माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

मु.उ.पु. 24 पृष्ठ

कार्यालयीन उपयोग के लिए

परीक्षा के नाम की सील: हाई स्कूल 2009

निम्न रिक्तियों की सही प्रविष्टि परीक्षार्थी द्वारा की जाए।

1. विषय कोड 2 0 7 परीक्षा का विषय Science

2. परीक्षा का माध्यम English परीक्षा की दिनांक 17/3/09

3. परीक्षार्थी प्रश्न पत्र का पूर्ण कोड नम्बर (सेट A, B, C, या D) अनिवार्यतः भरें — कोड T-1034, सेट A

स्टीकर तीर के निशान से मिलाकर लगायें

केन्द्र क्रमांक की सील
केन्द्राध्यक्ष
केन्द्र कं. 461019

पर्यवेक्षक / केन्द्राध्यक्ष का प्रमाणीकरण

प्रमाणित किया जाता है कि परीक्षार्थी द्वारा निम्नानुसार पूरक उत्तरपुस्तिका ली गई है :–

क :– संख्या शब्दों में X अंकों में X

ख :– परीक्षार्थी की बैठक व्यवस्था कक्ष क्रमांक 2 में है।

ग :– उत्तर पुस्तिका पर प्रश्न–पत्र का कोड नम्बर एवं से सही लिखा है।

हस्ताक्षर (पर्यवेक्षक)

नाम श्रीमती रंजना उपाध्याय स. अ.

पता / संस्था

परीक्षार्थी द्वारा ली गई सभी पूरक उत्तर पुस्तिकायें, मुख्य उत्तर पुस्तिका के साथ संलग्न हैं।

हस्ताक्षर केन्द्राध्यक्ष

[redacted]

(अंग्रेजी अंकों में)

[redacted]		6	1	8	4	3	8	

नीचे दिये प्रत्येक कालम में ऊपर दिये गये अनुक्रमांक के अंकों को उसी क्रम में शब्दों में लिखा जाए :–

[redacted]	Nine	Four	Six	One	Eight	Four	Three	Eight

प्रश्न	पृ
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
कुल प्राप्तांक	

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परीक्षार्थी, परीक्षक से अपेक्षा है कि वे पृष्ठ भाग पर दिये गये निर्देशों का यथेष्ट पालन सुनिश्चित करेंगे।

प्रमाणित किया जाता है कि उपरोक्तानुसार संलग्न पूरक उत्तर पुस्तिकाओं की चस्पा स्थिति में यथावत् खुले हुए ही उत्तरपुस्तिका का मूल्यांकन किया गया है पुस्तिका के अन्दर के अंक एवं कवर पृष्ठ पर दर्शाये अंक एक समान है ए

हस्ताक्षर (परीक्षक)

परीक्षक क्रमांक 47/4093

हस्ताक्षर (उपमुख्य परीक्षक)

दिनांक.....

हस्ताक्षर (मुख्य परीक्षक)

दिनांक.....

परीक्षार्थी के लिए निर्देश

1. परीक्षार्थी को अपना अनुक्रमांक/विषय/माध्यम/दिनांक एवं प्रश्न–पत्र का कोड (समूह) मुख पृष्ठ पर अंकित करना अनिवार्य है। अन्यत्र कहीं भी नहीं लिखा जाएगा।
2. अनुक्रमांक नीचे दिये गए उदाहरण अनुसार लिखा जाए :–

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

3. उत्तर पुस्तिका के दोनों ओर पृष्ठों में लिखें। बीच में रिक्त स्थान न छोड़ें। भूल से छूटा/रिक्त स्थान तथा शेष खाली पृष्ठों को क्रास किया जाए।
4. परीक्षार्थी प्रश्न पत्र हल करते समय ही, कव्हर पृष्ठ पर दी गई तालिका में प्रश्न क्रमांक के सम्मुख वाले कालम में उत्तरपुस्तिका का वह पृष्ठ क्रमांक अनिवार्य रूप से अंकित करें जिस पर प्रश्न का उत्तर लिखा गया है। यदि पूरक उत्तरपुस्तिका का उपयोग किया गया हो, तो उस पर 25 से प्रारंभ करते हुए पृष्ठ क्रमांक परीक्षार्थी द्वारा स्वयं डाले जाएँ।

