कुल पृष्ठ संख्या–24 (कवर पेज सहित)

क्रम संख्या....

माध्यमिक शिक्षा बोर्ड, राजस्थान, अजमेर

माध्यमिक परीक्षा

(परीक्षार्थी द्वारा स्वयं भरा जाना चाहिये)

Candidate's Roll No. In English

(In Figures)

(In Words) ----------

परीक्षार्थी का नामांक हिन्दी में

शब्दों में ----------

नोट :– परीक्षार्थी उपरोक्त के अतिरिक्त उत्तर पुस्तिका के अन्य किसी भी भाग में अपना नामांक नहीं लिखें।

माध्यम – हिन्दी [✓] अंग्रेजी [ ]

विषय विज्ञान

परीक्षा का दिन सोमवार

दिनांक 25-03-19

नोट :– परीक्षार्थी के लिए आवश्यक निर्देश इस पृष्ठ के पिछले भाग पर उल्लेखित हैं। जिन्हें सावधानी पूर्वक पढ़ लें व पालना अवश्य करें।

परीक्षक हेतु निर्देश :– (1) परीक्षक को उपरोक्त सारणी अनुसार प्राप्तांक भरना अनिवार्य है, अन्यथा नियमानुसार दंडित किया जायेगा।

(2) परीक्षक उत्तर पुस्तिका के अन्दर के पृष्ठों के बायीं ओर निर्धारित कॉलम में लाल इंक से अंक प्रदत्त करें।

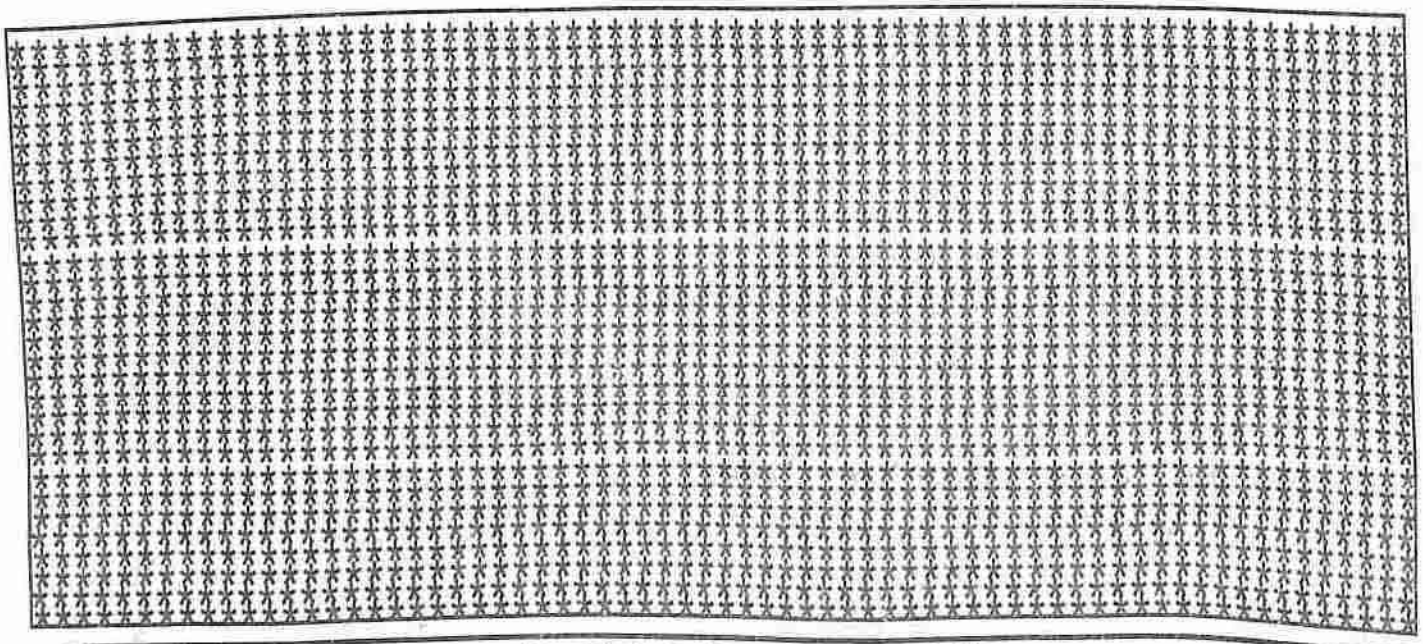
(3) कुल योग भिन्न में प्राप्त होने पर उसे पूर्णांक में ही परिवर्तित कर अंकित करें (उदाहरणार्थ : 15 ¼ को 16, 17 ½ को 18, 19 ¾ को 20)

