**443/2**

**AGRICULTURE**

**PAPER 2**

**MARKING SCHEME.**

1. - Black body

- White stripe over the shoulder

- Slightly dished snout

- Slightly drooping ears

- White marks on the legs 1 x 2 = 2mks

1. - Increase conception rate.

- Improve the implantation of embryos in the uterus

- Increase the number of uva shed

- Increases lambing percentage and chances of multiple births. 1 x 2 = 2mks

1. - They take many years to grow and make an effective fence.

- They cannot be used for paddocking because they occupy a wide spaces

- The hedges can be hiding places for rodents and thieves.

- Thorny species can cause injury to human and livestock

- They requires regular trimming and infilling of gaps which is both laborious and expensive

- Their growth may be irregular thus allowing gaps for thieves and animals to pass through. 1 x 2 = 2mks

4. For easy cleaning 1 x 1 = 1mk

5. Form the bulk of the ruminants diet it fills the stomach

- Prevents bloat

- Helps in digestion 1 x 2 = 2mks

6. - Bright light in the laying nests

- Presence of broken or soft shelled eggs

- Inadequate laying boxes

- Idleness of birds

- lack of minerals like calcium 1 x 2 = 2mks

7. Grit helps in grinding of the food together with the trough muscles of the gizzard 1 x 1 = 1mk

8. a) - poor milking hygiene

- Incomplete milking

- Level of milk production

- Age of the cow

- Genetic factor.

- Pendulous udder

- Injured udder or teats. 1 x 2 = 2mks

b) Blood or pus in milk

- Pain in the udder or teats

- Swollen or inflammed under

- Rise in body temperature

- Clots in milk

- Drop in milk yield. 1 x 2 = 2mks

9. - Restlessness

- Frequent urination

- Swollen vulva

- The doe throws itself on its sides

- She rubs herself against the wall or any other solid object.

- The doe tries to contact other rabbits in the next hutch by peeping through the cage walls

1 x 2 = 2mks

10. Brucella abortus. 1 x 1 = 1mk

11. Hetrosis –This is good characteristics that result from crossing or meting two unplated

superior breeds. 1 x 1 = 1mk

12. - To facilitate easy movement

- Control foot rot disease

- Prevents the ram from injuring the ewe during tupping.

13. Effects of parasites

- They rob the host of its food nutrients

- They damage the body organs

- They cause anaemia / suck blood

- They cause death / extermination

- They cause mechanical obstruction to internal systems ½ x 4 = 2mks

1. Components of fuel system.
   * Bleed line (leak off – return line)
   * Fuel lift pump
   * Carburetton
   * Injector pump.
   * Fuel filter ½ x 4 = 2mks
2. Methods of attachment.

- Single point hitch

- Three point hitch

- Power take off 1 x 2 = 2mks

16. Maintains on pruning hook

- Replace broken handles.

* + Oiling the metallic part
  + Proper storage
  + Sharpen the cutting edge
  + Clean after use 1 x 2 = 2mks

**SECTION B**

1. a) Liver fluke ½ mk

b) Sheep cattles ½ x 1 = ½ mk

c) Liver ½ mk

d) Water snail ½ mk

e) -Routine drenching of animals

-Destroy water snails

-Avoid grazing on swampy areas

-Drain swampy areas 1 x 2 = 2mks

1. a) Too cold 1mk

b) Too hot 1 mk

c) Correct temperature 1mk

d) Draughts from the opposite direct 1mk

1. i) Ox-plough 1mk

ii) a- mould bar ½ mk

b- Main beam ½ mk

a- Depth rod ½ mk

d- Draft chain ½ mk

iii) Use for adjusting the width and depth of ploughing 1mk

20. a) S – Rat proof/ buffle/ Rat guard 1mk

b) - Cleaned

- Repair any broken parts

- Dust / spray with recommended insecticide 1 x 3 = 3mks

1. a) Pests of bees.
   1. Ants
   2. Wax moth
   3. Bee louse
   4. Honey badgers 1 x 1 = 1mk
2. Used for scrap away the propolis holding on the top bars , thus separating them.

