| (ii) Total internal reflection | (b) inertia |
| (iii) Mass | (c) centripetal force |
| (iv) Circular motion | (d) Hertz |
| (v) Frequency | (e) Radio waves |

IV. Answer the following questions:

[5 Marks]

1. What is meant by compression and rarefaction? **[2 M]**
2. The results obtained in an experiment to determine the density of a plastic material is given. The plastic is immersed in water in a measuring cylinder. Before immersing the water level is at 75cm^3 . After immersing the plastic the level changed to 95cm^3 . Calculate the volume of the plastic material. **[1 M]**
3. In optical fibers the light can be traveled through the fiber. Explain why the ray does not refract through the fiber? **[1 M]**
4. Why are electric circuits often fitted with fuses? **[1 M]**