



# माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

2020

24 पृष्ठीय

परीक्षार्थी द्वारा भरा जावे ↓

परीक्षा का विषय ..... विषय कोड ..... परीक्षा का माध्यम .....

**ELEMENTS OF SCIENCE 6.3 A ENGLISH**

BOARD OF SECONDARY EDUCATION MADHYA PRADESH BHOPAL

माध्यमिक शिक्षा मण्डल, मध्य प्रदेश, भोपाल

परीक्षार्थी का रोल नम्बर

**1763241**

शिक्षा 5 4 4 3 4 6 1 8

मध्य प्रदेश

BOARD OF SECONDARY EDUCATION MADHYA PRADESH BHOPAL

केवल परीक्षक द्वारा भरा जावे।

प्रश्न क्रमांक के सम्मुख प्राप्तांकों की प्रविष्टि करें। प्रश्न क्रमांक ..... पृष्ठ क्रमांक ..... प्राप्तांक (अंकों में) .....

6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

एक एक दो चार तीन नौ पाच छ आठ

केन्द्राध्यक्ष/सहायक केन्द्राध्यक्ष एवं परीक्षक द्वारा भरा जावे

क :- पूरक उत्तर पुस्तिकाओं की संख्या अंकों में  शब्दों में

ख :- परीक्षार्थी का कक्ष क्रमांक **16**

ग :- परीक्षा का दिनांक **15 06 2020**

परीक्षा का नाम एवं परीक्षा केंद्र क्रमांक की मुद्रा

**High Secondary School**  
**C. No.- 442116**

पर्यवेक्षक का नाम एवं हस्ताक्षर ..... केन्द्राध्यक्ष/सहायक केन्द्राध्यक्ष के हस्ताक्षर

*(Signature)* *(Signature)*

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 होले क्राफ्ट स्टीकर क्षतिग्रस्त नहीं पाया गया तथा अन्दर के पृष्ठों के अनुरूप मुख्य पृष्ठ पर अंकों की प्रविष्टि एवं अंकों का योग सही है।

निर्धारित मुद्रा : नाम, पदनाम, गोबाईल 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

**Shri S. K. Jaiswal**  
**Chief**

**Gopit Mathur**

नोट :- "हायर सेकेण्डरी परीक्षा में केवल वाणिज्य संवत् 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 से अंकसूची में प्रदर्शित किये जायेंगे।"

कुल प्राप्तांक अंकों में



प्रश्न क्र.

Ques - 1

A (ii) Non-luminous

B. (iv) Two

C. (i) Helber

Toule

#  $Power(P) = \frac{Work(W)}{Time(t)}$

**B  
S  
E  
S  
E**

Ques - 2

(a) Standard

(b) Coagulation of negative

(c) ~~Iron~~ not regulated

(d) Catalytic Poison

Circle shaped bacteria

Ques - 3

Ans (a) Magnesium (Mg)

Ans: (b) There are two types of respiration in plants -

(i) Aerobic respiration

(ii) Anaerobic respiration.



प्रश्न क्र.

Ans: (c) Botanical name of Potato is *Solanum tuberosum*.

A The name of vinegar is acetic acid.

An There are six types of methods to prepare artificial magnets.

Ques - 4.

	A	B
B (a)	Mustard	Cruciferae ✓
b)	Photosynthesis	Carbon dioxide ✓
c)	Transpiration	Stomata ✓
d)	Cytoplasm	Bacterial cell ✓
e)	Glycolysis	A.T.P. ✓

Ques - 5.

Ans: Real spectrum :- Real spectrum can be obtained on screen and obtained at the opposite side of the object and can seen from anywhere from which where the screen can be seen.

Virtual spectrum :- Virtual spectrum so appears in the front of the object and it cannot be obtain on screen and we can't see it from anywhere.

प्रश्न क्र.

Ques - 6

Ans: Two kinds of volumetric analysis are -

- (i) Acidic and basic volumetric analysis
- (ii) Oxidation and reduction volumetric analysis.

Ques - 7

Ans: Characteristics of catalysis are -

- B**
- S**
- E**
- (i) In the process of catalysis, catalyst only take part in the reaction. No changes occurs in the catalyst.
  - (ii) In this process catalyst only alters the rate of reaction they do not initiate it. But some reactions starts only in the presence of catalyst.