- Used to cut off the honey comb into the honey container 1 x 2 = 2mks

1. It is difficult to distinguish between white combs and dark combs.

- Contamination of the harvested honey with brood.

- Bees can be crushed because they are not properly seen.

- Inorder to avoid accident bush fires. 1 x 1 = 1mk

**SECTION C**

22. a) **Causes**

- Feeding animals on feeds containing a lot of pasture legume, cabbage, lush grasses.

- Abrupt change in feed give to animals / from dry feeds to very succulent feeds.

- Blockage of oesophagus by large food particles such as potatoes and mangolds

- njury to nerve supply of the rumen causing paralysis of the rumen.

b) **Symptoms**

- Distension of the left side of the abdomen due to gas accumulation

- Difficulty in breathing

- Profuse salivation

- Animal lies down and is unable to rise up

- Grunting and kicking at the belly

- Death, within hours due to pressure on blood vessels, heart and lungs.

c) **Control**

- Provide dry roughage just before feeding the animal on green and succulent or

wet pastures

- Feed livestock on wilted grosses and pastures legumes.

1. **Treatment**

- Exercise the sick animal by walking it around

- Use medicinal oils as defrothing agents such as liquid paraffin or turpentine oil

mixed with vegetable oil.

- Epsom salt can be used to empty the stomach.

- A stomach pump can be inserted into the rumen through the oesophagus.

- In extreme cases, trocar and canula or sterilized sharp knife is used to pierce through the skin of the rumen.

- Methly silicole injection can also be given .

1. - Cattle 3mks

- Sheep

- Goats

23. a)- Cattle management at dipping

- Dipping should be once or twice per week

- Dipping should be done in the morning or when the weather is cool.

- Water the animals before dipping to prevent animals from drinking the acaricide

solution as they are dipped.

- Analyse the dip wash concentration using a test kit.

- Initially run 10 – 15 animals through the dip so that they mix the dip wash then dip them a second time.

- Animals should be arranged in a single file as they enter the dip.

- Dip the animals according to their ages.

- Do not dip sick or pregnant animals

- Dip all the cattle the same day.

- Take records of dipping and acaricide used. 8 x 1 = 8mks

1. **Maintanance of plunge dip.**

- Clean dipping tanks regularly.

- Repair leaking roofs

- Repair cracks in collecting yard, footbaths etc.

- Top up the level of dip wash with acariciade and water when necessary.

- Replace broken timber rails

- Clean foot bath before and after dipping

- Regular testing of the dip wash concentration.

1. **Parts of a zero- grazing unit.**

- Milking stall.

- Calf pens

- Sleeping cubicles / resting area.

- Dunging / loafing area / exercises area.

- Feed and water troughs / feeding area.

- Feed preparation room / chaff litter area.

