

2009 माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल मु.पु. 24 पृष्ठ

कार्यालयीन उपयोग के लिए

निम्न रिक्तियों की सही प्रविष्टि परीक्षार्थी द्वारा की जाए।

परीक्षा के नाम
की सील

हाई स्कूल परीक्षा विभाग



1. विषय कोड **200** परीक्षा का विषय **Science**
2. परीक्षा का माध्यम **English** परीक्षा की दिनांक **17-03-2009**

केन्द्र क्रमांक की सील
केन्द्र क्रमांक
561002

3. परीक्षार्थी प्रश्न पत्र का पूर्ण कोड नम्बर कोड सेट
(सेट क्रमांक एवं कोड) **T-1034-A**

पर्यवेक्षक/केन्द्राध्यक्ष का प्रमाणीकरण
प्रमाणित किया जाता है कि परीक्षार्थी द्वारा निम्नानुसार पूरक
उत्तरपुस्तिका ली गई है :-

क :- संख्या शब्दों में **X** अकों में **X**
ख :- परीक्षार्थी की बैठक व्यवस्था कक्षा
क्रमांक **32** में है।

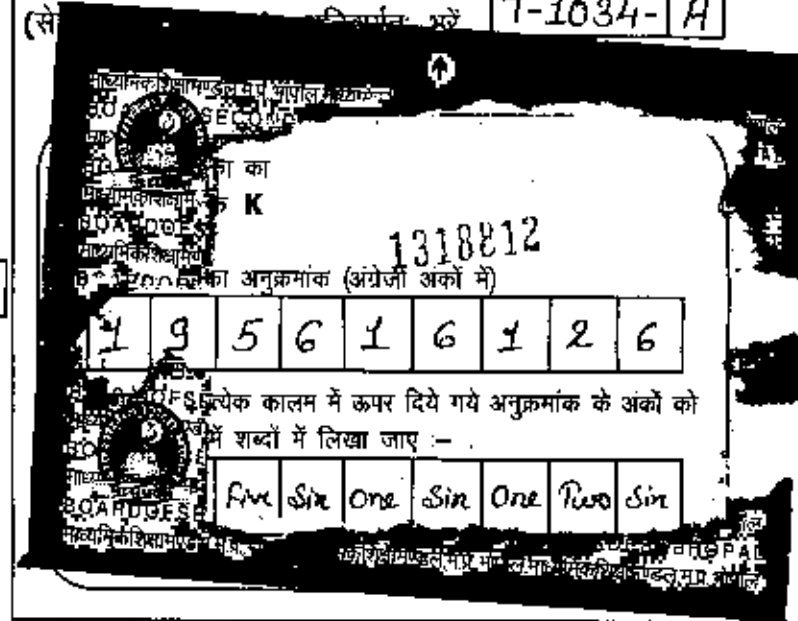
ग :- उत्तर पुस्तिका पर प्रश्न-पत्र का कोड नम्बर एवं सेट
सही लिखा है।

हस्ताक्षर (पर्यवेक्षक)

नाम Smt. S. Vyas पद A.T.
पता/संस्था M. L. B. G. H. S. S. K. N. W.

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

हस्ताक्षर-केन्द्राध्यक्ष



प्रश्न	पृष्ठ	प्राप्तांक	प्रश्न	पृष्ठ	प्राप्तांक	प्रश्न	पृष्ठ	प्राप्तांक
1	18	09	11	9	5	21		
2	17	10	12	7	5	22		
3	16	4	13	5	6	23		
4	15	4	14	3	6	24		
5	15	4	15			25		
6	14	4	16			26		
7	13	4	17			27		
8	12	4	18			28		
9	11	4	19			29		
10	9	5	20			30		
कुल प्राप्तांक			शब्दों में			अकों में		
	350		Seven four			0	7	4

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 संख्या मूल्यांकन के समय सही पाई गई है। होलोग्राफ्ट स्टीकर चसपा स्थिति में यथावत् रखते हुए ही उत्तरपुस्तिका का मूल्यांकन किया गया है। मैंने सभी प्रश्नों के उत्तरों का गहन मूल्यांकन किया है। उत्तर पुस्तिका के अन्दर के अंक एवं कवर पृष्ठ पर दर्शाये अंक एक समान है एवं योग पूर्णतः सही है।