Ques - 8

Ans: When the electric current is made pass through a conductor it heats up, it produces heat this is known as heating effect of electric current. For ex- Bulb, when electric current is made pass through wires it reaches to the bulb and the filament inside the bulb becomes hot which results in emitting light rays. This phenomenon

प्रश्न क्र.

of heating up of any conductor by flowing electric current is known as heating effect of electric current.

### Ques - 9.

Ans:

#### ENZYMES

#### CATALYST

**B**  
**S**  
**E**  
(i) Enzymes are made up of protein (large molecules) and have complex 3-dimensional organization

Catalysts are simpler small ~~not~~ molecules having simple structure

(ii) It ~~can~~ is specific for specific substrate

It is not specific for specific substrate

(iii) It is more sensitive to pH and temperature

It is less sensitive to pH and temperature

(iv) The activity of enzymes can be regulated by regulator molecule

It cannot be regulated by any regulatory molecule

### Ques - 10.

Ans:

Factors affecting respiration are-

(i) Oxygen:- The decrease in rate of

प्रश्न क्र.

atmospheric oxygen can decrease the rate of respiration. even 5% of decrease in rate of oxygen can decrease the rate of respiration.

(ii) Temperature:- Rise in temperature can decrease the rate of respiration.

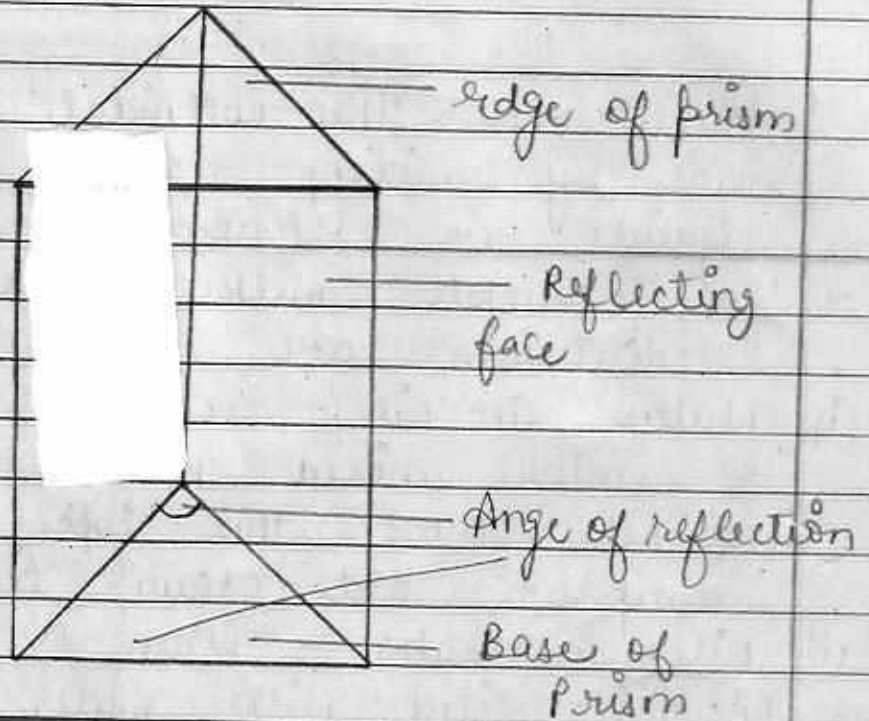
(iii) Photosynthesis :- when rate of photosynthesis increases it decrease the rate of respiration.

### Ques - 11

Ans: Prism is made up of glass whose three sides are rectangular and upper two are triangular in shape. when light rays enters the prism it refracts and emits the light rays in the form of spectrum. when white light enters in the prism it splits in seven coloured & named VIBGYOR - violet, indigo, blue, green, yellow, orange, red spectrum. violet colour is near the prism at the base and red colour is far away from prism.

