# माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

20 पृष्ठीय

परीक्षार्थी द्वारा भरा जावे ↓

| परीक्षा का विषय | विषय कोड | परीक्षा का माध्यम |
|---|---|---|
| Science | 2 0 0 | English |

केवल परीक्षक द्वारा भरा जावे।

प्रश्न क्रमांक के सम्मुख प्राप्तांकों की प्रविष्टि करें।

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उत्तर पुस्तिका का सरल क्रमांक

**220 -** 0840518

अंकों में — परीक्षार्थी का रोल नम्बर

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शब्दों में

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क :– पूरक उत्तर पुस्तिकाओं की संख्या अंकों में  X  शब्दों में  X

ख :– परीक्षार्थी का कक्ष क्रमांक  23

ग :– परीक्षा का दिनांक  16  03  2020

परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा

**हाई स्कूल परीक्षा**

केन्द्राध्यक्ष
केन्द्र क्रमांक-172003

| पर्यवेक्षक का नाम एवं हस्ताक्षर | केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष के हस्ताक्षर |
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| K. L. Joby | |
| 16/3/2020 | |

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे ↓

प्रमाणित किया जाता है कि मूल्यांकन के समय पूरक उत्तर पुस्तिकाओं की संख्या उपरोक्तानुसार सही पाई होलो क्रापट स्टीकर क्षतिग्रस्त नहीं पाया गया तथा अन्दर के पृष्ठों के अनुरूप मुख्य पृष्ठ पर अंकों की प्रविष्टी एवं अंकों का योग सही है।

निर्धारित मुद्रा : नाम, पदनाम, मोबाईल नम्बर, परीक्षक क्रमांक एवं पदांकित

रित मुद्रा

Answer of Q.NO.(1)

Fill in the blanks —

Ans (a)    Periods.

Ans (b)    Excretion.

Ans (c)    A chinese school boy.

Ans (d)    Valt.

s (e)    Environmental.

Answer of Q.NO.(2)

Match the column :

|   'A' |   | 'B' |
| --- | --- | --- |
| (a) Vinegar | — | (iv) Acetic acid. |
| (b) Female | — | (v) Oestrogen. |
| (c) sex determination (chromosome) | — | (vii) sex determination. |
| (d) Eyeball | — | (i) 2.3 cm. |
| (e) Ganga Action Plan | — | (ii) 1985. |

## Answer of Q.No.(3)

Choose the correct —

Ans(a)    (i) Mercury.

Ans(b)    (iii) Transport of water.

Ans(c)    (ii) Pituitary gland.

Ans(d)    (iii) Diaptre.

Ans(e)    (ii) 25 cm.

## Answer of Q.No.(4)

One sentence —

Ans(a) The reaction in which there is exchange of ions between the reactants is called double displacement reaction.

Ans(b) The pH value of pure water is 7.

Ans (c) The respiration that takes place in absence of oxygen is called <u>anaerobic respiration</u>.

Ans (d) The unit of electric charge is <u>coulomb</u>.

ns (e) <u>Chlorofluoro carbons</u> are used in refrigerators and fire extinguishers.

## Answer of Q.NO.(5)

Magnesium is a reactive metal. When kept in open, it reacts vigorously with oxygen present in air to form a layer of magnesium oxide on its surface. This layer of magnesium oxide is quite stable and prevents further reaction of magnesium with oxygen. Therefore, it is cleaned before burning so that the underlying metal can be exposed into air.

## Answer of Q.NO.(6)

### Mendeleev's Periodic law –

"The physical and chemical properties of elements are the periodic function of their atomic masses."

Mendeleev arranged the elements in the increasing order of their atomic masses in his periodic table.

## Answer of Q.No.(7)

### Self Pollination –

The process of transfer of pollen grains from the anther of stamen of a flower to the stigma of pistil of the same flower is called self pollination. This process occur only in bisexual flowers.

P.T.O

## Answer of Q.NO.(8)

### Heredity -

The transfer of characteristics in living beings from one generation to another generation is called "heredity".

