




# माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

परीक्षार्थी द्वारा भरा जायें ↓


20 पृष्ठीय

विशेष नोट :- सिलाई खुली हुई अथवा क्षतिग्रस्त उत्तर पुस्तिका को न तो पर्यवेक्षक वितरण करें और न ही छात्र उपयोग में लें। ऐसी उत्तर पुस्तिका में लिखे उत्तरों का मूल्यांकन नहीं किया जायेगा। परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जायें ↓


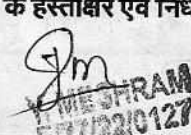
परीक्षा का विषय	विषय कोड	परीक्षा का माध्यम									
Science	2 0 0	English									
स्टीकर तीर के निशान ↓ से मिलाकर लगायें											
											
उत्तर पुस्तिका का सरल क्रमांक - 221 - 1006841											
अंकों में परीक्षार्थी का रोल नम्बर											
<table border="1"> <tr> <td>1</td><td>2</td><td>2</td><td>2</td><td>5</td><td>1</td><td>9</td><td>9</td><td>9</td> </tr> </table>			1	2	2	2	5	1	9	9	9
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शब्दों में											
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नीचे दिये गये उदाहरण अनुसार रोल नम्बर भरें।

उदाहरणार्थ	1	1	2	4	3	9	5	6	8
	एक	एक	दो	चार	तीन	नौ	पाँच	छः	आठ

क - पूरक उत्तर पुस्तिकाओं की संख्या अंकों में <input checked="" type="checkbox"/> शब्दों में <input checked="" type="checkbox"/>	
ख - परीक्षार्थी का कक्ष क्रमांक <input type="text" value="B-2"/>	
ग - परीक्षा की दिनांक <input type="text" value="02"/> <input type="text" value="03"/> <input type="text" value="2022"/>	
परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा H.S C.No. 222007	
पर्यवेक्षक का नाम एवं हस्ताक्षर विश्वजी लाल कुशवाहा	केन्द्राध्यक्ष/सहायक केन्द्राध्यक्ष के हस्ताक्षर 

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जायें ↓

प्रमाणित किया जाता है कि मूल्यांकन के समय पूरक उत्तर पुस्तिकाओं की संख्या उपरोक्तनुसार सही पाई हो। क्राफ्ट स्टीकर क्षतिग्रस्त नहीं पाया गया अन्दर के पृष्ठों के अनुरूप मुख्य पृष्ठ पर अंकों की प्रविष्टी 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  S.K.V. BISEN V.N. 9770024	परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा  J.M. SHRAM 97702127

नोट :- "हायर सेकेन्डरी 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% अधिकार एवं स्वाध्यायी छात्रों को 100 अंक के प्राप्तांक ही अंकसूची में प्रदर्शित किये जायेंगे।"

केवल परीक्षक द्वारा भरा जायें		
प्रश्न क्रमांक के सम्मुख प्राप्ताकों की प्रविष्टी करें		
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प्रश्न क्र.

## || Question No. 1 ||

Choose and write the correct alternative →

1) a) Hydrogen gas and iron ~~oxide~~ <sup>chloride</sup> are produced.

2) a) No.

M 3) b) Yeast

P 4) c) Vas deferens.

B 5) c) Diopter.

S

E 6) d) Retina.

7) c) Ciliary muscles.

8) a) Coal and petroleum.



$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

योग पूर्व पृष्ठ                      पृष्ठ 4 के अंक                      कुल अंक

प्रश्न क्र.

## || Question No. 2 ||

Fill in the blanks :-

(i) Octaves.

(ii) two.

(iii) food.

(iv) Oxygen.

(v) Involuntary.

(vi) fertilization.

(vii) Ampere.

(viii) food chain / ~~food chain~~.

## || Question No. 3 ||

→ Match the column →

(i) Formula of common salt → NaCl.

(ii) Non-metal Iodine → lustrous.



$$\boxed{\text{योग पूर्व पृष्ठ}} + \boxed{\text{पृष्ठ 5 के अंक}} = \boxed{\text{कुल अंक}}$$

5

प्रश्न क्र.

(iii)

Alloy  $\rightarrow$  Bronze

(iv)

Blinking of eyelids  $\rightarrow$  Reflex action.

(v)

Reproduction in Hydra  $\rightarrow$  Budding

(vi)

Genetic material  $\rightarrow$  DNA

(vii)

The unit of magnetic field strength is  $\rightarrow$  Oersted.