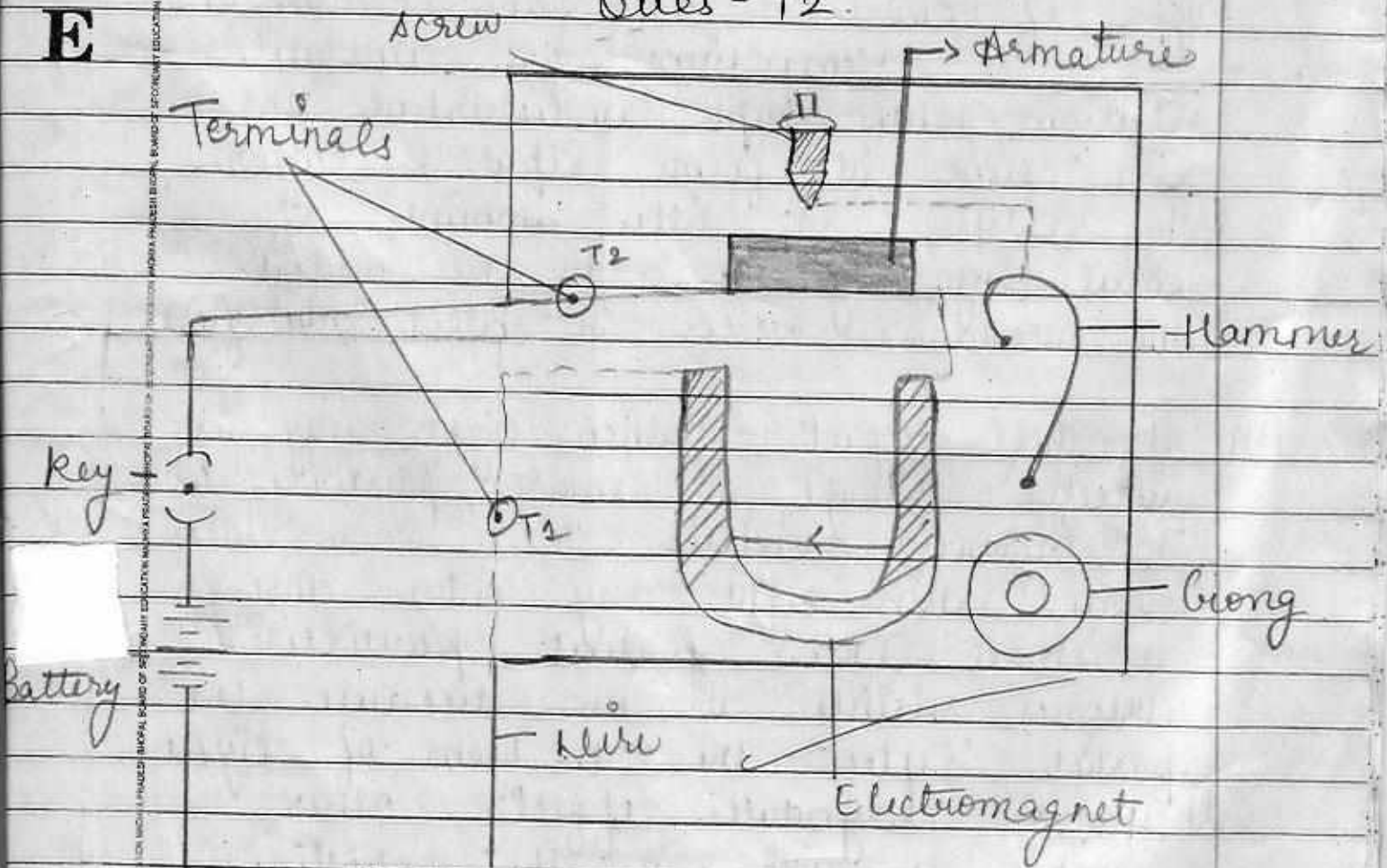
प्रश्न क्र.

# Diagram of Prism:-



**B  
S  
E**

## Ques - 12.



### ELECTRIC BELL



### Ques-13

Ans: (2) Emulsion :- The colloidal solution is made by mixing two immiscible liquids is known as emulsion for example milk in water etc. Emulsions are of two types -

(i) Water in oil :- when a little amount of water mixed with more amount of oil forms this type of emulsion example - cold cream, butter etc.

