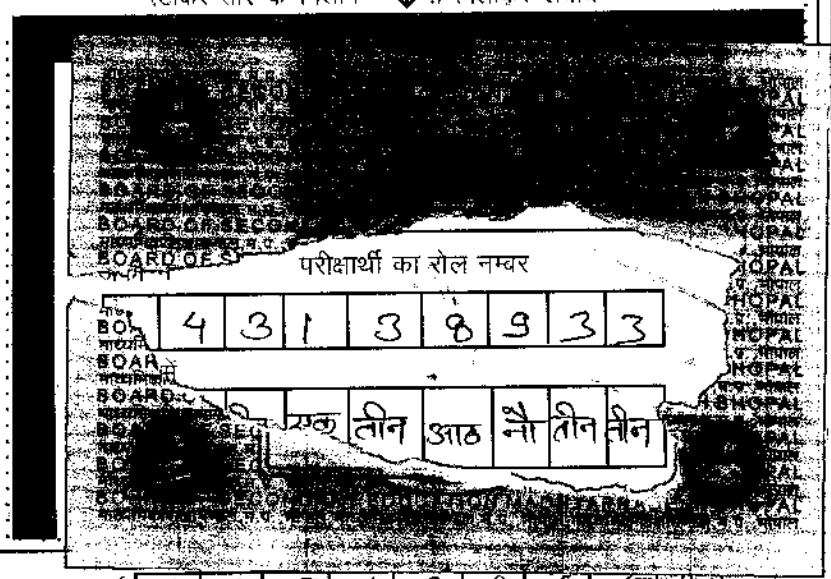
माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

20 पृष्ठीय

परीक्षार्थी द्वारा भरा जावे ↓

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

स्टीकर तीर के निशान ↓ से मिलाकर लगायें



परीक्षार्थी द्वारा भरा जावे →

परीक्षार्थी का रोल नम्बर

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चार	तीन	एक	तीन	आठ	नौ	तीन	तीन

उदाहरणार्थ

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एक	एक	दो	चार	तीन	नौ	पांच	छ	आठ

केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष एवं पर्यवेक्षक द्वारा भरा जावे →

क – पूरक उत्तर पुस्तिकाओं की संख्या अंकों में ____ शब्दों में ____

ख – परीक्षार्थी का कक्ष क्रमांक 112

ग – परीक्षा का दिनांक 20 05 14

परीक्षा का नाम एवं परीक्षा केन्द्र क्रमांक की मुद्रा

हाई स्कूल परीक्षा

पर्यवेक्षक का नाम एवं हस्ताक्षर	केन्द्राध्यक्ष / सहायक केन्द्राध्यक्ष के हस्ताक्षर
Jyoti Gupta Jyoti	

परीक्षक एवं उपमुख्य परीक्षक द्वारा भरा जावे →

प्रमाणित किया जाता है कि मूल्यांकन के समय पूरक उत्तर पुस्तिकाओं की संख्या उपरोक्तानुसार सही पाई गई होलो क्राफ्ट 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 [illegible] के नाम की मुद्रा लगाए।

उप मुख्य परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा	परीक्षक के हस्ताक्षर एवं निर्धारित मुद्रा
C.M. KARAMKAR 9770262	SMT. ADITI BARMAN E-14/77100120 9770242

केवल परीक्षक द्वारा भरा जावे।

प्रश्न क्रमांक के सम्मुख प्राप्तांकों की प्रविष्टी करें।

प्रश्न क्रमांक	पृष्ठ क्रमांक	प्राप्तांक में)
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कुल प्राप्तांक शब्दों में	कुल प्राप्तांक [illegible] में
Seventy Three	

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de/mal

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Answer of Question-1

(i) Spiral

(ii) Crust

(iii) Sputnik -I

(iv) Decibel

(v) Triphala

Answer of Question-2

(i) Dioptre - (C) Power of lens

(ii) Domestic electric circuit - (d) Parallel

(iii) Bio-gas - (e) Methane

(iv) Slaked lime - (b) Calcium hydroxide

(v) Potential difference - (a) Volt

(3) [ ] + [ ] = [ ]

योग पूर्व पृष्ठ — पृष्ठ 3 के अंक — अंक

प्रश्न क्र.

