17

वर्ष-2020

माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

20 पृष्ठीय

परीक्षार्थी द्वारा भरा जावे ↓

परीक्षा का विषय	विषय कोड	परीक्षा का माध्यम
Science	200	English

स्टीकर तीर के निशान ↓ से मिलाकर लगायें

परीक्षार्थी द्वारा भरा जावे →

[redacted]

उत्तर पुस्तिका का सरल क्रमांक 220 - 0843024

अंकों में परीक्षार्थी का रोल नम्बर: X 1 0 1 7 3 2 8 4 8

शब्दों में: X one zero one seven three two eight four eight

[redacted] BHOPAL

केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष एवं पर्यवेक्षक द्वारा भरा जावे →

क :– पूरक उत्तर पुस्तिकाओं की संख्या अंकों में 1 शब्दों में one

ख :– परीक्षार्थी का कक्ष क्रमांक 10

ग :– परीक्षा का दिनांक 16 03 2020

परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा: केन्द्राध्यक्ष, केन्द्र क्र. 172007

हाई स्कूल परीक्षा

पर्यवेक्षक का नाम एवं हस्ताक्षर	केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष के हस्ताक्षर
[redacted] 16/3/2020	[redacted]

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे ↓

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे →

प्रमाणित किया जाता है कि मूल्यांकन के समय पूरक उत्तर पुस्तिकाओं की संख्या उपरोक्तानुसार सही पाई गई तथा कवर 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 संस्था के नाम की मुद्रा लगाएं।

उप मुख्य परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा	परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा
[redacted] Ajay Awasare 37710037	[redacted] 6/7/20/0242

नोट :– "हायर सेकेण्डरी परीक्षा में केवल वाणिज्य संकाय के विषयों तथा हाईस्कूल परीक्षा में प्रायोगिक विषय को छोड़कर शेष विषयों हेतु नियमित एवं स्वाध्यायी छात्रों के लिये प्रश्न पत्र 100 अंकों का होगा किन्तु नियमित छात्रों को 100 अंक के प्राप्तांक का 80% अधिभार एवं स्वाध्यायी छात्रों को 100 अंक के प्राप्तांक ही अंकसूची में प्रदर्शित किये जावेंगे।"

केवल परीक्षक द्वारा भरा जावे।

प्रश्न क्रमांक के सम्मुख प्राप्तांकों की प्र[illegible]

प्रश्न क्रमांक	पृष्ठ क्रमांक	प्राप्त[illegible]
1		
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कुल प्राप्तांक शब्दों में [illegible] कुल प्राप्त[illegible] अंकों में

Eight zero

Answer of Question 1

Ans(a) Periods.

Ans(b) Excretion

Ans(c) a chinese school boy

Ans(d) Volt

Ans(e) environmental

Answer of question 2.

Match the column

	(A)	(B)
a	Vinegar	Acetic acid
b	Female	Oestrogen
c	Sex chromosome	sex determination
d	Eyeball	2.3 cm.
e	Ganga Action Plan	1985.

योग पूर्व पृष्ठ + जोड़ के अंक = कुल अंक

प्र क्र.

Answer of question 3

Choose the correct alternative

Ans(a) (i) Mercury.

Ans(b) (iii) Transport of water.

Ans(c) (ii) Pituitary gland.

Ans(d) (iii) Dioptre.

Ans(e) (ii) 25 cm.

Answer of question 4

Ans(a) Double displacement reaction

Ans(b) pH value of pure water is seven(7)

Ans(c) Anaerobic respiration takes place in absence of air (oxygen)

Ans(d) SI unit of electric charge is coulomb.

Ans(e) Chlorofluorocarbon $[CCl_2F_2]$

Answer of question 5 (or)

Exothermic chemical reaction =>

A reaction in which heat is released during reaction is known as exothermic reaction.

For example =>

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

Calcium oxide — Water — Calcium hydroxide

$C + O_2 \longrightarrow CO_2$

Carbon — Oxygen — Carbon dioxide.

Respiration is also an exothermic reaction.

$C_6H_{12}O_6 + 6O_2 \longrightarrow 6CO_2 + 6H_2O +$ 38 ATP energy.