परीक्षक के लिए निर्देश

1. केवल उन्हीं उत्तरपुस्तिकाओं का मूल्यांकन करें जिन पर होलो क्राफ्ट स्टीकर चस्पा है।
2. उत्तरपुस्तिका का मूल्यांकन होलो क्राफ्ट स्टीकर को चस्पा स्थिति में यथावत् रखते हुए ही किया जायें।
3. बिना होलो क्राफ्ट स्टीकर वाली तथा फटे हुए होलो क्राफ्ट स्टीकर वाली सभी उत्तरपुस्तिकाऐं मूल्यांकन हेतु परीक्षा नियंत्रक, माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल को व्यक्तिशः रूप से भेजी जाये।

मूल्यांकन केन्द्र के लिए निर्देश

1. **O.M.R. SHEET** पर प्राप्तांक की प्रविष्टि करने हेतु केवल वही उत्तरपुस्तिकाएँ प्राप्त करें, जिनका मूल्यांकन होलो क्राफ्ट स्टीकर को चस्पा स्थिति में यथावत् रखते हुए ही किया गया है। यदि होलो क्राफ्ट स्टीकर फटा हुआ पाया जाता है तो ऐसी उत्तरपुस्तिकाऐं मूल्यांकन केन्द्र अधिकारी को पृथक से सौंपी जाएँ। ऐसे प्रकरणों के प्राप्तांकों की प्रविष्टि **O.M.R. SHEET** में नहीं की जाए। मूल्यांकन केन्द्र अधिकारी ऐसी उत्तरपुस्तिकाऐं पुनः मूल्यांकन के लिये परीक्षा नियंत्रक, माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल को व्यक्तिशः रूप से सौपेंगे।
2. उत्तरपुस्तिका के मुख्य पृष्ठ में अंकों एवं शब्दों में अंकित प्राप्तांकों को मिलान कर **O.M.R. SHEET** में अंकों की सटीक प्रविष्टि करें।
3. **O.M.R. SHEET** पर प्रमाणीकरण कर हस्ताक्षर करें।

योग पूर्व पृष्ठ

Section – A

Q-1(A)(i). The radius of earth core is 3400 km.

(ii) The gases were compressed and highly condensed is called protostar.

(iii) The first planet of Jovian group is Jupiter.

(iv) Number of natural satellites of Saturn is 30.

(v) Hydrogen and helium are in the nucleus of the Sun.

(B) (i) Nutrophil	Blood corpuscle.
(ii) Liquid Metal	Mercury
(iii) Fibrinogen	Blood clotting
(iv) Liver	formation of urea
(v) Pituitary	Master Gland.

Q-2 (A)(i) When incident ray travelling from rarer medium to denser medium it travels ..... its perpendicular.

Ans: – Towards.

(ii) The (S.I) international unit of electric power is

Ans: – Watt.

(iii) Pitcher plant is a type of –

Ans – Insectivorous

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(iv) Metal which store under Kerosene oil is — Sodium.

(v) Respiration is — Oxidation.

(B) (i) One example of slow chemical reaction is

$$4Fe + 3O_2 + xH_2O \rightarrow 2Fe_2O_3\,xH_2O$$

where,

x = number of water molecules.

(ii) The pH value of pure water is

Ans - 7 (Seven)

(iii) Name the colour band series of spectrum through prism —

VIBGYOR [Violet Indigo Blue Green Yellow Orange Red]

(iv) which apparatus is used to see the astronomical lobs

Ans:— Astronomical Telescope.

(v) The difference between any two lactic

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potentials is called
Ans:— Potential difference

Section B.

Q-3 Answer:—

Following are the factors that affects the rate of chemical reaction:—

(i) Catalyst :— Catalyst is a chemical substance that alters the rate of reaction. Means to say is that they do not participate in chemical reaction but they increase the rate of reaction.
For Example:—

$$N_2 + 3O_2 \rightleftharpoons 2NO_3$$

$$N_2 + 3H_2 \xrightleftharpoons{[Fe]} 2NH_3$$

Here [Fe] is catalyst that affects the rate of chemical reaction.

(ii) Temperature :— Rate of chemical reaction is directly affected by temperature. As the temperature increases the rate of chemical reaction also increases.

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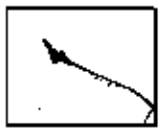

(iii) Nature of conducting materials :— Rate of chemical reaction is directly depend on Nature of the reactants. If the reactants are highly active metals like K, Na, Ca, Zn etc then rate of reaction also increases but contrary to this if the metals are nobel like Ag, Au the rate of reaction decreases.