Answer of Question-3

(i) Ans- Hydrogen

(ii) Ans- Urea

(iii) Ans- In the Anaemia

(iv) Ans- In liver

(v) Ans- Gizard

Answer of Question-4

(i) Ans- (b) Sulphur

(ii) Ans- (b) 4

(iii) Ans- (a) Cockroach

(iv) Ans- (a) Lamark

(v) Ans- (b) Aluminium

Answer of Question-5

Ans- Characteristics of Jovian Planet

Following are the main characteristics of Jovian Planets :-

i) They all are the gaseous bodies.

ii) Special type of ring system is present around them.

iii) Many natural satellites are present around Jovian planets.

Answer of Question-6

OR,

Ans- When a person can see the nearer objects clearly but cannot see the far off objects clearly, then this type of eye defect is called short sightedness or Myopia.

This defect of eye can be treated (corrected) by using concave lens of proper focal length.

(5) [ ] + [ ] = [ ]

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Answer of Question-7

Ans- **Fermentation** - The process in which complex organic compounds are reduced to simple organic compounds in the presence of enzymes is called fermentation.

Example of Fermentation - Formation of ethyl alcohol is a fermentation reaction.

$$C_6H_{12}O_6 \xrightarrow[\text{(Fermentation)}]{\text{zymase enzyme}} 2C_2H_5OH + 2CO_2\uparrow$$

(Glucose) (ethyl alcohol) (Carbon dioxide)

Answer of Question - 8

OR

Ans- **Magnetic effect of electric current**

The process of producing an ele a magnetic field around the conductor when an electric current is flowing through the conductor is called magnetic effect of electric current.

Electric motor, generator etc. work on this principle.