- Milk recording room / stoop/ dairy/

- Manure dump pit. 6 x 1 = 6mks

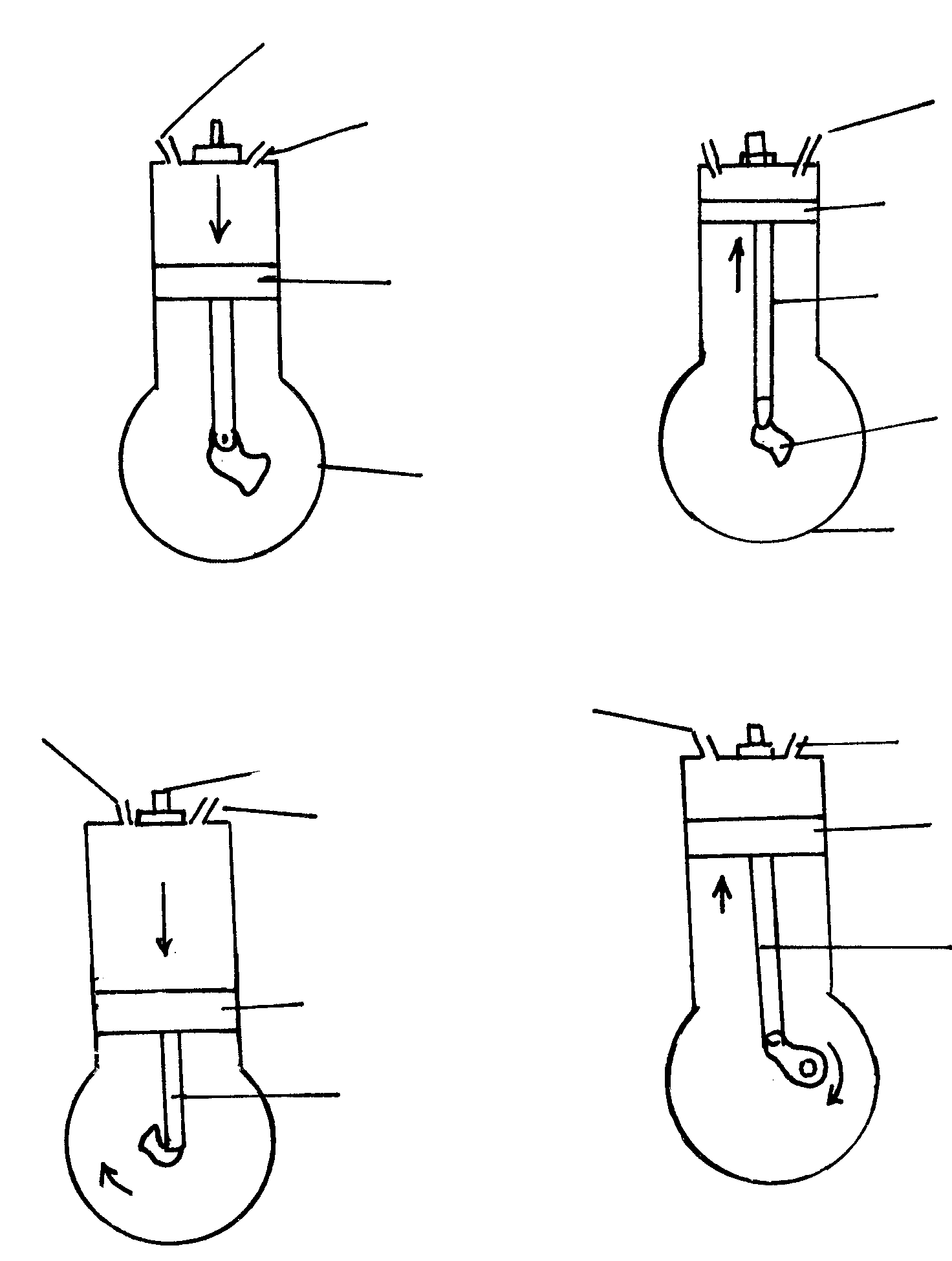
1. **a) Difference between 2 stroke and four stroke cycle engine.**

**Two stroke Four Stroke**

|  |  |
| --- | --- |
| - Power is generated with every two strokes  - Produces less power  - Does not have valves but ports  - Crank case is involved in the cycle | - Power is generated with every four stroke  - Produces more power  - Has valves no ports  - Crankcase is not involved in the cycle |

4 x 1 = 4mks

b) 



Crank shaft

Intake stroke ( Induction stroke)