(iv) Exposure to Sunlight (radiations) :— There are some chemical reactions that occurs in only in the presence of Sunlight. For Example :—

In chlorination of Methane —

$$CH_4 + Cl_2 \xrightarrow{\text{Sunlight}} CH_3Cl + HCl$$

Q-4 Ans :— When plants are called autotrophs autotrophs. The reason behind saying them as autotrophs is that they prepare their own food in the presence of sunlight with the help of chlorophyll. Chlorophyll is a green pigment found in chloroplast. Thus, the process of preparing food (starch) with

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carbondioxide and water and in the presence of chlorophyll and sunlight and oxygen is released as a by product is called as photosynthesis

In photosynthesis,

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

+673 K cal Energy

Photosynthesis is a :—

(i) Biochemical reaction

(ii) Oxidation of carbondioxide takes plac

(iii) Reduction of oxygen takes place.

Q-5. ans:— Differences between Artery & vein

SR NO	Artery	Vein.
1	The wall of artery are thick and elastic.	The wall of vein are thin and elastic.
2	Lumen is present in artery.	Lumen is absent in vein.
3	Valves are not present in arteries.	Valves are present in veins.

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4.	Blood flow with force in artery.	Blood doesn't flow with force in vein.
5.	Arteries are red in colour.	Veins are blue in colour.
6.	Arteries carries oxygenated blood.	Veins carries deoxygenated blood.

Q-6. Ans:—

Fermentation :— The process of breakdown of complex food molecules in the absence of oxygen in the body of living organisms and in the presence of Enzymes are called as fermentation.

In biochemical fermentation Enzymes like invertase, zymase, maltase are used for breaking big molecules of food.

In fermentation :—

$$H_2O + C_{12}H_{22}O_{11} \xrightarrow{\text{Invertase}} C_6H_{12}O_6 + C_6H_{12}O_6$$

(water) (Sugar) (Fructose) (Glucose)

The thus obtained fructose and glucose are isomers. They again decompose

पृष्ठ के अंकों का योग

us form ethyl alcohol

$$C_6H_{12}O_6 \xrightarrow{zymase} 2C_2H_5OH + 2O_2$$

~~As~~ Esterification :– When, an alcohol is heated with an aldehyde, then a sweet smelling substance is formed. This sweet smelling substance has a fruity taste and it is called as ester and the whole process is called as esterification.

Example :– when ethyl alcohol is heated with acetic acid, Ester is formed

$$C_2H_5OH + CH_3COOH \longrightarrow C_2H_5COOCH_3 + H_2O$$
Ester

Q.7.

Answer :— Polymers are the long chain of hydrocarbon attached by additional series. They are long chain of smaller hydrocarbon called as monomers

for Example :— polythene, Poly venly chloride, teflon etc.

Name of three polymers and their chemical formulas :–

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Sr. No	Name of Polymer	chemical formula
1	Polythene	$(-CH_2-CH_2-)_n$
2.	Poly vinly chloride (PVC)	$\left[-CH_2-\underset{Cl}{CH}\right]_n$
3.	Teflon.	$[-CF_2-CF_2-]_n$

Q-8 Ans:— All biotic and abiotic components of the environment posses a system of living in which all organisms are connected to each other. Thus the mutual relationship between the organisms are called ecosystem and the branch in which ecosystem is studied is called Ecology.

components of Ecosystem:—

There are mainly two components of ecosystem

(i) Biotic components

(ii) Abiotic components.

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(A) Biotic components :—

(i) producers :— They are plants. They prepare their own food.

(ii) Primary consumers :— They are herbivorous. They eat on plants.
Example :— cow, monkey etc.

(iii) Secondary consumer :— They are carnivorous. They eat on herbivorous
Example :— Lion, tiger, hyna etc.

(iv) Tritary consumers :— They are omnivorous. They eat on both the plants as well as animals.
Example :— Man, cat, dog etc.

Decomposers :— They are micro organisms. They feed on rotten and dead plants and animals.
Example :— Bacteria, fungi, ameba etc.

(B) Abiotic components :—
In this catogory nitrogen, phosphorous, carbondioxide, oxygen etc. comes.

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Q. 9 Ans:—

Those plants that are useful in making medicine and have a great medicinal value are called as medicinal plants.

Theophrastus is the father of medical plants scienes (Betany)

Ancient literature of India, Atharvveda has the discription of medicinal plants and their importance.