## Answer of Q.NO.(9)

### Focal length of a spherical mirror length -

The distance between the pole and principal focus of a spherical mirror is called "focal length of that spherical mirror."

The focal length is half of the radius of curvature of the mirror.

P.T.O
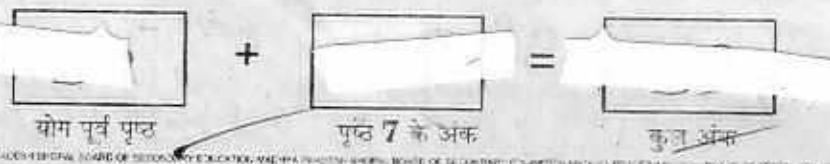
## Answer of Q.No. 10 (OR)

<u>Ans (a)</u>   The substance 'X' is calcium oxide (Quick lime). and its chemical formula is CaO.

<u>Ans (b)</u>   When calcium oxide reacts with water, Calcium hydroxide (slaked lime) is formed. The following equation represents it —

$$CaO \quad + \quad H_2O \longrightarrow Ca(OH)_2$$

Calcium oxide      Water                Calcium hydroxide

(Quick lime)                              (slaked lime)

P.T.O

# Answer of Q.No. (11)



Angle of prism

Angle of deviation

Angle of refraction

Angle of incidence

A

Incident ray

Refracted ray

Q

D

R

P

B                    C                    S
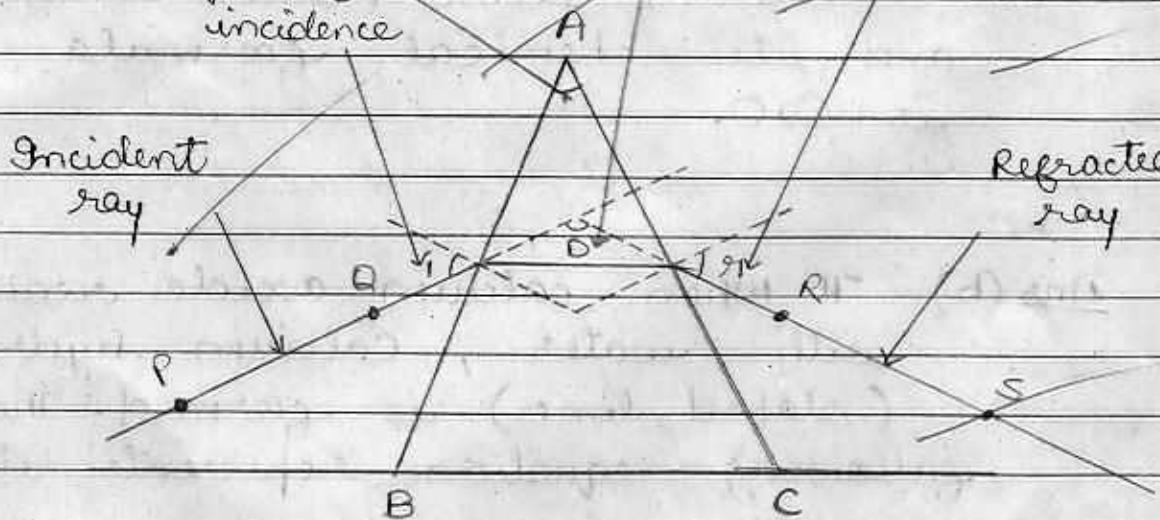
Fig. Refraction of light through a prism.

# Answer of Q.No. 12

## Electric Fuse :-

Electric fuse is a device which has very high resistivity and low melting point. It is connected in electric circuits and appliances to protect them from overloading and prevent it from short circuiting.

The electric fuse stops the flow of unduly high current in the circuit.

The Joule's heating takes place and melts it to ~~t~~ break the circuit.

<u>Answer of Q.NO. 13 (OR)</u>

The sources of direct current are as follows —

(1) Current – carrying conductors.

(2) Permanent magnets.

(3) Electromagnets.

<u>P. T. O</u>

Answer of Q.NO.(14)



Fig. Solar Cooker.