हस्ताक्षर (परीक्षक) [Signature]
परीक्षक क्रमांक **9210344**

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
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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, कन्वर 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 जाये।
3. बिना होलो क्राफ्ट स्टीकर वाली तथा फटे हुए होलो क्राफ्ट स्टीकर वाली सभी उत्तरपुस्तिकाएँ 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 उत्तरपुस्तिकाएँ मूल्यांकन केन्द्र अधिकारी को पृथक से सौपी जाएँ। ऐसे प्रकरणों के प्राप्तांकों की प्रविष्टि **O.M.R. SHEET** में नहीं की जाए। मूल्यांकन केन्द्र अधिकारी ऐसी उत्तरपुस्तिकाएँ 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।



"Section - B"

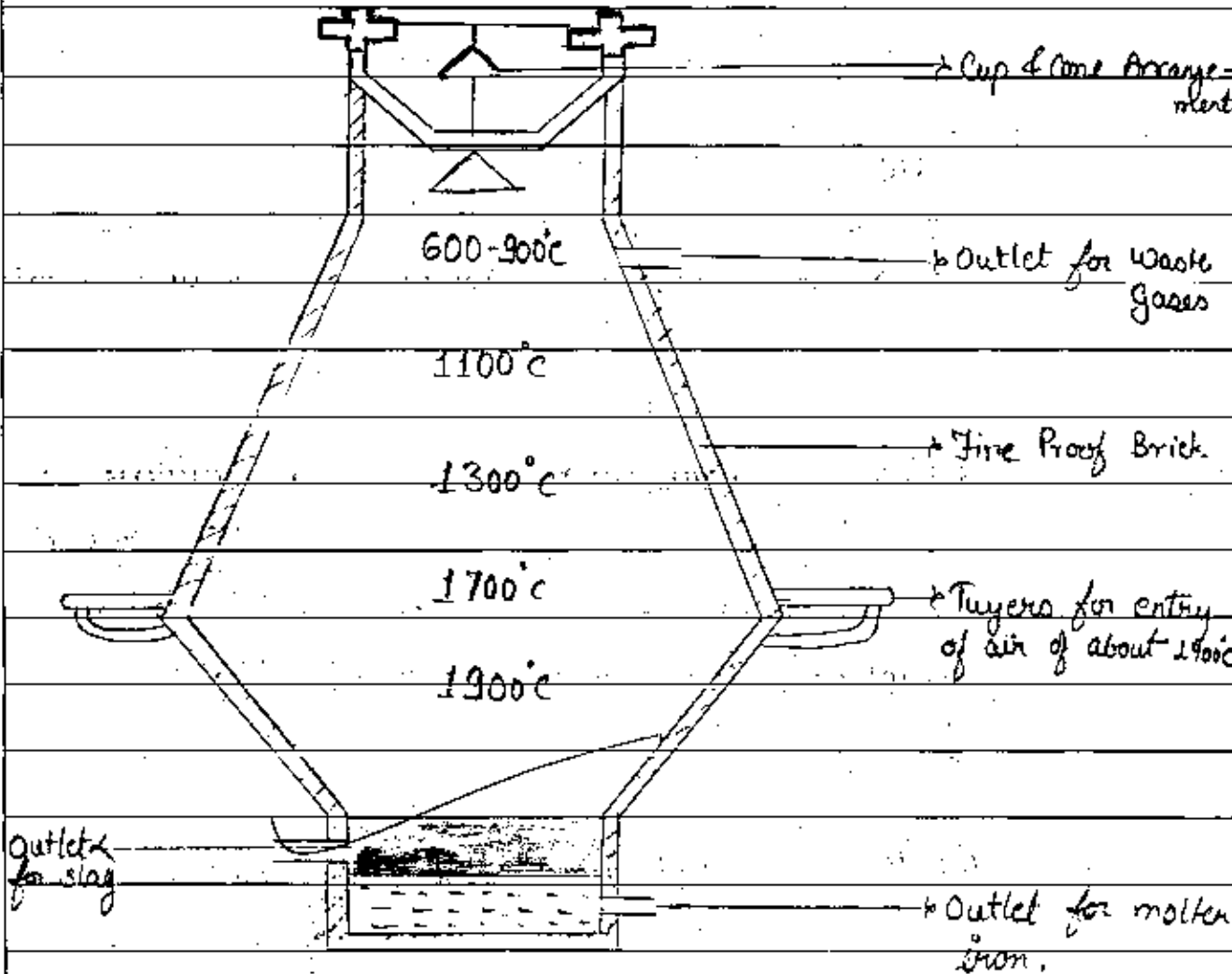
"Long Answer Type Questions"