The piston moves downwards

Intake or Inlet valve opens

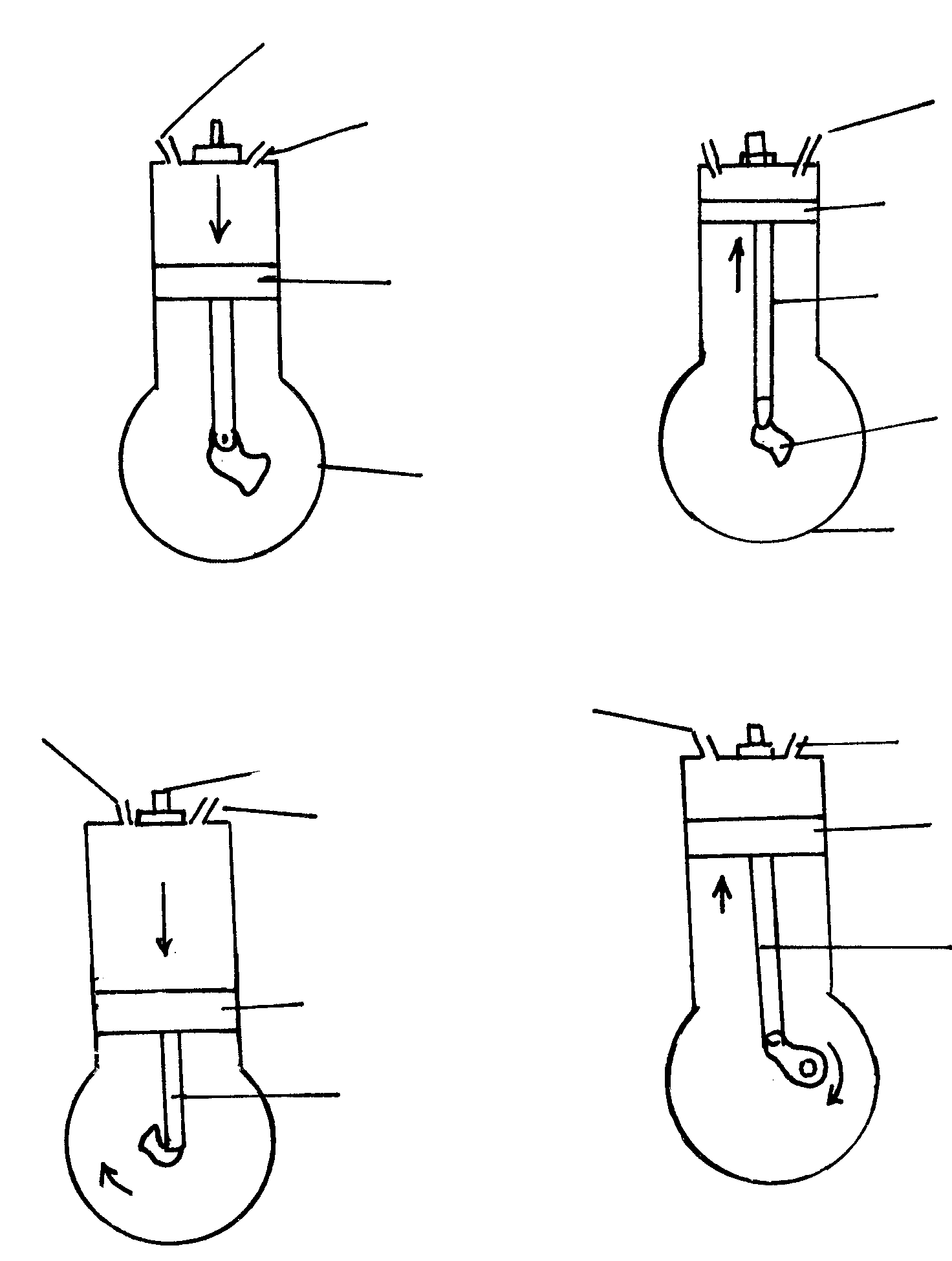
Exhaust valve remains closed

Air / fuel mixture inters through the inlet valve

***N/B 4 marks with the diagram showing the position of the piston.