योग पूर्व पृष्ठ | पृष्ठ 5 के अंक | कुल अंक

प्रश्न क्र.

Answer of question 6

Mendeleev's periodic law =>

According to Mendeleev's periodic law, the properties of elements are the periodic functions of their atomic mass.

Answer of question 7

Self pollination =>

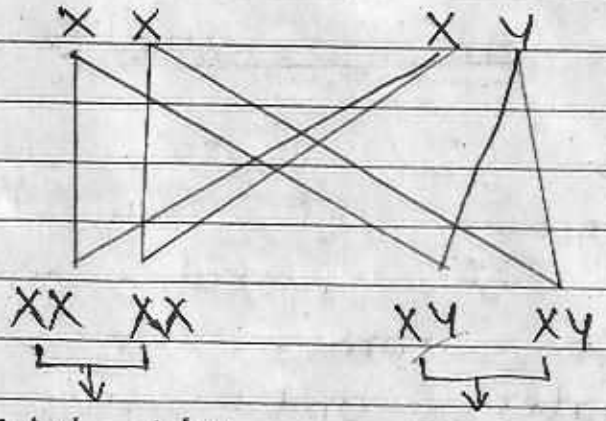
The transfer of pollen grain from anther to stigma of same flower is called self pollination. It only takes place in monoscious (bisexual) flowers. In it pollinating agents like wind, insects, water etc are not required.

Answer of question 8 (or)

Sex determination

Human beings have 23 pairs of chromosomes. Out of which, 22 pairs are known as autosomes and 23rd pair is called sex chromosome. In women 23rd pair is XX and in males it is XY.

When sperm containing X chromosome is fused with egg (which has XX chromosome) then girl child is born. If the sperm containing Y chromosome is fused with egg then the boy child is born. This is known as sex determination. In this way sex of the child is determined in human beings.



Answer of question 9 (or)

Magnification =>

It ~~expt~~ determines the size of the image in compaision with the size of object.
It is denoted by "M".
It is the ratio of the size of image with size of object

$$\text{Magnification } (m) = \frac{\text{Height of image } (h')}{\text{Height of object } (h)}$$

or

$$M = \frac{h'}{h}$$

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Ans of question 10

Corrosion =>
The process of slow destruction (damaging) of metal surface when it comes in contact with water and air is called corrosion.

For example =>
Rusting of iron etc.

Ways to prevent corrosion =>

The followings ways can be adopted to prevent corrosion -

1 By ~~applying a layer of~~

1 **Galvanisation =>** It is the process in which a layer of non-corrosive metal (like zinc) is applied on the metal surface to prevent it from corrosion.

2 **By painting =>**
Corrosion can be prevented

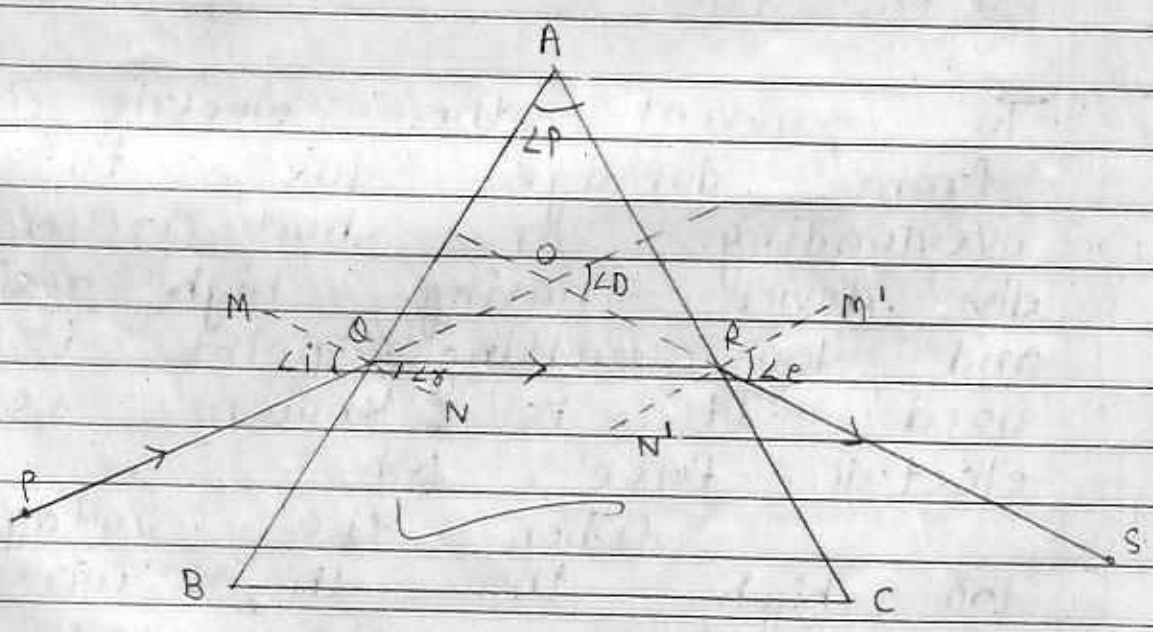
by applying a layer of paint on metal. This will cut off the contact of metal surface with air and moisture.