Ans-14

"Extraction of Iron"

Extraction of iron is done in a "BLAST FURNACE"

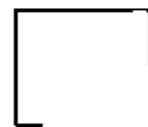
(i) DIAGRAM :-



"BLAST FURNACE"

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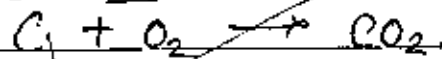


Working :- Hot blast of air of about 1900°C is blown in the furnace with the help of "Tuyers". Charge which is a mixture of 8 parts of ore, 4 parts of Coke and 1 part of Limestone is added to ^{the furnace} through the Cup & Cone Arrangement. Here:-

- (i) Coke act as a fuel and a reducing agent
- (ii) Limestone act as a flux.

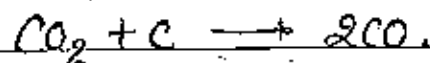
Reactions in the furnace :- Various reactions takes place through diff. zones:-

(i) Zone of Combustion :- Near the tuyers of the furnace, Coke react with oxygen to form CO_2 .



As the CO_2 gas ascent it require descending temp. The temp. falls to 1800°C .

(ii) Zone of heat absorption :- In the middle of the furnace, CO_2 reacts with Coke to form Carbon-monoxide. It is exothermic reaction. Temperature is about 1300°C .



(iii) Zone of Reduction :- The falling iron towards the top end of the furnace combines with carbon-monoxide and forms spongy iron. Sometimes FeO is also formed which is further reduced.

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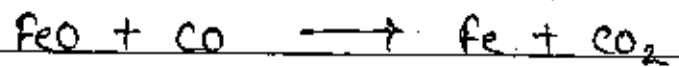
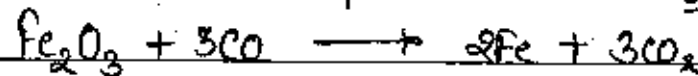
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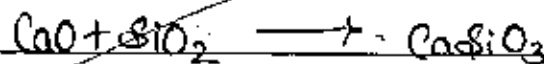
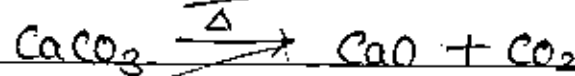
कुल अंक



to iron. Here the temp. is about 700°C.



(iv) Zone of Slag Formation :- In the middle of the furnace limestone is reduced to lime which combine with the impurity and forms slag. Here temp. is about 1300°C.



[Slag]

(v) Zone of Fusion :- The iron is collected in the bottom of the furnace. The upper layer is of slag which is taken out through its tapping hole. Then iron is also taken out which solidifies to form "Pig Iron".

Waste gas are removed from the top.

Once the furnace is set to fire, it continues to heat for a long period of time.

In this way, iron is extracted through its ore of Hematite (Fe_2O_3) in a blast furnace.

पृष्ठ के अंक का योग

Ans-13.

"ELECTROPLATING"

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When one metal is coated with other metal, or one metal article is coated with other metal then this phenomena of coating, a metal on to other is known as "Electroplating".

The process of electroplating is done in order to make an article look beautiful. The main aim of electroplating is to make the article safe or prevented from corrosion.

"Mechanism Of Copper Plating On Iron-Pot."

The article (i.e. the iron-pot) on which electroplating is to be done is kept at negative electrode, i.e. cathode. The metal that is to be electroplated (i.e. Copper) is kept at the place of positive electrode, i.e. anode. Both the metal and the iron pot is kept in the electrolytic solution of $CuSO_4$.

When both of them, the metal and the iron pot, is connected with the help of a wire and when electricity is passed through the electrolytic solution of $4H^+$ $CuSO_4$, then after few minutes, it is observed that Copper from the anode gets electroplated on Iron Pot at the cathode. In this way copper is electroplated on the iron pot.