प्रश्नवार प्राप्तांकों की सारणी (परीक्षक के उपयोग हेतु)

प्रश्नों की क्रम संख्या	प्राप्तांक	प्रश्नों की क्रम संख्या	प्राप्तांक
1		19	
2		20	
3		21	
4		22	
5		23	
6		24	
7		25	
8		26	
9		27	
10		28	
11		29	
12		30	
13		31	
14		योग	
15		प्राप्त अंकों का कुल योग (Round off)	
16		अंकों में	शब्दों में
17			
18			

परीक्षक के हस्ताक्षर ..... संकेतांक

प्रमाणित किया जाता है कि इस उत्तर पुस्तिका के निर्माण में 58 जी.एस.एम. क्रीमवोव कागज ही उपयोग में लिया गया है।165/2019



परीक्षार्थियों के लिए आवश्यक निर्देश

1. समस्त प्रश्नों का हल निर्धारित शब्द सीमा में इसी उत्तर पुस्तिका में करना है। विशेष परिस्थिति में अतिरिक्त उत्तर पुस्तिका पृथक से उत्तर पुस्तिका भरी हुई होने पर पर्यवेक्षक एवं वीक्षक की अनुशंषा पर ही उपलब्ध कराई जायेगी।
2. प्रश्न–पत्र पर निर्धारित स्थान पर अपना नामांक लिखें।
3. प्रश्न–पत्र हल करने के पश्चात् जिस पृष्ठ पर हल समाप्त होता है, उस पर अन्त में "समाप्त" लिखकर अन्त के सभी रिक्त पृष्ठों को तिरछी लाईन से काटें।
4. निम्न बातों का विशेष ध्यान रखें अन्यथा अनुचित साधनों की रोकथाम अधिनियम के तहत कार्यवाही की जा सकेगी।
   (i) उत्तर पुस्तिका के ऊपर/अन्दर तथा प्रश्नोत्तर के किसी भी भाग में चाही गई सूचना के अलावा अपना नामांक, नाम, पता, फोन नम्बर अथवा पहचान की कोई अन्य प्रकार की सूचना आदि अंकित नहीं करें अन्यथा "अनुचित साधनों के प्रयोग" के अन्तर्गत कार्यवाही की जावेगी।
   (ii) उत्तर पुस्तिका के पृष्ठों को फाड़ें नहीं। उत्तर–पुस्तिका के मुख पृष्ठ पर अंकित संख्या के अनुसार पृष्ठ पूरे होने चाहिये। परीक्षार्थी उत्तरपुस्तिका प्राप्त करते ही पृष्ठ संख्या की जांच कर लें यदि पृष्ठ कम/अधिक या क्रम में नहीं हैं तो वीक्षक से तुरन्त बदलवा लें।
   (iii) परीक्षा केन्द्रों पर पुस्तक, लेख, कागज, केलक्यूलेटर, मोबाईल, पेजर आदि किसी भी प्रकार का इलेक्ट्रोनिक उपकरण तथा किसी भी प्रकार का हथियार आदि ले जाना निषेध है।
   (iv) वस्त्र, स्केल, ज्योमेट्री बॉक्स पर कुछ न लिखकर लावें। टेबुल के आस–पास कोई अवैध सामग्री नहीं होनी चाहिये, इसकी जांच कर लें।
   (v) अपनी उत्तर पुस्तिका/ग्राफ/मानचित्र आदि परीक्षा भवन से बाहर ले जाना दण्डनीय अपराध है, अतः परीक्षा समाप्ति पर उत्तर पुस्तिका वीक्षक को बिना सौंपे परीक्षा कक्ष नहीं छोड़ें।
5. उत्तरों को क्रमानुसार एक ही स्थान पर लिखें। प्रश्न क्रमांक भी सही अंकित करें, अन्यथा दण्ड स्वरूप परीक्षक को 1 अंक कम करने का अधिकार है। बीच में उत्तर पुस्तिका के पृष्ठ रिक्त न छोड़ें। गणित विषय के लिए रफ कार्य उत्तर पुस्तिका के अंतिम पृष्ठों पर करें तथा तिरछी रेखा से काटें।
6. जहाँ तक हो सके प्रश्न के सभी भाग के उत्तर, उत्तर पुस्तिका में एक ही स्थान पर अंकित करें।
7. भाषा विषयों को छोड़कर शेष सभी विषयों के प्रश्न–पत्र हिन्दी–अंग्रेजी दोनों भाषा में मुद्रित है। किसी भी प्रकार की त्रुटि/अन्तर/विरोधाभास होने पर हिन्दी भाषा के प्रश्न को ही सही माना जाये।