Seasonal plants :-

(i) Tulsi :— It is also known as basil. It is a sacrecious plant. It is used to treat cough, cold and whooping cough. It is generally treated as a god. It is found in almost every house. Tulsi. It is mainly found in Asia and Africa.

(ii) Garlic :— It is widely used as a stimulant. It is used to cure cough and cold and by using Garlic Diahorrea can also be cured. It is used in reducing tension and dropsy.

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(iii) Ginger :— It is a very good stimulant. It is used in curing whooping cough. It is used to cure dermal diseases and stomach troubles. It is used for curing dropsy paralysis also.

(iv) Sauf :— It is also known as asafoitida. It is used to give stimulancy to stomach. It is very helpful in digestion. It is used to cure headache and thus helpful in curing dermal diseases.

Q-10 Ans :— In 1666, Issac Newton passed white light in (through) a glass prism and found seven different colours on a white screen. Thus the splitting up of white light while passing through a ~~glass~~ glass prism is called as dispersion. The band of seven colours obtained on ~~the~~ white screen is called as spectrum. Thus spectrum is a band of seven colours obtained of white screen.

Colours of spectrum obtained by prism :-

(i) voilet

(ii) Indigo

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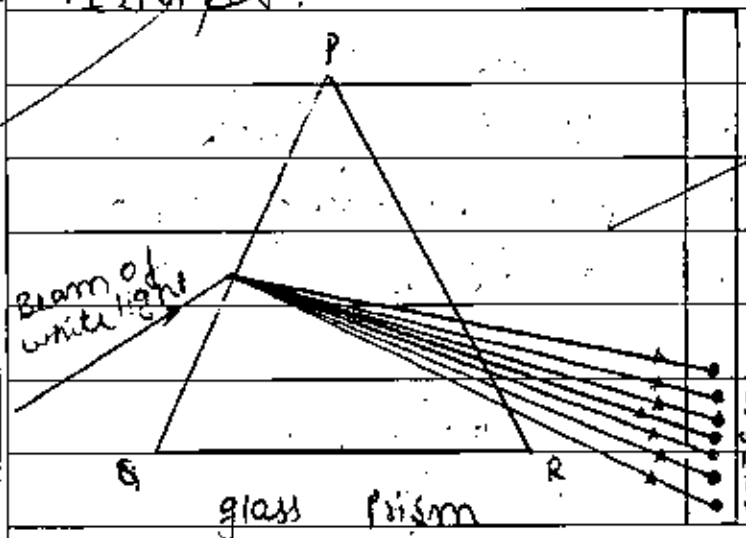
(iii) Blue
(iv) Green
(v) Yellow
(vi) Orange
(vii) Red.

This spectrum can be memorized by VIBGYOR.



In spectrum, Violet colour has maximum deviation whereas Red colour has minimum. The reason behind their differential deviation is their wavelength as Red colour has highest wavelength so it is least deviated whereas violet has minimum wavelength so it is highly deviated.

Example:— appearing of rainbow during a rainy day is an example of this spectrum.

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Q-11 Ans:— characteristics of ideal fuel:—

i) It should has high calorific value.
ii) It should have proper ignition temperature
iii) It should have balanced rate of combustion.
iv) It should not left much ash or poisonous gas after combustion.
v) It should be cheap, easily available and save to transport.

Q-12. Ans:— chromosomes:— those chemical substance that are found in the nucleus of cell and contains hereditary materials are called as chromosome.

chromosomes are broadly classified into four types:—

(i) Subcentric
(ii) Metacentric
(iii) Telocentric
(iv) Acrocentric

Typical structure of a chromosome:—

(i) Pellicle:— It is the outermost membrane of the chromosome.

(ii) Matrix:— It is situated inside pellicle.