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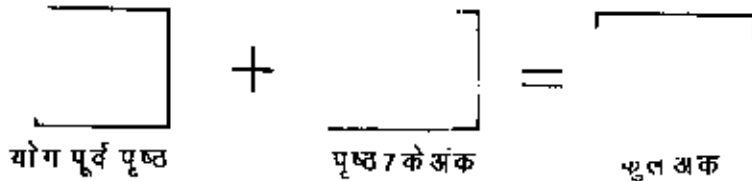
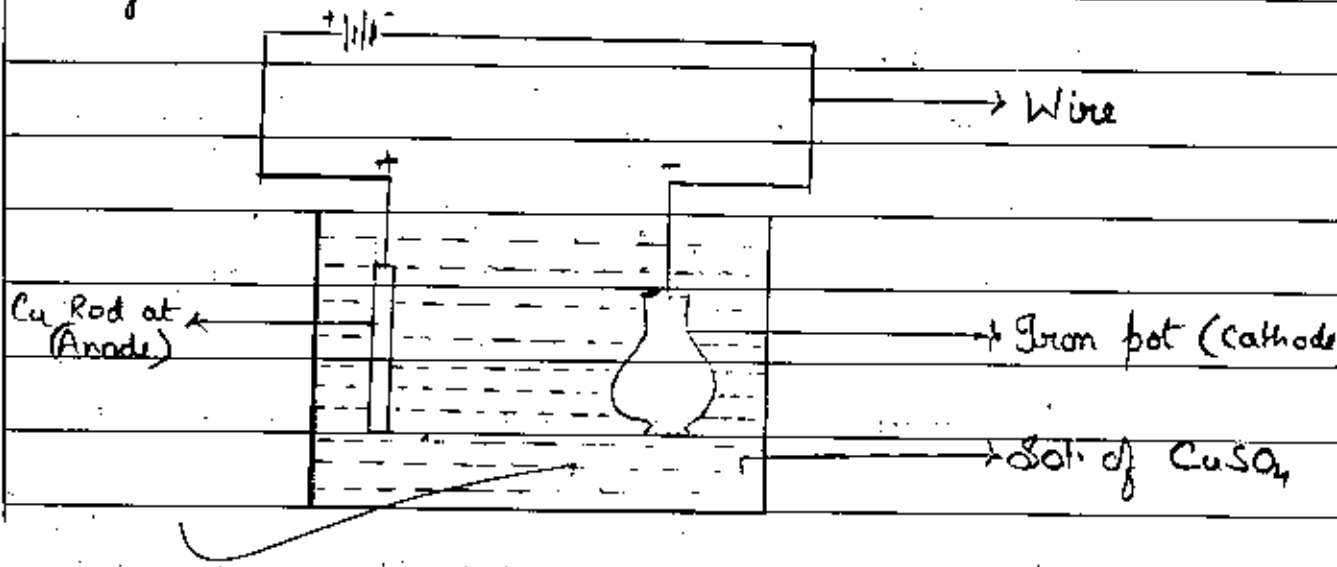


Diagram :-



ELECTROLYSIS

Ans-12. John Mendel is considered as the "father of HEREDITY." He has shown "3 laws of Inheritance." They are as follows :-

(i) Mendel's Law of Dominance.

(ii) Mendel's Law of Segregation.

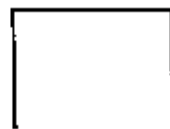
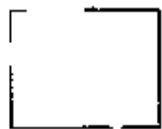
(iii) Mendel's Law of Independent Assortment.

By the help of these Mendel's law of Inheritance Mendel has given us various technique like :-

- (1) Helpful in obtaining animals of desired variety.
- (2) Helpful in the separation of Pure & Impure Parents.

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- (3) Helpful in selection of dominant & recessive characters.
- (4) Helpful in ^{the} analysis of characters of next generation.
- (5) Helpful in knowing of genetic diseases.

Explanation :- Mandel's Law of Independent Assortment :-

In this law Mandel crossed a pair of two contrasting characters with the help of dihybrid cross and found that the characters of one gamete is transmitted to the next generation with an affective, the characters of other gamete. They assorted themselves independently. That's why, it is known as "Law of Independent Assortment".