परीक्षक द्वारा प्रदत्त अंक	प्रश्न संख्या	परीक्षार्थी उत्तर

Section - A

1. Canines : teeth are used in tearing and chopping of the food.

2. Karl landsteiner classified the blood into different groups.

3. Compressed Natural gas is the full form of CNG

4. The potential energy develops due to the virtue of the position of object.

5. The one ~~ego~~ example of renewable source is wind energy, sunlight, etc

6. The scientific name of coffee plant is coffee arabica plant.

7. When the difference occur the species due to genetic disorder or ~~de~~ genetic characteristics then it is called genetic diversity.

परीक्षक द्वारा प्रदत्त अंक	प्रश्न संख्या	परीक्षार्थी उत्तर

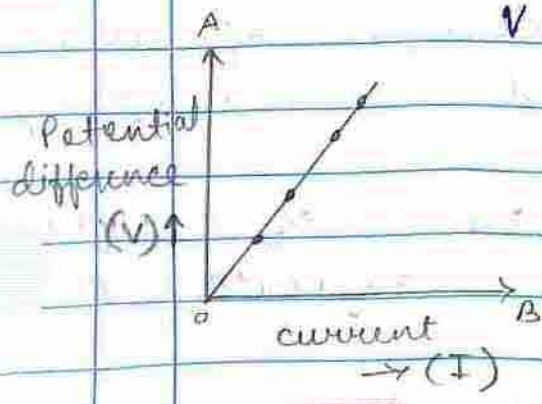
8. Iron element take part in formation of haemoglobin in blood.

9. IgE (Immunoglobulin eplison) antibody participates in allergic reactions.

10. RH antigen is found on the surface of the red blood corpuscles in addition to 'A & B'.

11. According to ohm's law potential difference is directly propotional to the current

$V \propto I$



Section-B

12. The natural satellite of earth is moon.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

Moon is originated from the dekris, when an astronomical body like as like mars hits with the earth.

Two importace for earth, it's
i) Due to it's attraction force tides generate in sea.
ii) It provides as a source of light to earth and also work as a satellite.

13. Fossils are formed when the animals are burried in the precast or in ancient ~~and~~ into the soil. Then due to heavy pressure of rocks it's picture or non decomposing parts are left such likes bones, picture of Archaeopteryx and by this we get the information about our ancient life.

The method which is used to found the age of fossil is Radio Carbon dating (Carbon-14)

परीक्षक द्वारा प्रदत्त अंक	प्रश्न संख्या	परीक्षार्थी उत्तर

14. Yuri Gagarin was the name of first astronaut.

The facilities available to solve the problem of food and living in weightlessness on ISS are:

1) On International space station food in transferred in plastic packets. liquid is drink through straw.

2) Small rooms are made in which astronaut can move freely and can do exercise.

3) Toilets are made on the basis of magnet. later urine is collected & filtered & use for drinking purpose.