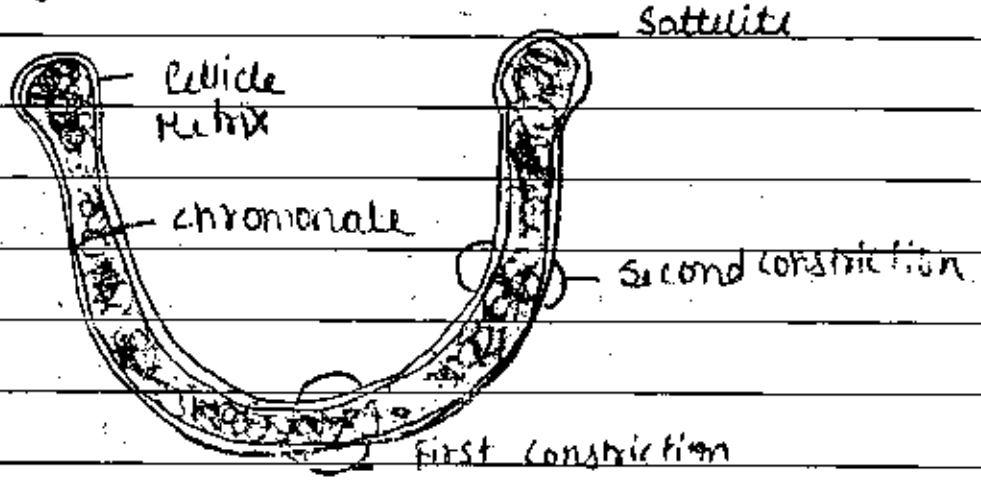
(iii) chromonata :- It is situated inside chromosome and it contains Jens.

(Ir) Centromere :- It is situated inside chromonata and is a coat of jens that protects they from any extrinal mechanical or physical shock.

(r) constriction :- They are first found at the centre of chromosome. In some chromosome there are two constriction. First constriction & Suond constriction.

(ri) Sattelite :- It is the posterior part of chromosome.

Diagram of chromosome :-



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Functions of chromosome:—

(i) It contains hereditary material and is responsible for hereditary transfusion.

(ii) Gens are situated inside chromosome that are the basic unit of heredity.

Q-13. Ans:— Following are the precautions that should be kept in mind while using electricity.

(i) All electric appliances should be given earth wire.

(ii) All electric appliances should be connected by fuse.

(iii) Devices like geaser, Ac, fridge are given Socket of 15 A current.

(iv) All electric appliances should be of quality.

(v) We should use glooves and should stand on wooden board while working with electric appliances.

पृष्ठ के अंकों का योग

(viii) we shouldn't touch electric switches with wet hands.

(viii) The hight quality equipments should be promoted.

we should use electricity reasonably. Disuse of electricity should be avoided.

(ix) All electrical wiring should be tightly tighted with adhesive tape so as to avoid short circuit or overloading.

(x) we should promote to new technology appliances so as to avoid any electric hazard.

Q-14 Answer:- Iron is the most abundent metal found on earth's crust. Iron is highly reactive in nature and generally found in oxides and sulphide forms. Heamatite is the main ore of iron that has the formula Fe_2O_3. Iron is extracted from heamatite by blast furnace.

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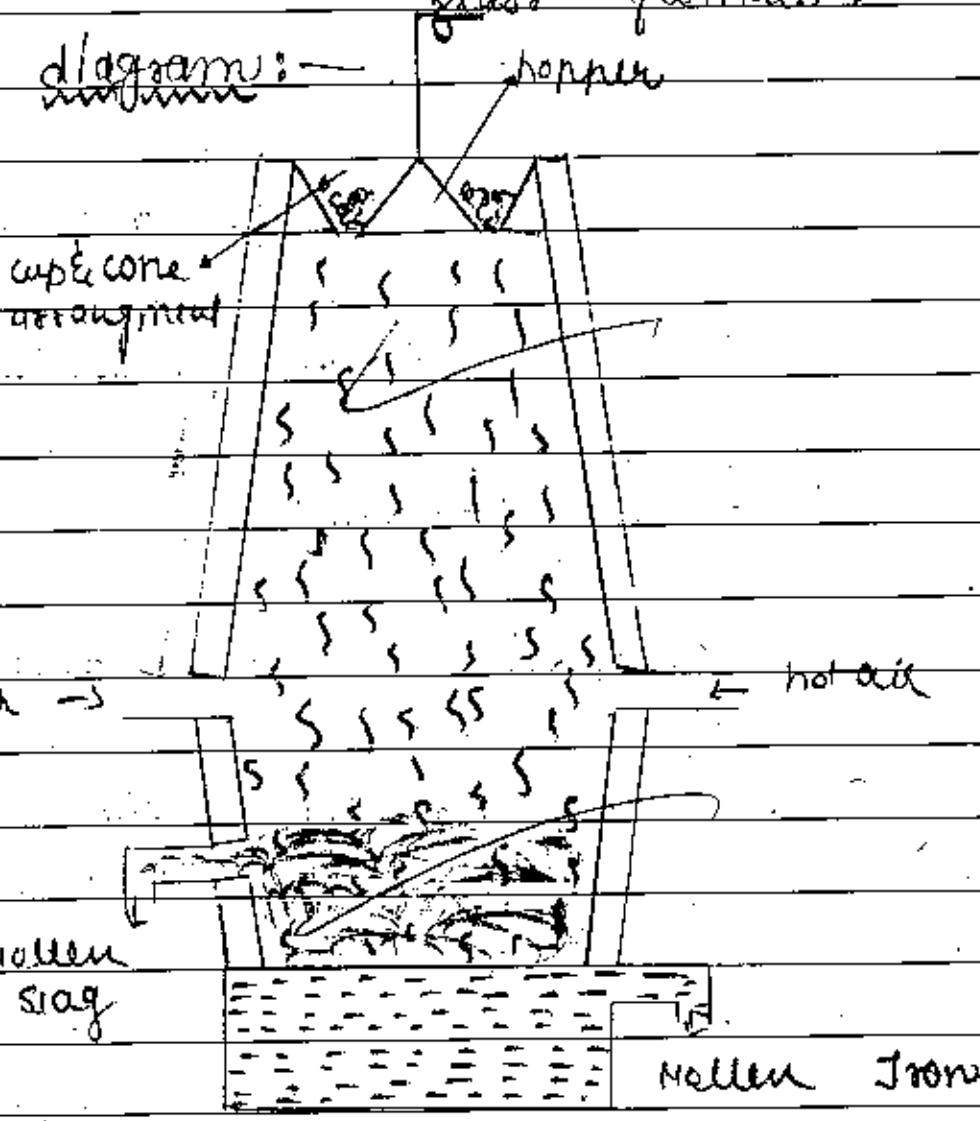
Extraction of Iron:— Iron is extracted by blast furnace.