Example :-

Round & Yellow seeds × Green and wrinkled seeds

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rryy

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		RY	Ry	ry	ry
RY	RRYY	RRYy	RrYY	RrYy	
Ry	RRYy	RRyy	RrYy	Rryy	
ry	RrYY	RrYy	rrYY	rrYy	
ry	RrYy	Rryy	rrYy	rryy	

9

याग पूर्व पृष्

पृष्ठ 9 के अंक

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Here :- Round & Yellow Seeds :- 9
 Round & Green Seeds :- 3
 Wrinkled & Yellow Seeds :- 3
 Wrinkled & Green Seeds :- 1

∴ Ratio = 9:3:3:1

Ans-11. Five characteristics of "Ideal Fuel" are as follows:

- (i) It should have high calorific value.
- (ii) It should be easily available.
- (iii) It can be easily transported & stored.
- (iv) It should produce no kind of pollutants.
- (v) It should also not produce any kind of toxic materials and should burn with a blue flame.

Ans-10. When a ray of white light passes through a prism then, it break up into seven colours and a band of seven colour is obtained on a screen. This phenomena of breaking or splitting up of white light into seven colours is known as "splitting of light". And the band of colours obtained of on the screen is known as "SPECTRUM".

11

योग पूर्व पृष्ठ

11 के अंक



Ans-9. Medicinal plants are those plants which provide us medicine from their own parts which is helpful to us in curing our medicine. There are about 2000 medicinal plants and 1300 aromatic plants which are in the great demand in Indian system of medicines like Ayurveda, Homopathy, Unani, Siddha etc.

Four Medicinal plants and their importance is:-

(1) Tulsi :- (i) Leaves are used for curing stomach ache, seasonal cough & cold.

(ii) It is used for paralysis treatment.

(iii) Its leaves are also used for the treatment of diff. skin diseases.

(iv) It is also used for teeth treatment.

(2) Haldi :- (i) Root part called rhizome is used as spices in food.

(ii) Used as an internal antiseptic and external stimulant.

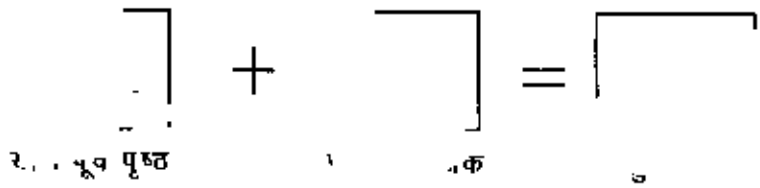
(iii) Used along with onion and lime for applying on diff. injuries on bones & ligaments.

(iv) Used with milk to get rid of cough & cold.

(3) Harrah :- (i) Used for stomach problem as a tonic.

(ii) Used for treatment of Asthma.

(iii) Blisters of Buccal cavity can be cured using



~~its~~ its gargles.
 (iv) Bark is used for urinary disorder treatment.

- (4) Neem :-
- (i) Leaves are used as insecticide
 - (ii) Bark is used for treatment of skin disease.
 - (iii) Flowers are used as stomach tonic.
 - (iv) Young twigs are used to clean teeth and to deal with diseases like pichoriya.

Ans-8 : "Green House Effect" :- This term was first coined by J.S. Fourier in the year "1827". It is the progressive warming of earth surface due to the blanketing effect of CO₂ gas. It is also known as "CO₂ Problem", "Atmospheric Effect".

Contribution of Green House Gases :-

Gas	Percentage
CO ₂	50%
CH ₄	19%
CFC	17%
O ₃	8%
N ₂ O	4%
H ₂ O	2%

These gases forms a shield like layer bet. the

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पृष्ठ के अंकों का योग

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योग पृष्ठ

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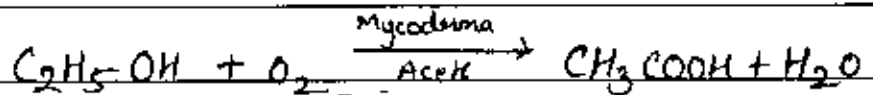
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atmosphere and earth. They act as a woolen blanket and absorb the rays coming from the sun. When the short term rays comes from the sun then after radiation, they change into long term rays. But these gas protect them from going outside from the atmosphere of the earth.

Ans-7 In the laboratory "Vinegar" or Acetic Acid is prepared by the fermentation of dil. ethyl alcohol in the presence of Bacteria known as "Mycoderma Aceti".