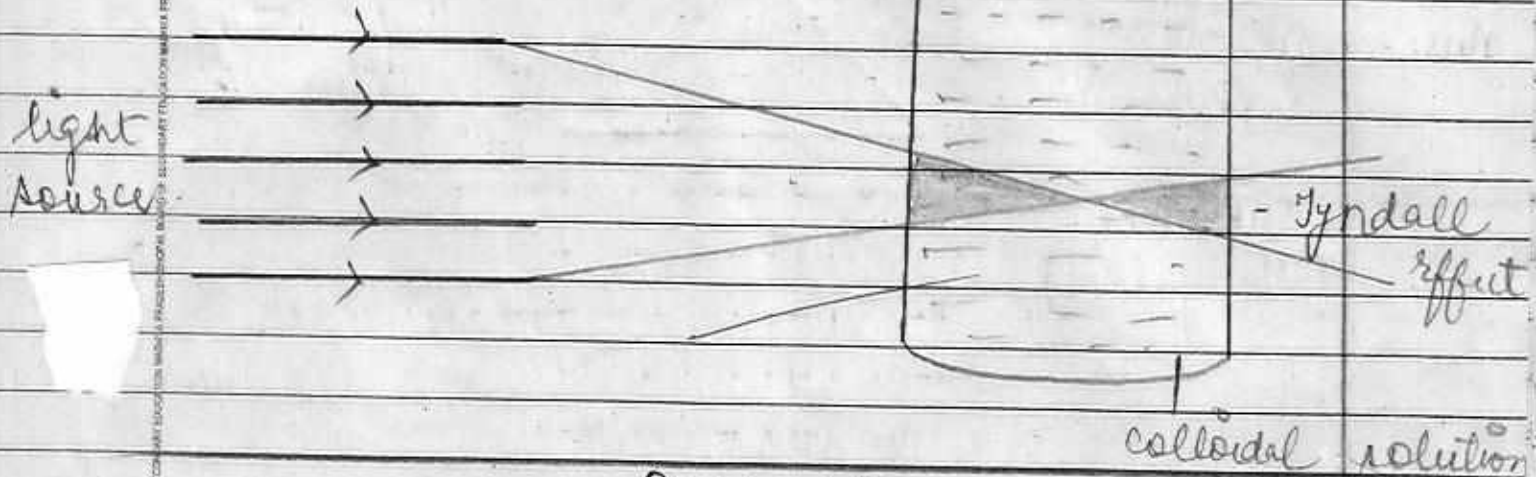
(ii) Oil in water :- when a little amount of oil mixed with water forms this type of emulsion. ex - face cream etc.

Emulsions are unstable solution, when kept undisturbed for some time it forms separate layers. To stabilize it little amount of emulsifying agent is to be added. The substance added is called emulsifiers.

(4) Tyndall effect :- when light ray is reflected through a small particle its it becomes visible. ex in a dark room when light ray enter through a small hole of dust particles becomes visible to us because the particle reflect the beam of light it shows tyndall effect. other example is mist in the forest.



प्रश्न क्र.

Ques - 14.

**B**  
**S**  
**E**

Ans: Sodium Carbonate -

Chemical formula -  $\text{Na}_2\text{CO}_3$  ?

Uses -

- (i) It is used to make soap, detergents etc and use to clean clothes.
- (ii) It used as a laboratory reagent.

Borrel Cement -

Chemical formula -  $\text{MgO} + \text{MgCl}_2$ 

Uses -

- (i) It is use to fill cavity in the teeth.
- (ii) When react with water it becomes hard and use in construction material.

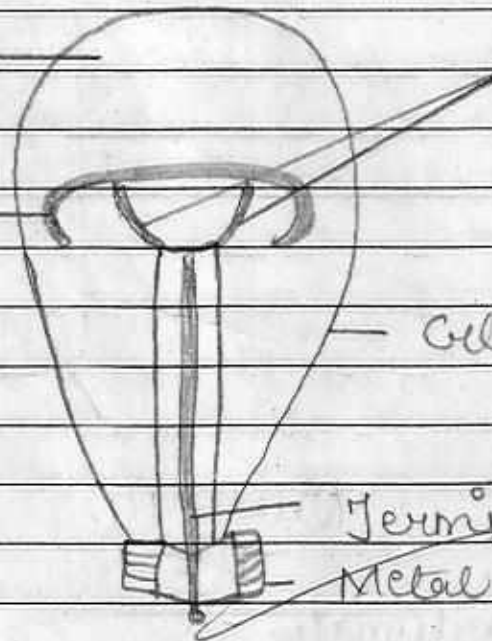
प्रश्न क्र.

Ques - 16.

Ans: - Inert Gas  
(Argon)

Filament  
[Tungsten]

Supporting  
wires



Glass Case

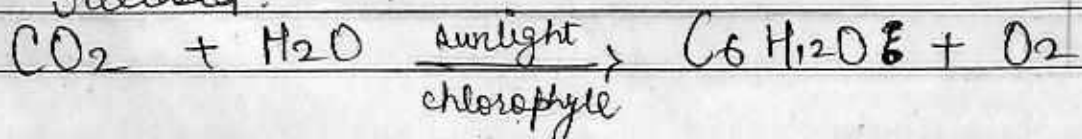
Terminal  
Metal Base

B  
S  
E

DIAGRAM OF ELECTRIC BULB.