M

P(viii)

Magnetic material  $\rightarrow$  Iron.

B

S

E

|| Question No. 4 ||

Write the answers in one / sentence each:-

(i)

The pH value of acidic solution is less than 7.

(ii)

The homogenous mixture of two or more metals is called alloy.

(iii)

Synapse is the gap b/w two nerve cells.



$$\boxed{\text{योग पूर्व पृष्ठ}} + \boxed{\text{पृष्ठ 6 के अंक}} = \boxed{\text{कुल अंक}}$$

प्रश्न क्र.

(iv)

~~2-7~~ days are the period of menstruation.

(v)

Gregor Johann Mendel

(vii)

The continuous path in which electric current flow is called electric circuit.

(vi)

A magnet have two poles.

M (vi)

$$\text{lens formula} = \left[ \frac{1}{v} - \frac{1}{u} = \frac{1}{f} \right]$$

P

|| Question No. 5 ||

B

S

E

Ans. → We apply paint on iron particles because the iron articles are being oxidised when they comes in contact of air and moisture, due to this, a reddish brown layer is developed which is called rust. & Therefore, for the prevention from rusting we apply paint on iron articles.



भाग पूर्व पृष्ठ

+

पृष्ठ 7 के अंक

=

कुल अंक

7

प्रश्न क्र.

|| Question No. 6 || [OR].

Ans. →

Metals

Non-metal

1.

Metals are malleable ductile in nature.

Non-metals are not ductile in nature.

2.

Metals are generally good conductor of heat and electricity.

Non-metals are generally bad conductors of heat and electricity.

P 3.

Metals are ~~strong~~ hard except Na and K.

Non-metals are generally soft except diamond.

B

S

E

|| Question No. 7 || [OR].

Ans.

The limitations of Newland's law of octaves →

①

The law was appreciable only upto calcium.

②

Newland's assumed that only 56 elements present in nature, the law was not applied in future.



$$\boxed{\text{योग पूर्व पृष्ठ}} + \boxed{\text{पृष्ठ 8 के अंक}} = \boxed{\text{कुल अंक}}$$

प्रश्न क्र.

(3)

He paired two elements in one octave which have different properties. Such as nickel and cobalt in with Chlorine, and Fluorine F and Br. groups

|| Question No. 8 || (OR).

M

Ans. Autotrophic

P

Ans. Autotrophic nutrition  $\rightarrow$  In this type of nutrition, living

B

living organisms prepare their own food.

S

For Example  $\rightarrow$  Green plants prepare their own food by photosynthesis.

E

|| Question No. 9 ||

Ans.

Reproduction is process in a living organism produces similar young ones. For the continuous presence of any species on earth reproduction is essential.



$$\boxed{\text{योग पूर्व पृष्ठ}} + \boxed{\text{पृष्ठ 9 के अंक}} = \boxed{\text{कुल अंक}}$$

9

प्रश्न क्र.

If reproduction doesn't occur, the new generation will not form of any species.

|| Question No. 10 || [OR].

Ans. Heredity  $\rightarrow$  Transfer of character from one generation to the next generation after reproduction is known as heredity.

|| Question No. 11 ||

Ans. The laws of reflection of light are  $\rightarrow$

(1) The incident ray, the reflected ray, and the normal all lie on the same plane.

(2) Angle of incidence is always equal to the angle of reflection.

$$\angle i = \angle r$$





योग पूर्व पृष्ठ

+

पृष्ठ 10 के अंक

कुल अंक

10

प्रश्न क्र.

|| Question No. 12 || [OR].

Ans.

Given, charge = 2 C.  
potential difference = 12 V.  
work done = ?

We know  $\rightarrow$

potential difference =  $\frac{\text{work done}}{\text{charge}}$

Work done =  $V \times q$

Work done =  $12 \times 2$   
= 24 Joule

Hence, 24 joule work is done in moving a charge of 2 C across two points having a potential difference 12 V.

|| Question No. 13 ||

Ans.  $\rightarrow$  (i) Electric bulb  $\rightarrow$

(ii) Electric cell  $\rightarrow$



$$\boxed{\text{योग पूर्व पृष्ठ}} + \boxed{\text{पृष्ठ 11 के अंक}} = \boxed{\text{कुल अंक}}$$

11

प्रश्न क्र.

|| Question No. 14 || (OR).

**Ecosystem**  $\rightarrow$  In environment, there is a mutual inter-relationship between living organisms and non-living components, this interdependent creates a system which is known as ecosystem.