Reactions :-



In a wooden vat having a porous top and bottom, cuttings of branch wood shavings dipped in dil. vinegar is placed. This act as a source for Mycoderma Aceti. There are holes near the false bottom for the entry of atmospheric air. Now 8-10% dil. ethyl alcohol is drained from the top and at the same time air is blown in in a controlled rate. Ethyl alcohol on reaction with atm. air forms acetic acid in the presence of "Mycoderma Aceti".

Diagram :- P.T.O.

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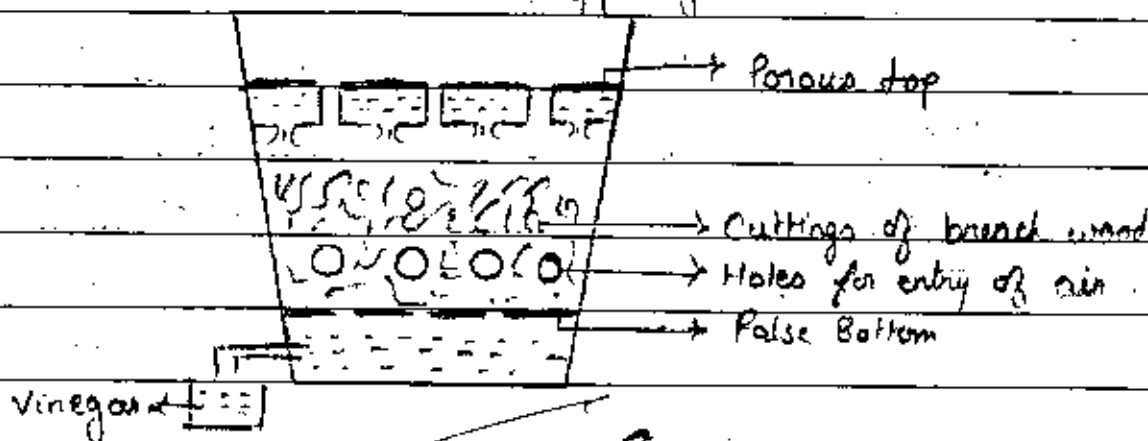
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Enzymes Alcohol

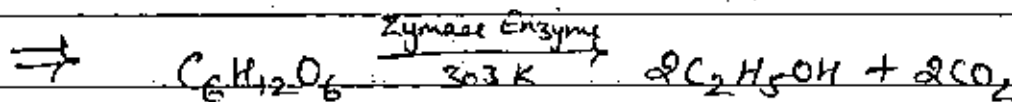


RAPID VINEGAR
PROCESS

Ans-6

(i) FERMENTATION :- Fermentation is the process of breaking down of bigger organic molecule into simpler one with the help of enzymes produce by diff. microorganisms.

Ex. :- Alcohol is prepared by fermentation of glucose / fructose in the presence of Zymase Enzyme.



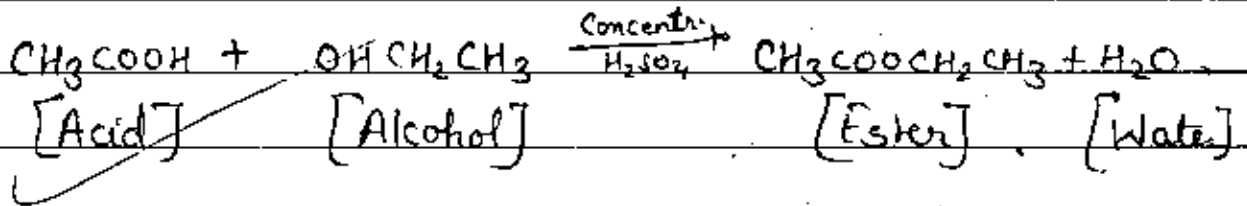
(ii) Esterification :- Formation of ester takes place when alcohol reacts with carboxylic acid in the presence of con. H₂SO₄. In this reaction a new bond is formed but the H from the OH group is displaced.

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to form Esters.