***

**Compression strokes / ignition stroke.**

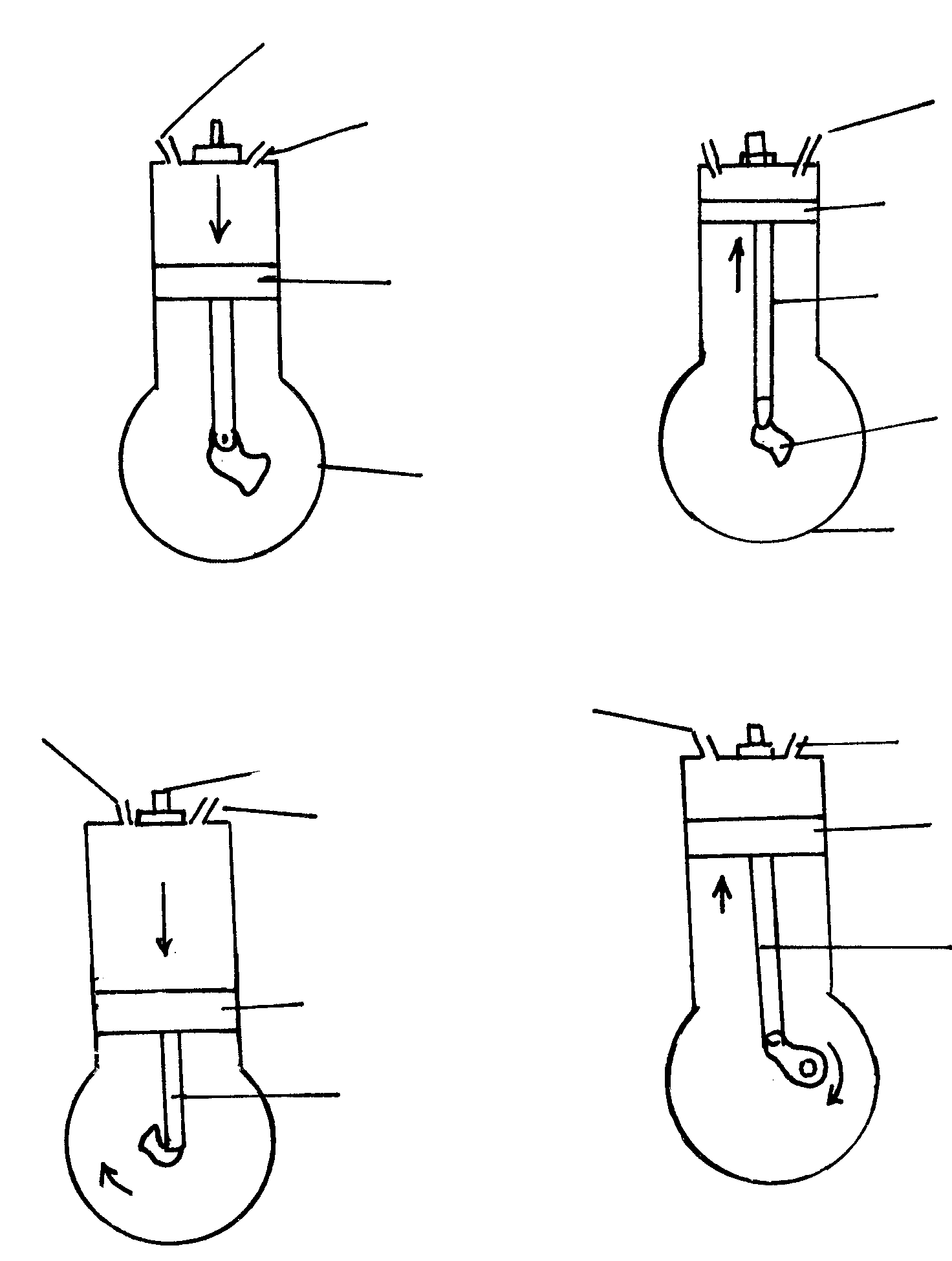




The piston morps upwards causing compression of the fuel air mixture as it approaches the top dead centre (TDC) resulting in ignition of the mixture due to high temperature.

