

HOME PACKAGE

FOR ORDINARY LEVEL PHYSICS

FORM ONE

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PROBLEM-01

- a) Briefly explain why a person at a great height suffers from nose bleeding?
- b) Why do beans seem to swell up soaked in water for overnight?

PROBLEM-02

- a) Why efficiency of pulley system is always less than 100%? Give two reasons
- b) Use the concept of pressure to explain why buildings are constructed with wide foundations
- c) Mention two experiments which show the evidence that the atmospheric pressure exists
- d) A woman of mass 64 kg is standing on sand soil with heel shoes of areas 2cm^2 .
 - i) Find the pressure exerted by the woman on the ground.
 - ii) Why does her heel sink into ground?

PROBLEM-03

- a) A body dipped in a liquid experiences an upthrust. Explain three factors on which the upthrust depends.
- b) An object was totally immersed in a liquid container in a vessel. The two opposite forces acting on the object are
- c) State how the forces in (b) above should be to make an object float.

PROBLEM-04

- a) Why particles in a solid state are closely packed?
- b) Why do the racing cars designed in such away their centers of gravities are lowered?
- c) Why does a body floats on a fluid?

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PROBLEM-05

- a) Why there is no work done on the books when carried horizontally with constant velocity?
- b) Why it is easier to cut a bar of soap using a thin piece of wire than a thicker one?
- c) Why does the feet feel colder when a person stands on a cement floor than on a wooden floor?

PROBLEM-06

Briefly explain the following

- a) A hole at the bottom of a ship is dangerous more than one near the surface.
- b) It is painful to walk bare footed on a road that is covered with pebbles.

PROBLEM-07

Explain the following

- a) It is difficult to push a tin can into water when its mouth up ward than when its mouth are kept down wards the water.
- b) Efficiency of machine is always less than 100%
- c) A tyres of a tractor are large and wide.

PROBLEM-08

- a) Why a woman wearing shoes with pointed heels is more likely to cause damage to a wooden floor than an elephant would do?
- b) Why a person climbing up a mountain is observed to bend forward?
- c) Why sky appear blue during a day?

PROBLEM-09

Explain occasionally, one sees a narrow car filled with cargo carrying a heavy load on its roof.

- a) Why is that dangerous
- b) How can the risk be minimized?

PROBLEM-10

Briefly explain the following

- a) When a force become weight
- b) Why hydrometer is filled with mercury or lead shots?
- c) Why seat-belt is designed to stretch on collision?

PROBLEM-11

- a) Why the high jumpers usually bend their knees on landing?
- b) Explain why a diver at the bottom of the dam experiences greatest pressure?
- c) Why water wet the glass and mercury does not?

PROBLEM-12

Explain the application of measurement in the following area

- a) In architecture
- b) In hospitals

PROBLEM-13

- a) Explain briefly any two physical factors of a conductor how they affect Ohm's law if could not be kept constant.
- b) Explain why it is easy to cut a meat with a sharp than a blunt knife?
- c) Explain any two (2) applications of hydraulic press in a daily life.

PROBLEM- 14

- a) Why we prefer to drink hot soup than cold soup?
- b) Explain how adding soap to the water would cause the oil and water to mix.
- c) Briefly explain why the depth of flotation of a ship is change when sails the Arabian Sea to the Indian Ocean?

PROBLEM- 15

- a) Explain what will happen to a
 - i) Volume of a metal in a cold day
 - ii) Density of a metal in hot day
- b) Why it takes longer to boil tea on top of High Mountain than in sea level?
- c) Why egg floats on salt water?

PROBLEM- 16

What would happen when?

- a) An ebonite rod is rubbed with fur?
- b) A glass rod is rubbed with fur?
- c) A glass rod is rubbed with silk?

PROBLEM- 17

Why some insects manage to walk over water without sinking?

PROBLEM- 18

- a) Explain why an iron rod cannot penetrate in the block of wood while nail can penetrate when equal force is applied?
- b) Why ink stick on paper when writing?
- c) Why water wets glass while mercury does not

PROBLEM- 19

- a) Explain why the image of an object formed by a plane mirror is called virtual image?
- b) Explain why nylon clothing crackles as you undress?
- c) Explain how a steel needle is made to float on water.