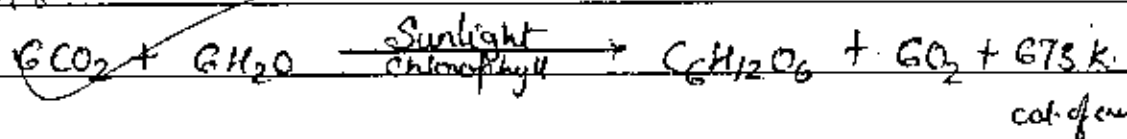


Ans-5

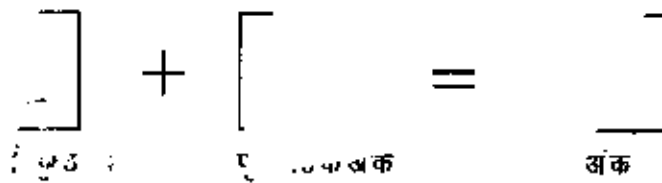
<u>Artery</u>	<u>Vein</u>
(1) It carry blood from heart to organ.	(1) It carry blood from organ to heart.
(2) It carry oxygenated blood. Exception: Pulmonary Artery.	(2) It carry deoxygenated blood. Exception: Pulmonary Vein.
(3) It is red in colour.	(3) It is blue in colour.
(4) It is deeply situated.	(4) It is situated superficially.
(5) It's wall is thin & elastic.	(5) It's wall is thick & elastic.
(6) Lumen is wide.	(6) Lumen is narrow.
(7) Valve are absent.	(7) Valves are present.
(8) Volume can be changed.	(8) Volume cannot be changed.

Ans-4 Photosynthesis is a metabolic process in which CO₂ reacts with water in the presence of sunlight & chlorophyll as a result of which complex organic material that is carbohydrate is formed and Oxygen is released as a by-product.

Reaction:-



B
S
E
M
P



Factors affecting the rate of reaction is are as follows:-

(i) CO_2

(ii) Light

(iii) Temperature

(iv) Water

Ans-3. Factors affecting the rate of reactions are i-

(i) Concentration :- Concentration affects the rate of reaction. As the increase in concentration increases the rate of reaction as the no. of ^{collisions} molecules per unit volume increases.

(ii) Nature :- If the reacting molecules have weaker bond bet. them then they break up quickly and show rapid reaction as a result of which rate of reaction increases. But on the other hand, if the reactants have strong bond bet. them, then the rate of reaction decreases.

(iii) Temperature :- With the increase in temp., the kinetic energy of the reacting molecules increases as a result of which the no. of collision per unit vol. also increases.

(iv) Pressure :- If the reactants are gaseous in nature then with the increase in pressure the rate of reaction also increases.



Q-2 (A) Choose the correct :-

(i) When incident ray travelling from a rarer medium to denser medium, it travels towards it's perpendicular.

(ii) The (S.I.) International Unit of Electric Power is :-

Ans:- Watt

(iii) Pitcher plant is a type of :-

Ans:- Insectivorous

(iv) Metal which store under kerosene oil is :-

Ans:- Sodium

(v) Respiration is :-

Ans:- Oxidation

(B) Answer in one word :-

(i) One example of slow chemical reaction is :-

Ans:- Rusting of iron $[4Fe + 3O_2 + XH_2O \rightarrow 2Fe_2O_3 + XH_2O]$

(ii) The pH value of pure water is :-

Ans:- 7 [Neutral]

(iii) Name the colour band series of spectrum through

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Prism :-

Ans :- VTBGRVOR

(iv) Which apparatus is used to see the astronomical
jobs :-

Ans :- Astronomical Telescope

(v) The diff. bet. any two elec. potential is called :-

Ans :- Potential difference

Q-1(a) Fill in the blanks :-

(i) The radius of earth core is "320" km.

(ii) The gas 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) Match the following :-

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"A"

"B"

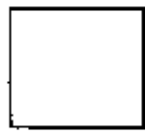
(i) Neutrophil	=> Blood corpuscle
(ii) Liquid Metal	=> Mercury
(iii) Fibrinogen	=> Blood Clotting
(iv) Liver	=> Formation of Urea
(v) Pituitary	=> Master Gland

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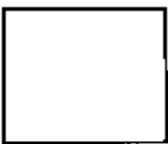
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योग पूर्व पृष्ठ

पृष्ठ 21 के अंक

कुल अंक



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योग पूर्व पृष्ठ

पृष्ठ 22 के अंक

कुल अंक

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योग पूर्व पृष्ठ

पृष्ठ 23 के अंक

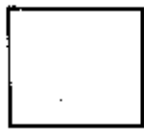
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योग पूर्व पृष्ठ

पृष्ठ 24 के अंक

कुल अंक



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