Labelled diagram:—



Blast Furnace.

Heamatite is strongly heated in the blast furnace. On heating it decomposes and the impurities found in heamatite forms sulphide or oxides and comes out of furnace from the tap of molten liquid in the form of slag. The left molten iron is collected in the bottom of the furnace.

पृष्ठ के अंकों का योग

Steps of Operations — Equation :-

$CaCO_3 \xrightarrow{\Delta} CaO + CO_2$

$CO_2 + C \longrightarrow 2CO$

$Fe_2O_3 + 3CO \longrightarrow 2Fe + 3CO_2$

Steps of Reactions :-

(i) Calcination :- Haematite is heated in the blast furnace without air. The process of heating without oxygen is known as calcination

(ii) Roasting :- Iron ore is heated then in the presence of excess of oxygen. The process of heating with excess of oxygen is known as Roasting

(iii) Concentration :- Haematite is then concentrated in the blast furnace and their impurities are settled down as slag and molten iron is formed at the bottom

पृष्ठ के अंकों का योग

योग पूर्व पृष्ठ | पृष्ठ 21 के अंक | कुल अंक

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	+		=	
योग पूर्व पृष्ठ		पृष्ठ 22 के अंक		कुल अंक

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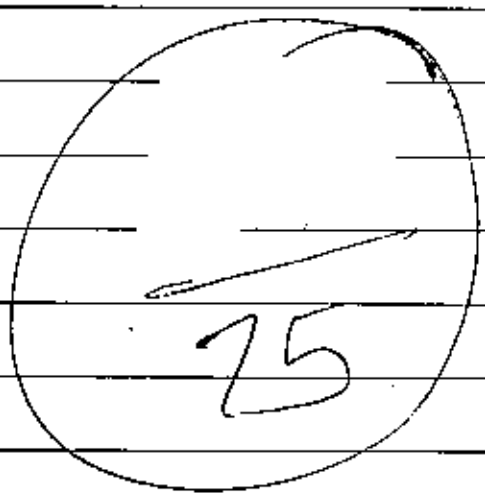
पृष्ठ के अंकों का योग

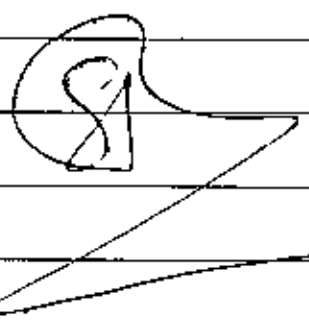
योग पूर्व पृष्ठ + पृष्ठ 23 के अंक = कुल अंक

BSEMP

पृष्ठ के अंकों का योग

योग पूर्व पृष्ठ + पृष्ठ 24 के अंक = कुल अंक





BSEMP

पृष्ठ के अंकों का योग