**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ADM NO: \_\_\_\_\_\_\_\_\_\_\_\_CLASS:\_\_\_\_\_\_\_\_\_\_**

**DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ SIGN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

MARKS HERE

**PHYSICS**

**FORM TWO**

**TERM 3, 2023**

**INSTRUCTIONS: (answer all questions in section A,and choose any two questions from section B TIME: (1hr 30 mins )**

1. What is meant by;

**(i)** Streamline flow (1 mk)

**(ii)** Turbulent flow (1 mk)

1. State Bernoulli’s principle. (1 mk)
2. State **one** assumption made in Bernoulli’s fluid flow. (1mk)
3. Give three examples of Bernoulli’s effect in air. (3 mk)
4. State any three properties of an ideal fluid that obeys Bernoulli’s principle (3mk)
5. An oil drop of volume **V m3** introduced on the surface of water spreads to forma patch whose area is ***a*** **m2**. Derive an expression for obtaining the diameter, **d** of a molecule of oil. (2mk)
6. Two table Tennis balls are in the same level while suspended from threads a short distance apart. A stream of air is blown between the balls in a horizontal direction. Explain what happens to the balls (2mk)
7. It is dangerous to stand close to a road when a fast moving lorry passes. Comment on this statement (1mk)

**9 .**The diagram shows a cross-section of an aeroplane wing when the aero-plane is moving at constant height and constant speed, an upward force equal and opposite to its weight is exerted on its wing.

**Direction of**

**force**

**Upward force**

**Wing**

(a) **What** is the cause of the upward force? (2mks)

(b) **Why** is the shape of the wing crucial in producing this upward force? (2mk)

**10.** A Girl stands some distance from a high wall and claps her hands

1. What two measurements would need to be made in order to determine the speed of sound? (2mk)

1. **Describe** how you would make use of these measurements (3mks)

**11.**The speed of sound in air determined on a warm day is 330m/s. Explain any difference you would expect in the results if the measurement is done on a cold day. (2 mks)

**12.** A range standing some distance from a wall blows a whistle and hears its echo 2.4 seconds later . How far is the wall from the ranger? (Speed of sound in air is 330 m/s). (3mk)

**13.** A soldier standing between 2 cliffs fires a gun. He hears the first echo after 2s and the next after 5s. **Determine** the distance, between the two cliffs *(Take speed of sound as 340 m/s.)* (3mks)

**14.** The figure below show the displacement time graph of a wave traveling at 400cm/s.

**0.8**

**-2**

**Displacement (cm)**

**2**

**Time (s)**

Determine for the wave the:

(i) Amplitude (1mk)

(ii) Period (1mk)

(iii) Frequency (2mk)

(iv) Wavelength (3mk)

**15.** Define the term moment of force. (1mk)

**16.** State the principle of moments. (1mk)

**18.** Name **three** activities which produce a turning effect. (4mk)

**19.** Why is it very difficult to open a door from a point too close to hinges? (2mk)

**20.** The figure below shows a uniform plank of weight **20N** and length **6m** balanced by a **0.5kg** mass at a distance **X** from the pivot point **O**.

**O**

**X**

**0.5 kg**

Determine the value of **X**  (3mk)