3 By greasing.

4 By preventing the contact of metal with water.

B S E

Answer of question [illegible].



Here, ABC is a prism in which
PQ = Incident ray
QR = Refracted ray
RS = Emergent ray.

प्रश्न क्र.

$\angle P$ = angle of prism
$\angle D$ = angle of deviation.
$\angle e$ = angle of emergence
$\angle r$ = angle of refraction.
$\angle i$ = angle of incidence
MON is a ~~perpendicular~~ normal on face AB
and M'N'AO'N' is ~~perpendicular~~ normal on AC

Answer of question 12

Electric fuse =>

To prevent the electric circuit from damage due to overloading or short circuit, a ~~div~~ device having high resistance and low melting point is used. It is known as electric fuse. ~~With~~

When the voltage is too high then the wire of electric fuse melts and cut down the electricity supply. It works on the principle of heating effect of electric current

Answer of question 13.

Electric motor and its principle

Electric motor is a device which converts the electrical energy into mechanical energy.

Principle =>

It works on the principle of ~~elec~~ Fleming's left hand rule. which states that when we ~~Diagram =>~~ strech the middlefinger, forefinger and thumb of ~~a~~ left hand mutually perpendicular to each other then our middle finger shows the direction of electric current, ~~middle fin~~ forefinger shows the direction of magnetic field lines and thumb shows the direction of force (motion).

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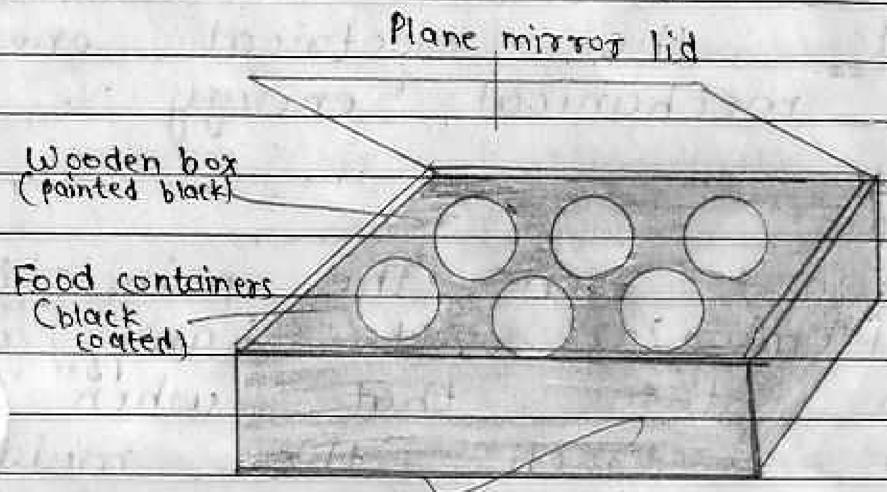
S
E

Answer of question 14.

Solar cooker



Solar cooker.

Solar cooker =>
Solar cooker is a device which is used to cook food with the help of solar energy.

Answer of question 15 (or)

Bleaching powder.