15. a) High beam of light should be used on highway because it make the person to see the distant objects and also makes the vision of eye clear.

b) for safe driving concave mirrors are used in head lights and convex mirrors are used in rear view mirror of vehicles

परीक्षक द्वारा प्रदत्त अंक	प्रश्न संख्या	परीक्षार्थी उत्तर

a)

16. Dracunculus medinenis is the pathogen of naru disease.

b)

Morphine and codein are the two alkaloids found in opium.

c)

Submucus fibrosis disease is caused by chewing gutka.

17. a) $C + O_2 \rightarrow CO_2$ it is a addition reaction.

$2H_2O \xrightarrow{\text{electric current}} 2H_2 + O_2$ it is a electrolyt dissociation reaction.

b)

The difference between the above reactions are:-

Addition	Dissociation
In this on two or more than two reactants together & form one product.	In this the higher molecular weighted reactions are dissociates into simple substances.

c) Catalytic Inhibitor → It does not act as a reaction but by adding this with catalyst, it decrease the rate of reaction.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

Calalytic promoter → By adding this with catalyst, it increase the rate of reaction.

18. Forest are the important part of our life. Forest attract the rainfall and due to which there is less chance of drought in this way it protect the fertile soil from being rotten.

Four measures adopted for protection of forest are :-

1) We should follow Agro forestry
2) Jhum farming must be banned & alternative option should choose
3) ~~People~~ Government build dams, water project, etc by keeping in mind about forest.
4) For forest protection we & government jointly aware the illiterate people about it's importan

19. The ancient granth Charak Samhita has been written in in Sanskrit.

He told about the genetics

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

is that the gender of a ~~bad~~ ~~baby~~ baby, any genetic disorder and any disease is found, due to their parents gene. or due to heredity character.

20. a) The name of any one monomer used is terelyne is ~~Benzene~~ terephathelic acid.

b) CH_4 is the structural formula of marh gas.

c) The IUPAC name is 4- Chloro. 1- Pentene

Q21. Biomedical waste are those waste which are obtained from hospitals like Syringe, meat, plastic bottles, etc.

The two disease which caused by them are :-

1) Aids

2) ~~HIV~~ Hepatitis.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

Incineration

By Incineration method we can disposed this waste. In this process land are used where all the medical wasted convert into ash by burning. This gas can be used for electricity and other purpose. This technique mostly done in Japan. Because in this less land is required.

Section-C

22. a) Protein & ~~Iodine~~ Iodine nutritive element is found in abundance in fish.

b) Two ~~ega~~ examples of fresh water fishes are:-
1) Catla
2) ~~Mrigala~~ Labeo Rohita

c) Their diet are small ~~four~~ pieces of maize, sorghum, ~~ete~~ water plant and ~~are~~ small water insects.

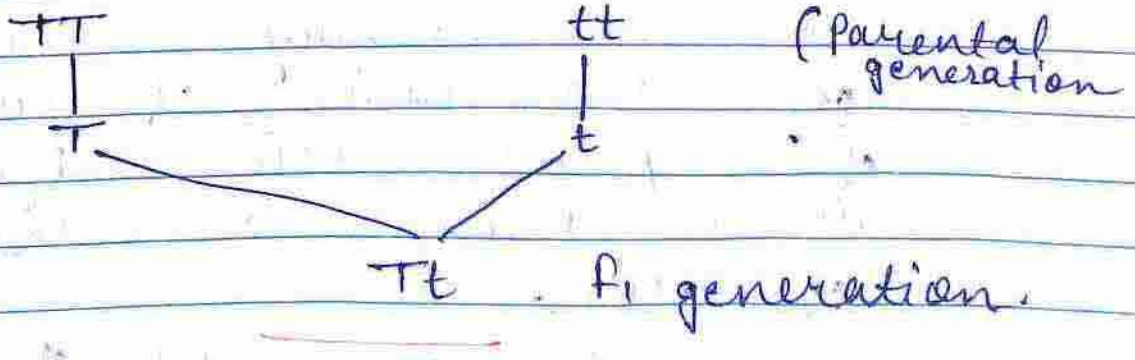
d) Maximum production of fishes is done in pond by using clayey soil, ~~pur~~ fresh water.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

After this in ponds Copper sulphate is added for better production.