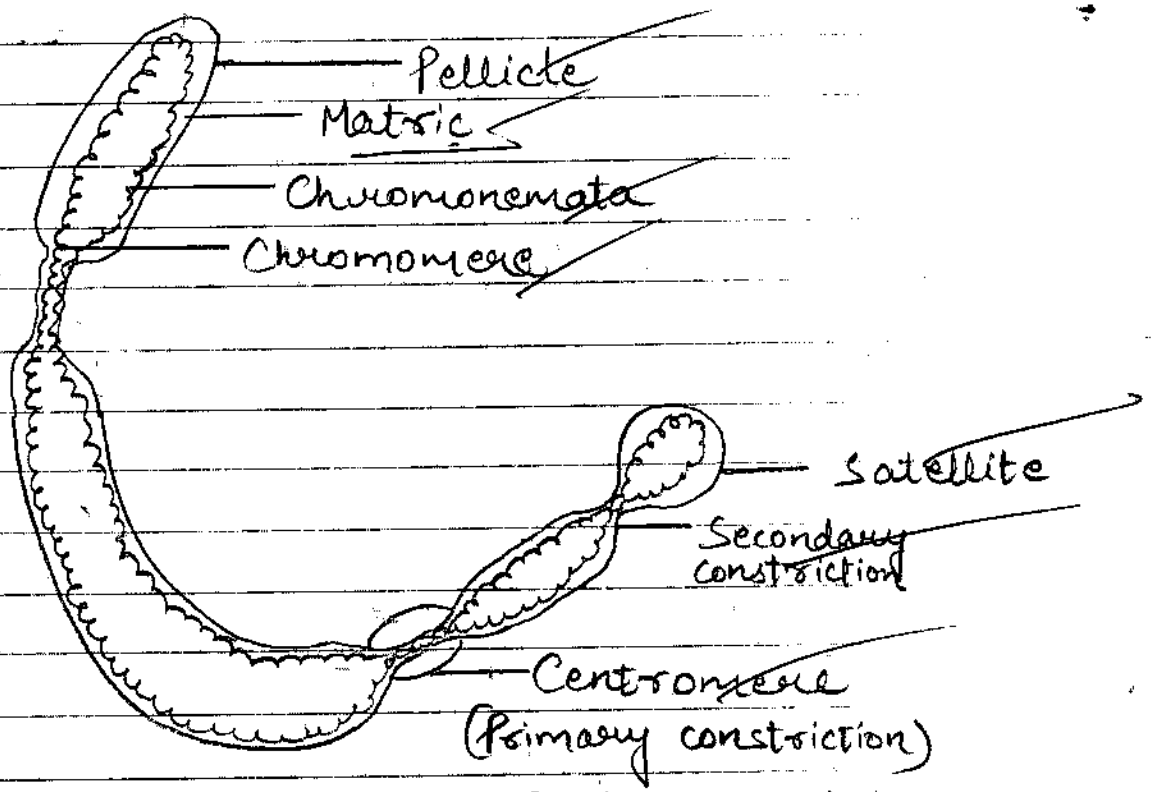
प्रश्न क्र

Answer of Question - 9

OR

Ans - **Chromosome** - A long thread like structure present in the nucleus of all eukaryotic cells and whose hereditary materials remains in some specific structure is called Chromosome.

Labelled structure of Chromosome.



Description of structure of chromosome is in pg-20

Answer of Question - 10

Ans- Differences between Nuclear fission and Nuclear fusion.

S. No.	Nuclear fission	Nuclear fusion
1)	In this reaction one big nucleus fuse splits into two nearly equal nuclei.	In this reaction two small nucleus fuse together to form a big nucleus.
2)	This reaction is a chain reaction.	This reaction is not a chain reaction.
3)	This reaction can be controlled.	This reaction cannot be controlled.
4)	This reaction can be performed and completed in nuclear reactor.	This reaction cannot be performed and completed in nuclear reactor.
5)	Atom bomb is based on this reaction.	Hydrogen bomb is based on this reaction.

प्रश्न क्र

Answer of Question -11

OR

Dispersion of light :- When a beam of light is passed through a triangular glass prism, a band of seven colours is obtained on the screen. This band of seven colours is called **spectrum**. The order of the colours obtained on the screen are as follows :-

(1) Violet (2) Indigo (3) Blue
(4) Green (5) Yellow (6) Orange
(7) Red

The splitting up of white light into seven colours is called dispersion of light. In the spectrum violet colour is at the bottom because it deviates the most. The red colour appears at the top because its deviation is least.

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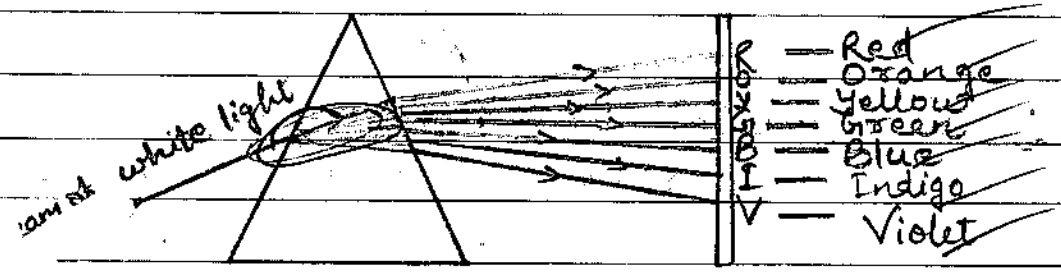
The diagram of dispersion of light