Inlet valve is closed and the exhaust valve. ***4 mks with the diagram***

***Showing the position of the piston.***

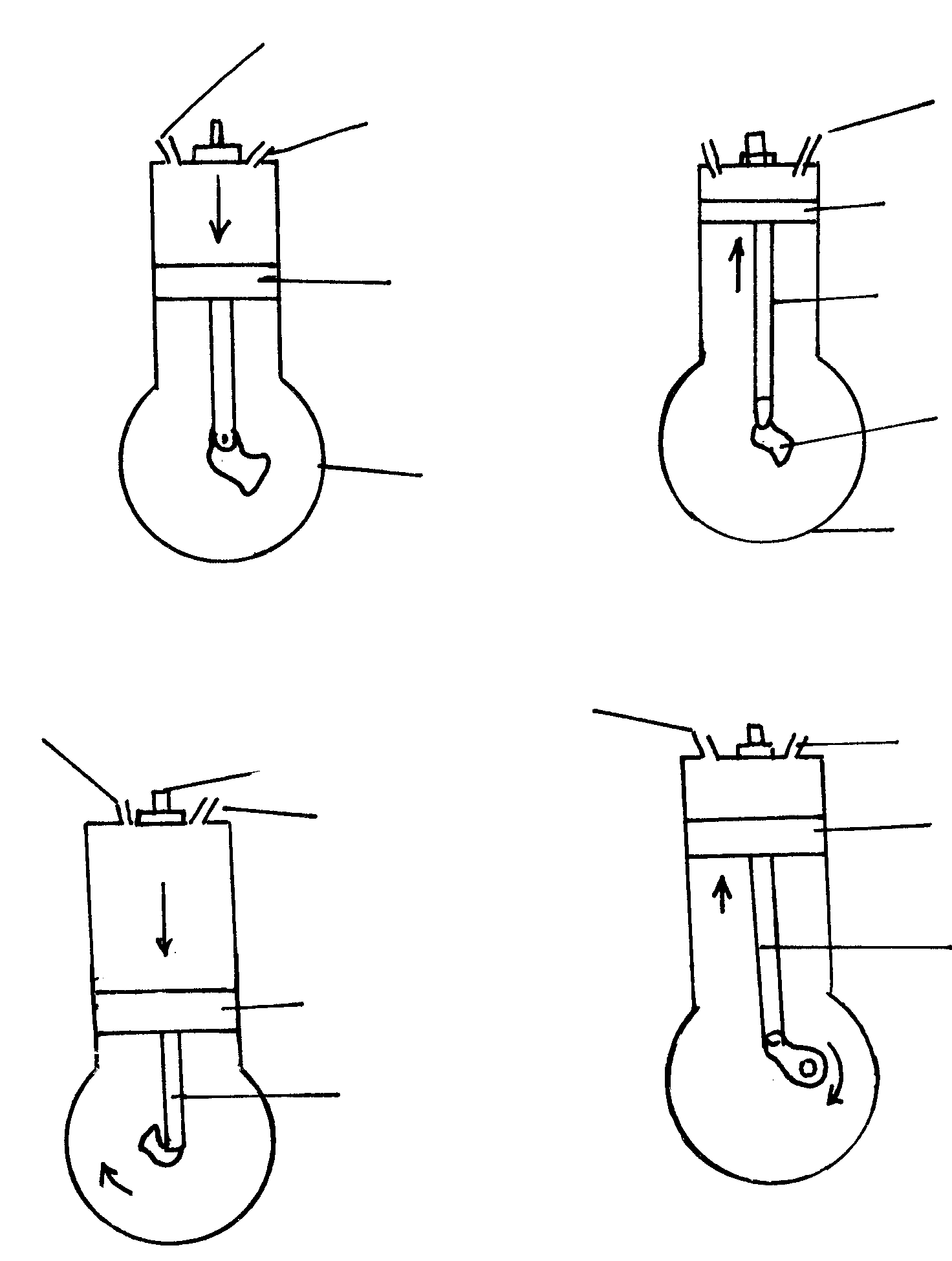


**Power stroke**

The expansion of the gases pushes the piston downward.

Downward movement of the piston drives the crankshaft causing transmission of power .

Both valves remain closed

.

The piston moves up.

Exhaust valve opens expelling the exhaust gases

Intake valve remains closed.