**Labels in figure:**
- Sun
- Sunlight
- Black paint
- Glass
- Food vessels
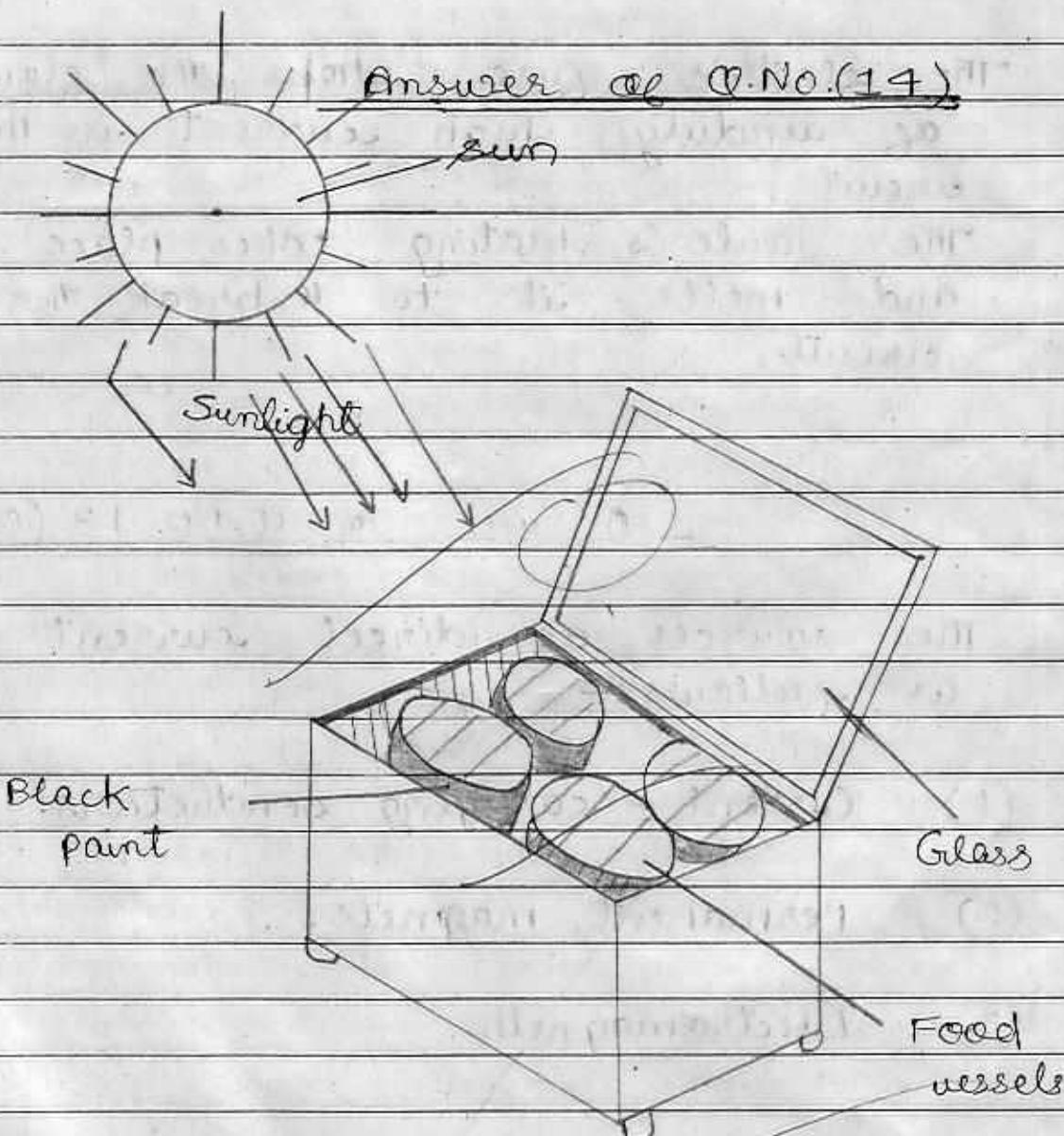
## Answer of Q. No. 15 (OR)

### Bleaching Powder -

The chemical name of bleaching powder " calcium oxychloride." And its chemical formula is $CaOCl_2$.