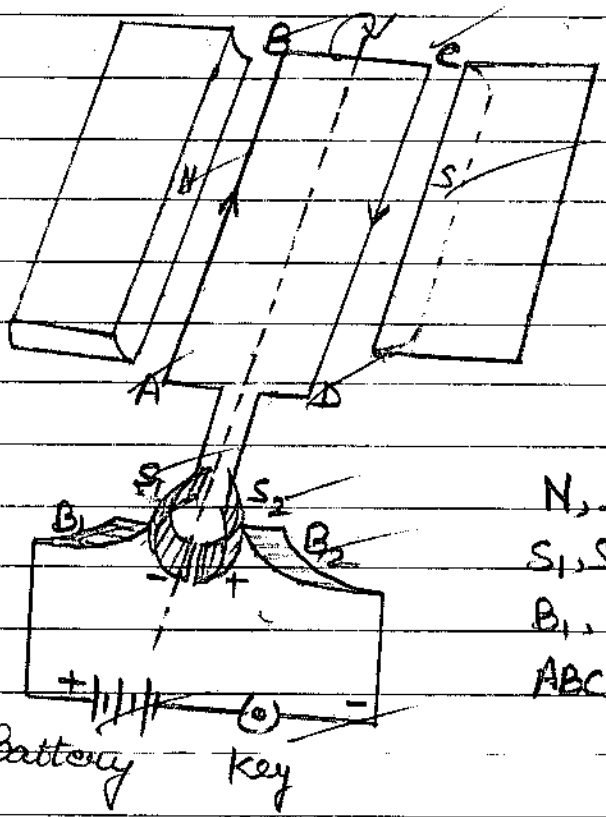


Triangular prism screen

B S E

Answer of Question - 12

Ans- (i) Labelled diagram of electric motor



N, S - Field magnet
S_1, S_2 - Split rings
B_1, B_2 - Brushes
ABCD - Armature

प्रश्न क्र.

(ii) Main Parts of electric motor

Following are the main parts of electric motor

1) Field Magnet :- It is a powerful permanent magnet. Its poles are concave cylindrical. Now-a-days in its place electromagnet is used. Armature coil rotates in between the poles of this magnet.

2) Armature coil - It is a rectangular coil made of copper bounded on a cylindrical rod of iron. It is free to rotate about its axis.

3) Split rings :- These are the two semicircular rings. Each ring is attached to the poles of armature coil seperately.

4) Brushes :- These are the two brush of carbon or metallic strip which remains in contact with the split rings.

Answer of Question - 13

Ans- **Polymerisation** :- The process in which a large number of smaller molecule combines together to form a heavy weight molecule called polymer is called polymerisation.

The smaller molecules which unite together are called monomers.

Name of three polymers

i) Polythene
ii) Poly vinyl Chloride (P.V.C.)
iii) Teflon

Uses of polymers.

Polythene - It is used in making bags and raincoats.

PVC - It is used in making floor tiles and pipes.

Teflon - It is used in making non-stick utensils.

Answer of Question -14

Blood – "Blood is a dark red-coloured, viscous, alkaline in nature, salty in taste, non-transparent, & fluid connective tissue."

It is about 1/13th part of the body which is approximately 8% of the body.

Functions of blood :- Following are the main functions of blood.

i) It transports oxygen from lungs to each cell of the body.

ii) It transports excretory substances from various parts to the kidney.

iii) It maintains the temperature of the body.

iv) It maintains water balance of the body.

Answer of Question - 15

OR Photosynthesis

Ans- All the autotrophic plants have green pigments in their leaf called Chlorophyll. Green plants absorb the carbon-dioxide present in the atmosphere or released by the respiration. They absorb water and minerals from soil and synthesise their own food by using carbon dioxide and water in the presence of sunlight and chorophyll forming glucose and oxygen.

This complete process of synthesising of food by the green plants is called 'Photosynthesis'.

Factors affecting photosynthesis and their effects

1) Carbon dioxide :- The rate of photosynthesis increases on increasing the amount of carbon-dioxide to a certain limit. After that limit carbon dioxide has adversel affect in the rate of photosynthesis.

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2) Temperature :- The rate of photosynthesis is maximum between the temperatures 10°C to 30°C. The temperature below 10°C and above 30°C reduces the rate of photosynthesis.