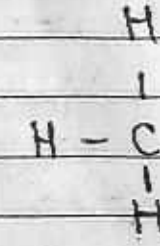
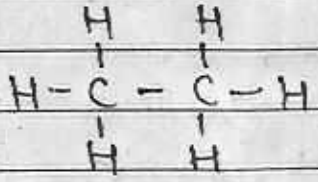
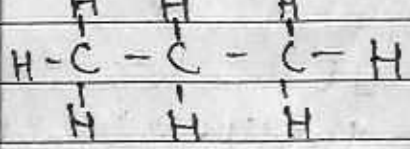
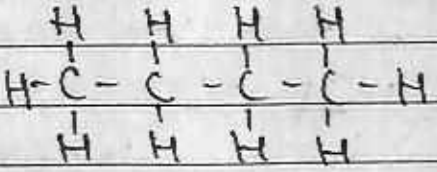
Chemical name => Calcium oxychloride

Formula => $CaOCl_2$

Uses of bleaching powder:

1. It is used for disinfecting drinking water.
2. It is also used in textile industry, leather industry, glass industry etc.
3. It is an important chemical reagent in laboratories.

Answer of question 16.

	Name	Formula	structural formula
1	Methane	CH_4	
2	Ethane	C_2H_6	
3	Propane	C_3H_8	
4	Butane	C_4H_{10}	

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Answer of question 17 (or)

Photosynthesis =>

It is the process by which green plants make their food. Its chemical equation is

$$6\,CO_2 + 6\,H_2O \xrightarrow[\text{Sunlight}]{\text{Chlorophyll}} C_6H_{12}O_6 + 6\,O_2$$

Carbon dioxide — water — glucose — oxygen

Plants get raw materials for this process from :

1 **Carbon dioxide (CO_2) =>**

Plants get the carbon dioxide from atmosphere. They take in CO_2 and release O_2 with the help of stomata.

2 **Water =>**

Plants get the water from soil. They transfer water from roots to leaves with the help of xylem tissues.

प्रश्न क्र.

3 Sunlight =>
Plants ~~store~~trap the sun's energy and ~~use~~ with the help of green pigment named chlorophyl They use this energy in photosynthesis process

Chloropla: Chlorophyll =>

It is a green pigment foun in the leaves of plants. It traps the sunlight.

Answer of question 18 (or)

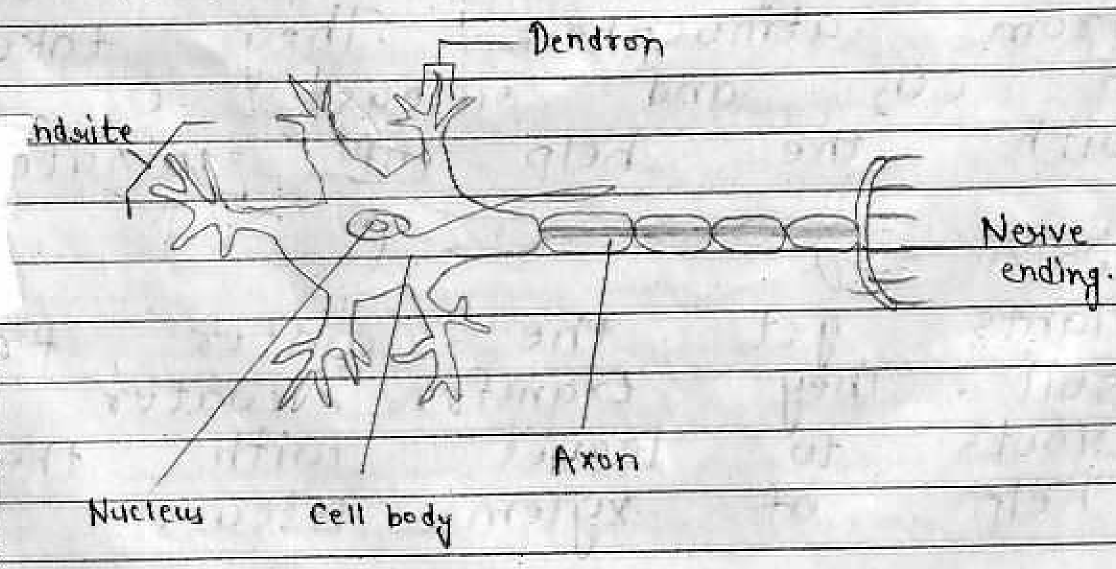

Diagram of neuron

Answer of question 19

Ans Resistance and factors affecting it

Resistance =>

Obstructions in the flow of electricity is called resistance. It's SI unit is 'ohm' and it's symbol is 'Ω'.