### Uses of bleaching powder -

(1) For bleaching cotton and linen in the textile industries, for bleaching wood pulp in paper industry.

(2) To make drinking water free from germs and it o is also used as an oxidising agent in the chemical industries.

## Answer of Q. NO (16) OR

### Hydrogenation -

The addition of hydrogen to unsaturated

hydrocarbons is called "hydrogenation."

## Industrial application -

Hydrogenation is used in many industries. In petrochemical industries, hydrogenation is used to obta convert alkanes into alkenes or cycloalkenes in the presence of a catalyst nickel. This reaction of addition of hydrogen always takes place in the presence of a catalyst. It is also used to obtain vegetable ghee from vegetable oil.

## Answer of Q. NO. 17 (OR)

## Photosynthesis -

Plants prepare their food through a process called photosynthesis in the presence of sunlight and chlorophyll. During this process, and oxygen is evolved.

The following equation represents it -

$$6CO_2 + 12H_2O \xrightarrow[\text{chlorophyll}]{\text{sunlight}} C_6H_{12}O_6 + $$

$$6O_2 + 6H_2O.$$
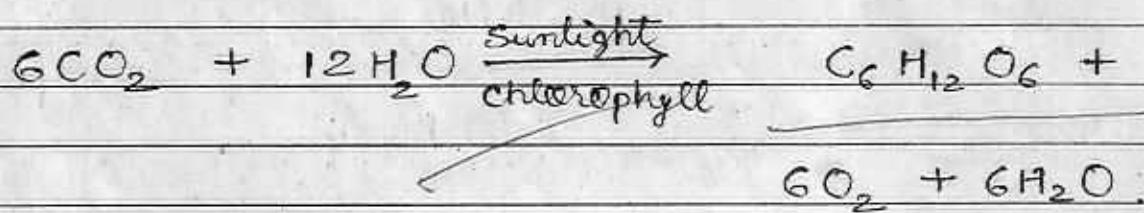
Plants obtained $CO_2$ from the atmosphere which is exhaled by human beings and animals. Water is absorbed from the soil by the roots of the plant and it is transferred to all parts and also leaves where food is prepared.

The sun provides sunlight to the plants which is very important raw material for photosynthesis. The chlorophyll is present in the green leaves of the plants.

Therefore, in this way, plants get each of the raw material from their surroundings.
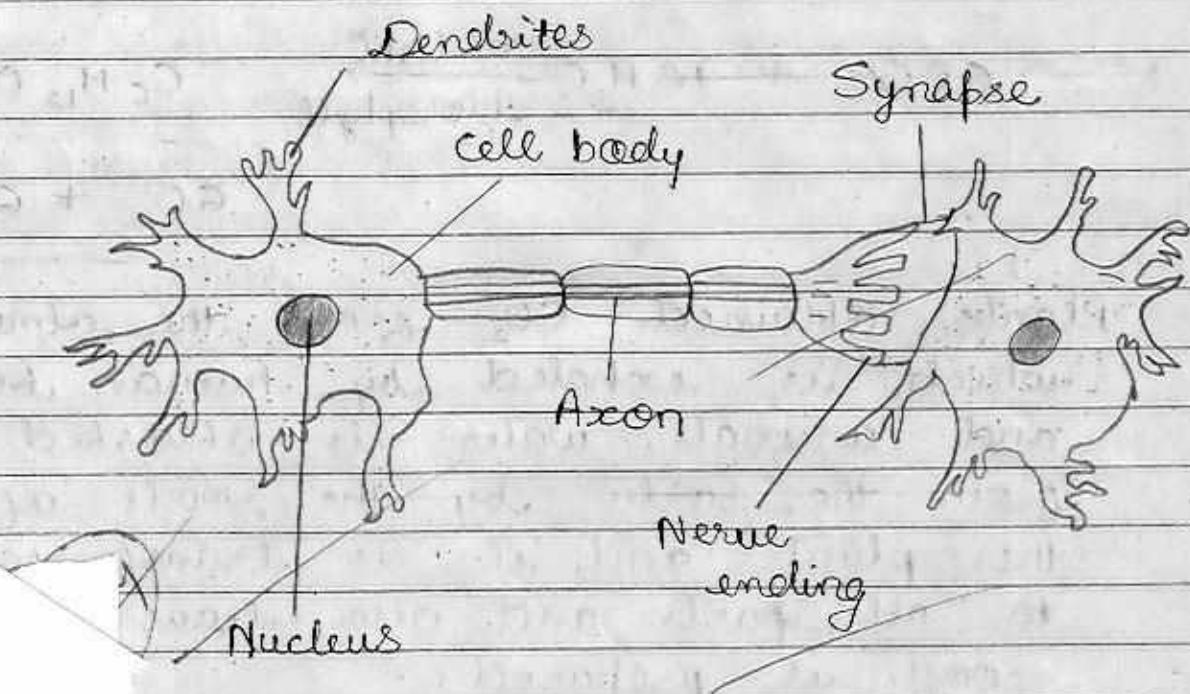
Answer of Q.No. 18(OR)