M

P

Ans.

B

S

E

|| Question No. 15 ||

**Combination reaction**  $\rightarrow$  In this type of reaction, two or more reactants react to form a single product.

For Example  $\rightarrow$

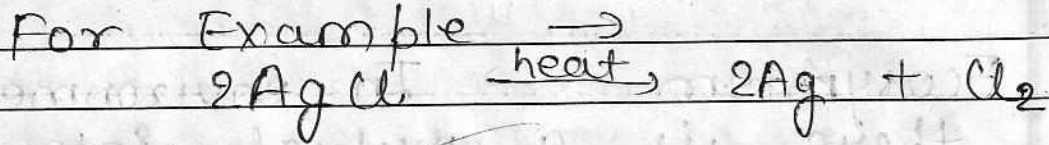


In this reaction, calcium oxide reacts with water to give calcium hydroxide and heat.

**Decomposition reaction**  $\rightarrow$  Those reaction in which a single reactant splits into two or more products.



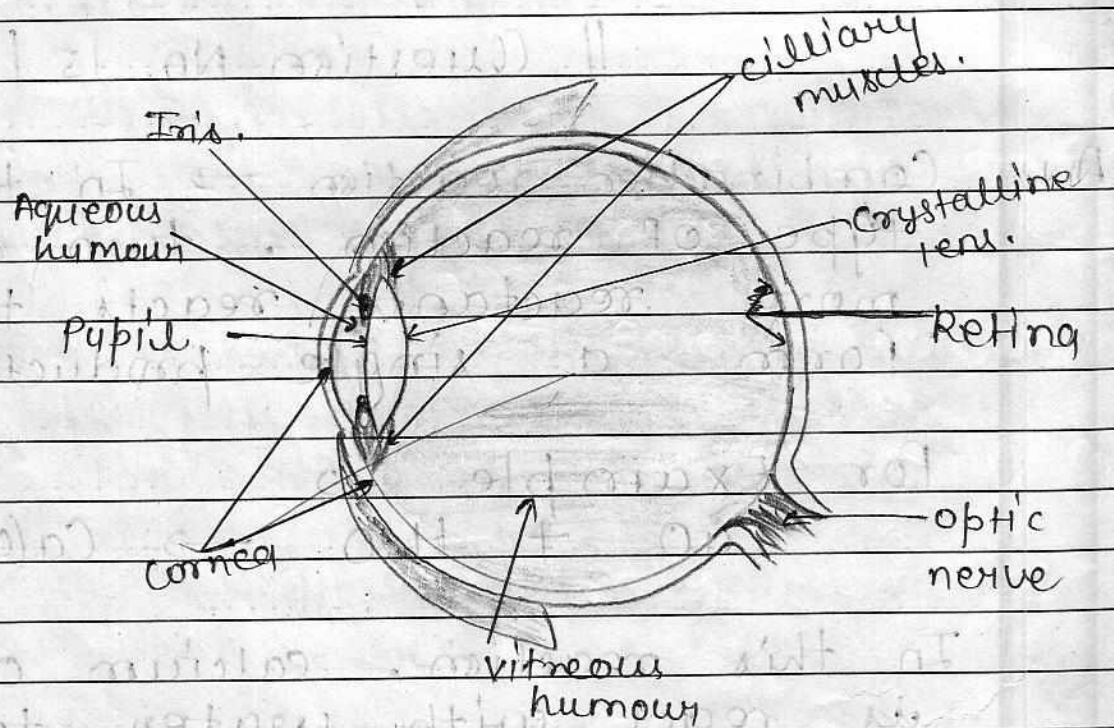
प्रश्न क्र.



In this reaction, silver chloride splits into silver and chlorine gas.

|| Question No. 16 ||

M  
P  
B  
S  
E



|| Human Eye ||



$$\boxed{\text{य. अंक}} + \boxed{\text{पृष्ठ 13 के अंक}} = \boxed{\text{कुल अंक}}$$

प्रश्न क्र.

## || Question No. 17 ||

Ans) Properties of magnetic field lines  $\rightarrow$

(1) Magnetic field <sup>lines</sup> are generally make a closed curve.

(2) Magnetic field lines emerge from north pole and to south pole outside the magnet.

M

(3) Magnetic field lines are stronger at poles and weaker at other parts.

P

(4) Magnetic field lines emerge from south to north ~~in~~ pole inside the magnet.