Factors affecting resistance

1 **Nature of the conductor =>**

Two wires of same size and same length but made up of different materials have different resistance.

For example =>

Copper wire has less resistance than aluminium wire of same size and length.

2 Length of the wire =>

Resistance of a wire is directly proportional to its length.

i.e.

$R \propto l$

[l is the length of wire]

3 Area of cross section of wire =>

Resistance of a wire is inversely proportional to the area of cross section of wire.

i.e.

$R \propto \frac{1}{A}$

[A is the area of cross section]

4 Temperature =>

Resistance is directly proportional to the temperature of wire. On increasing the temperature, resistance also increases

Answer of question 20

Physical properties of metals

The following are the physical properties of metals.

1 State =>

Metals are generally found in solid state except mercury. Mercury is liquid at room temperature.

2 Conductivity =>

Metals are good conductors of heat and electricity except lead and mercury. lead and mercury are poor conductors of heat and electricity.

3 Melting and boiling point =>

Metals generally have high melting and boiling point like tungsten.

4 Hardness =>

Metals are generally hard in nature except sodium and potassium.

Sodium and potassium metals can be cut by knife.

5 Ductility =>

Metals are highly ductile. Metals can be drawn into thin wires easily.

For example =>

Copper and aluminium is used to make electrical wires.

Malleability =>

Metals can be converted into thin sheets. This property is called malleability.

7 Sonorous =>

When metals are hammered they produce sound this property is called sonorous.

वर्ष-2020

माध्यमिक शिक्षा मण्डल, मध्यप्रदे .पाल

4 पृष्ठीय

परीक्षार्थी द्वारा भरा जावे ↓

परीक्षा का विषय	विषय कोड	परीक्षा का माध्यम	परीक्षा का दिनांक
Science	200	English	16 03 2020

स्टीकर तीर के निशान ↓ से मिलाकर लगायें

परीक्षार्थी द्वारा भरा जावे →

परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा

केन्द्राध्यक्ष केन्द्र क्र. 17207

हाई स्कूल परीक्षा

पर्यवेक्षक का नाम एवं हस्ताक्षर

16/3/2020

केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष के हस्ताक्षर

मुख्य उत्तर पुस्तिका के अंतिम पृष्ठ क्रमांक ..... तक कुल प्राप्तांक ☐ + ☐ = ☐

का योग

Answer of question 21

Vegetative propagation =>

It is a type of asexual reproduction which is found in plants. In this type of reproduction, a new plant grows from the leaves, stem, flowers and other parts of the plants. This is known as vegetative propagation.

For example =>
Leaves of bryophyllum.

Vegetative propagation is practised for growing some types of plants because -

1 It helps to grow plants in those regions where the seeds cannot be used to grow plants because of environmental conditions.

2 It is used to grow those plants which cannot bear seeds or those who have lost the capability to born seeds

3 Germination of plants by vegetative propagation creates variations. The offsprings are genetically different from their parent plants.

4 Vegetative propagation is useful to plant trees on large scale because parts of plants are easily available than seeds.

5 The diversities created by vegetative propagation creates new varieties of plan

Answer of question 22 (a)

Power of lens =>

It is defined as the reciprocal of focal length in metres. It is denoted by 'P'. It's SI unit is 'dioptre'.

$$\text{Power of lens} = \frac{1}{\text{focal length (in metres)}}$$

or

$$P = \frac{1}{f}$$

Answer of question 22 (b)

Given

Focal length of ~~ave~~ lens (-f) = -2 m

Power of lens = ?

We know that

योग पूर्व पृष्ठ + पृ... अंक = कुल

Power of lens (P) = $\frac{1}{f}$

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

$$P = -0.5 \text{ dioptre}$$

Hence, the power of concave lens of focal length , is -0.5 dioptre