Fig. Structure of neuron.

Answer of Q.No(19)

The factors affecting the resistance of a conductor are, as follows—

(1) Length ($l$)

The resistance of a conductor is directly proportional to its

length, i.e., $R \propto l$.
This means that a longer wire
will have more resistance and
a shorter wire will have less
resistance.

(2) **Area of cross-section (A)** —

The resistance of a conducting wire
is inversely proportional to its
area of cross-section (A).

i.e., $R \propto \propto \dfrac{1}{A}$.

That it, a thick wire will have
less resistance but for a thin
wire the resistance will be more.

(3) **Temperature of conductor** —

The resistance of a conducting wire
increases with the increase in
temperature. When the conductor is
heated then, the electrons start
moving with higher velocity and
as a result, the temperature
increases as well as the resistance.

(4) Nature of conductor -

The resistance of a conductor is also affected by the nature of conductor.

Answer of Q.NO.20

Physical properties of metals are as follows -

(1) Nature -

Most of the metals are solid except mercury which is a liquid.

(2) Malleability and ductility -

Mostly, metals are malleable i.e., they can be beaten into thin sheets.
Metals are ductile i.e. they can drawn into thin wires.
Gold is the most ductile metal.

(3) **Metallic lustrous** —

Metals are lustrous and they can be polished.

(4) **Conductivity** —

Metals are usually good conductors of heat and electricity. Silver is the best of conductor of heat and electricity.

(5) **Melting point and bailing point** —

Metals have very high melting point and bailing point.

**Answer of Q.No.21**

**Vegetative Propagation** —

Vegetative propagation is the method of reproduction in which new plant is grown from a plant part such as leaves, roots, stems etc. Example — This method is used to grow plants like —

sugarcane, jasmine, rose etc.
The plants raised by vegetative propagation can bear flowers and fruits earlier than those produced from seeds. Offspring produced are genetically similar to parent plant in this method.

It makes possible the propagation of those plants which have lost their capacity to produce more seeds. But, on the other hand, there is no genetic variation in this method. The plants raised are also prone to diseases which are specific to the species.

Therefore, this method of reproduction is practised for growing some types of plants.

## Answer of Q. No. 22

**Ans (a)** Power of lens —

Power of lens is defined as the ~~reprice~~ reciprocal of its focal length in metres.

If P is the power of a lens, and f is the focal length in metres, then

$$P = \frac{1}{f \ (in \ metres)}$$

The unit of power of a lens is dioptre. It is denoted by D.

Power of lens of one dioptre is defined as the power of lens of focal length 1 metre.

$$1 \ D = 1 \ m^{-1}.$$

**Ans (b)**

Focal length of concave lens,
$$f = -2 \ m.$$

( ∵ the concave lens has negative focal length )

We know that,

The power of lens P of a concave
lens is given by the relation—

$$P = \frac{1}{f \text{ (in metres)}}$$

$$P = \frac{1}{(-2)}$$

$$\boxed{P = -0.5 \, D}$$

Therefore, the power of ten given
concave lens is $-0.5$ diaptre.