PROBLEM- 20

- a) Briefly explain why handle of a door is near its outside edge?
- b) Why does a cyclist often zigzag when going up a hill?
- c) Imagine that you are riding a bicycle, how many simple machines are in your possession.

PROBLEM -21

- a) Why solid have fixed shape?
- b) Why television screen are dusty after a while?
- c) Why do hydrogen balloons explode?

PROBLEM- 22

- a) Why hydrometer is made up with narrow stem?
- b) Briefly explain why a solid body weights more in air than in fluid?
- c) Explain the causes of ocean tides?

PROBLEM - 23

Name the materials which when rubbed with a dry cloth become;

- i) Negatively charged
- ii) Positively charged

PROBLEM - 24

Explain why pond skaters and mosquitoes are able to walk on the surface of water

PROBLEM - 25

Explain why it is easier to cut a piece of meat using a sharp knife than a blunt knife

PROBLEM -26

Explain why the molecules of water and those of glass will attract each other

PROBLEM -27

What is the best reason for using alcohol in a minimum thermometer?

PROBLEM - 28

Why a bus carrying a heavy load on its topmost carrier can easily overturn when negotiating a corner?

PROBLEM - 29

Why lubricants are mostly applied in machine parts?

PROBLEM - 30

Explain why motor vehicle tyres are made up of grooved rubber.

PROBLEM - 31

Explain why soldier firing a bullet from a gun experiences a jerking effect as the bullet leaves the gun

PROBLEM - 32

Explain why you feel more pain if someone with pointed high heels shoes steps o your foot than when the same person with flat shoes step you

PROBLEM - 33

White clothes are preferentially worn in sunny regions than black clothes. Explain

PROBLEM - 34

Which particles are transferred after changing an object by friction?

PROBLEM - 35

What makes the last drop of tap water remains hanging for sometime at the outlet of the tap soon after closing the tap?

PROBLEM - 36

Why must a liquid and not a gas be used as fluid in a hydraulic machine? Give two reasons

PROBLEM- 37

Explain why a Bunsen burner has a massive and wide base.

PROBLEM- 38

Explain briefly why water tanks have their outlet fixed at the bottom

PROBLEM -39

Explain why a tractor with wide tyres cannot easily get stuck in muddy places as compared to vehicles with narrow tyres.

PROBLEM- 40

A patient who is to get an injection when a nurse applies a small force to push a needle feels much pain on his skin. Why?

PROBLEM- 41

Explain why a rotating wonder wheel becomes hot after a sudden stop

PROBLEM -42

Give reasons why the sky appears blue during a clear sunny day

PROBLEM- 43

Why dams are constructed thicker at the bottom than at the top?

PROBLEM- 44

Why is a hole at the bottom of the ship more dangerous than one that is near the surface?

PROBLEM -45

Why a big elephant can walk on a muddy road while a human may sink?

PROBLEM -46

- a) A person standing in a boat moving with a uniform speed throws a heavy stone in water, in the direction in which the boat is moving. State the reasons why the boat slows down.
- b) Why should a mechanic choose a long spanner to undo a tight nut?

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PROBLEM -47

- a) Explain why a feather and a coin released from the same height in an evacuated tube will reach the bottom of the tube at the same time.
- b) A hole at the bottom of a ship is more dangerous than one near the surface. Explain why
- c) Explain why hitting an inflated balloon with a hammer will not cause it to burst, but sticking it with a pin will.

PROBLEM- 48

- a) A sharp needle was brought close to the cap of a charged gold-leaf electroscope. Explain why the leaf collapsed.
- b) It is more difficult to balance a nail on its tip than on its base. Explain
- c) Does an object have to be at rest to be in a state of equilibrium? Explain your answer.

PROBLEM- 49

- a) Why an iron ball sink in water
- b) i) Explain how a body becomes positively charged
- ii) Explain how a body becomes negatively charged

PROBLEM - 50

Why petrol road usually have a length of metal chain hanging and touching the ground

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