S

E

## || Question No. 18 || (OR):

Ans) The qualities of an ideal source of energy are  $\rightarrow$

(1) An ideal source of energy must be eco-friendly and does not harm the environment.



$$\boxed{\text{य}} + \boxed{\text{पृष्ठ 14 के अंक}} = \boxed{\phantom{\text{य}}}$$

प्रश्न क्र.

(i)

It should be ~~exo~~ economically viable.

(ii)

It should be cheap at cost.

(iii)

It should be easy to transport or to store.

M

|| Question No. 19 ||

P

Acid

base

B

1.

Acids are generally ~~bitter~~ <sup>sour</sup> in taste.

Bases are generally bitter in taste.

S

2.

Acids release  $H^+$  ions when dissolve in water.

Bases release  $OH^-$  ions when dissolve in water.

E

3.

Acids turn blue litmus to red.

Bases turn red litmus paper to blue.

4.

Acids are ~~corro-~~ & corrosive in nature.

Bases are soapy on touch.

5.

Range of pH value of acids is 0 - 7. (less than 7).

Range of pH value of bases is 7 - 14. (greater than 7)



योग पूर्व पृष्ठ

+

पृष्ठ

=

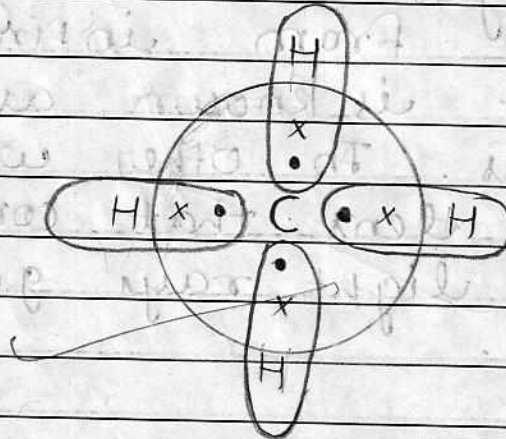
कुल अंक

15

प्रश्न क्र.

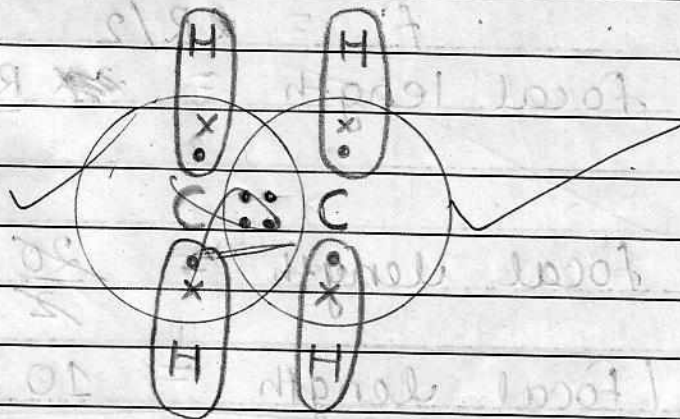
Question No. 20 || (OR)

Ans. i)  $CH_4 \rightarrow$  electron dot structure



Methane ( $CH_4$ )

ii)  $C_2H_4 \rightarrow$  electron dot structure



Ethene ( $C_2H_4$ )

M  
P  
B  
S  
E



प्रश्न क्र.

|| Question No. 22 || (OR).

Ans. a)

Converging lens  $\rightarrow$  The lens which converges the coming light rays from infinity to a point is known as converging lens. In other words, the lens that converges the light rays going through it.

M  
P  
B  
S  
E

Driven, of curvature  
radius  $R = 20\text{ cm}$ .  
focal length = ?

We know  $\rightarrow$

$$f = \frac{2R}{2}$$

focal length = ~~2R~~  $\frac{\text{Radius}}{2}$

$$\text{focal length} = \frac{20}{2}$$

$$\boxed{\text{focal length} = 10\text{ cm}}$$

Hence, the focal length is 10 cm.



प्रश्न क्र.

|| Question No. 2 ||

Xylem

Phloem

1. Xylem transports water and minerals in plant.

Phloem transports food in the plant.

2. In xylem, the flow of water and minerals is unidirectional.

In phloem, flow of food is bidirectional.

3. In xylem, flow of water and minerals is carried from roots/soil to the plant body.

Phloem transports food from leaves to other parts of the plant body.

4. The flow of water and minerals in xylem is known as ascent of sap.

The flow of food in phloem is known as translocation.

5. Xylem transports water only in upward direction.

Phloem transports food in both direction.

M  
P  
B  
S  
E

MPSE