The chemical reaction of photosynthesis

$$6CO_2 + 12H_2O \xrightarrow[\text{chlorophyll}]{\text{sunlight}} C_6H_{12}O_6 + 6O_2 + 6H_2O + 673\,\text{kcal}$$

(carbon dioxide) (water) (glucose) (oxygen) (water) (energy)

B
S

Answer of Question - 16

Ans - **Chemical Equilibrium** - The state of reversible reaction in which the concentration of reactants and the products remain constant is called chemical equilibrium.

Characters of chemical equilibrium

Following are the main characters of chemical equilibrium :-

1) Equilibrium can only be attained when the reaction is carried on in a closed manner.

2) At the state of chemical equilibrium the concentration of reactants and the products remains equal.

3) The catalyst does not influence the chemical equilibrium but helps to attain equilibrium at the earliest.

4) The state (nature) of chemical equilibrium is dynamic i.e., the rate of forward reaction is equal to the rate of backward reaction.

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v) Equilibrium can be changed on changing the factors affecting the rate of chemical reaction like concentration, temperature, pressure etc.

Equilibrium can be shifted on either side through changes in these factors.

Answer of Question - 17

Ans- Differences between metals and non-metals.

S.No.	Property	Metals	Non-metals
(i)	Nature	Metals are of electropositive nature.	Non-metals are electronegative in nature.
(ii)	State	Mostly metals are in solid state except mercury which is in liquid state.	Non-metals are in all three states i.e., liquid, solid and gas.

S.No.	Property	Metals	Non-metals
(iii)	Lusture	Metals shows specific lusture except alkali metals.	Non-metals do not possess lusture except iodine.
(iv)	Ductile	Metals are ductile i.e. they can be drawn into thin wires.	Non-metals are non-ductile.
(v)	Reaction with acid	Metals reacts with acid and gives hydrogen gas.	Non-metals do not react with acids.
(vi)	Reaction with oxygen	Metals react with oxygen and gives metallic oxides. These oxides are basic in nature.	Non-metals gives acidic or neutral oxides with oxygen.

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Answer of Question-18

Ans- **Global Warming** :- Green house gases like carbon dioxide, nitrogen oxide, carbon monoxide, sulphur dioxides gases are produced due to the activities of human beings. These gases cause green house effect.

These green house gases allow the ultraviolet rays of sun of short wavelength to pass through them. These gases do not allow the sun rays to exit off the atmosphere due to which these rays of short wavelength becomes the large wavelength radiations.

Due to this the temperature of the earth's atmosphere is increasing.

Global warming is such a condition in which the earth's temperature is increasing than the earlier temperature. This effect is called Global warming.

Causes responsible for global warming

Following are the main causes responsible for global warming :-

1) Increase in the amount of carbon dioxide due to excessive deforestation.

2) Increase in the oxides of nitrogen and carbon due do to combustion of fossil fuels (partially or completely).

3) Due to the use of chlor aerosols, foams in refrigerators and air conditioner, the amount of chloro-flouro-carbon is increasing resulting in global warming.

4) Due to the use of pesticides and fertilizers in agriculture the oxides of nitrogen is increasing.

5) Various biological activities, agricultural activities and burning of fuels in automobiles are also responsibe for global warming.

प्रश्न क्र. Repeat & Now

Answer - 9 of Remaining

Structure of Chromosome :- Following structures are found in a chromosome :-

1) Pellicle - It is the outermost layer of chromosome. matrix is present in it.

2) Matrix - It is liquid present inside pellicle.

3) Chromonemata - Chromonemata is embeded in matrix. These are two long colloidal filaments.

4) Chromomere - These are the knot like structure present in chromonemata. Genes are present in chromomere.

5) Centromere - The place from where a chromosome is constricted is called centromere. In some chromosomes more than one constriction is found. It is called secondary constriction.

6) Satellite - It is the anterior part of secondary constriction of an ome.