Ques - 18

Ans: Photosynthesis:- Photosynthesis is a process through which plants prepare their own food. In the presence of sunlight, ~~in~~ in chlorophyll bearing leaves i.e. green leaves this process takes place. Plants take carbon dioxide and water in presence of sunlight and chlorophyll and prepares or give out oxygen and glucose (carbohydrates). Glucose molecule are taken by plants and  $O_2$  is released.





Photosynthesis only occurs in day time and green coloured plants which contains a pigment called chlorophyll. Chlorophyll act as a catalyst.

Importance of Photosynthesis :-

(i) Through the process of photosynthesis plants gives us oxygen.

(ii) It takes carbon dioxide for this process. By this equilibrium of atmosphere maintains.

(iii) By photosynthesis plants provide us many things like - fruits, vegetables, medicinal plants etc.

(iv) We can get many indirect products also like - meat, ~~fat~~ egg, wool etc as because animals feed on plants.

(v) Apart from this we can also get fuels like coal, wood, sulphur, gelatin etc.

Ques - 17

Ans: Brassica campestris (sarus).  
 Family - Cruciferae  
 type - Angiosperm  
 class - dicotyledonous.



प्रश्न क्र.

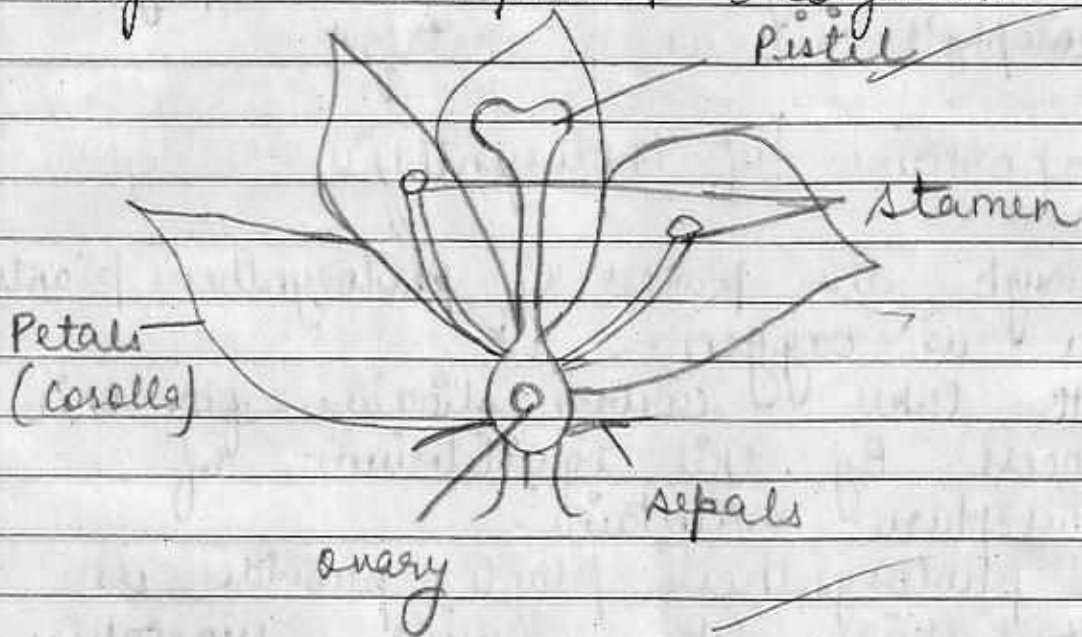
Root - tap root.

Flower - bractiate.

Corolla Petals - 4 petals, syncarpous

Calyx - 4 sepals, dicotyledons.

Pistil

B  
S  
E

Economic Importance -

*Brassica campestris* (serus) is an edible ~~flax~~ plants. It is rich in nutrition and has many importance.

Plants of this family are rich in nutrients and mostly edible like - tuber of potato, leaves and tuber of cabbage, leaves and flower of cauliflower, roots of radish etc. And some plants of this family also have medicinal importance. They are use in curing <sup>many</sup> diseases and infections.

Ques - 15.

Disease	Bacteria
1. Typhoid	Salmonella Typhosa
2. Cholera	Vibrio Cholerae
3. Tuberculosis	Mycobacterium tuberculosis
Food Poisoning	Clostridium

**B  
S  
E**