Q23. Mendel law of domidnance

This law of mendal is based on monohybrid gene. In this when cross is taken between Homogyous tall and Homogyous short a then, in f_1 generation Heterogyous tall plant is obtained. The alels which express itself in f_1 generation is called dominant and which fail to express itself is called recessive.



Two importance of Mended's laws of inheritance are:-

1) The branch of science which

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

deals with human development is Eugenics.

2) Importance of gene & alleles can be understood through law of purity of gametes. or law of segregation.

a)

i)

24. Milk of magnesia is used in the treatment of acidity. when the amount of HCl increase in the stomach or PH become less than 7 then it makes burning sensation. so make the medium of stomach neutral $Mg(OH)_2$ is used as ~~antacid~~ antacid.

ii) Industrial rate development of any country is measured on the basis of consumption of sulphuric acid because it is known as the King of acids.

This acid is used in industries to make many chemical, it is also used to purify the ~~gla~~ gold like metal and also used as to clean the sink, batteries, etc.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

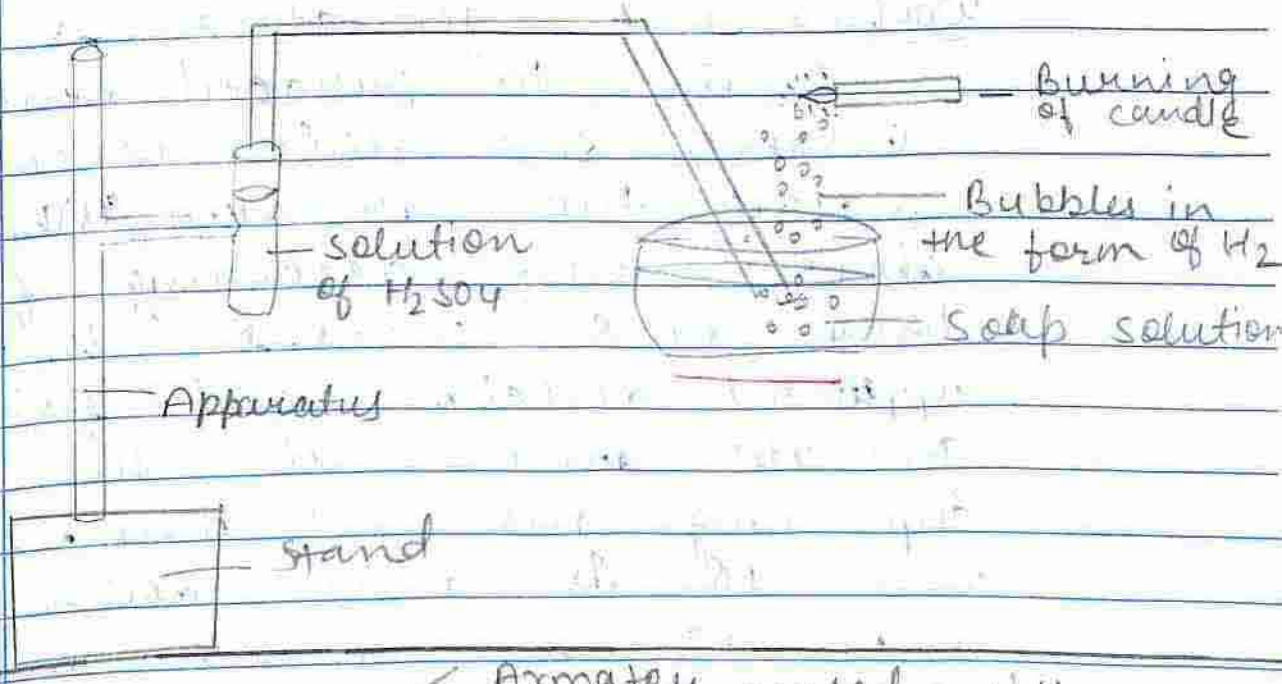
When,

$CuSO_4 + Zn \rightarrow ZnSO_4 + Cu$

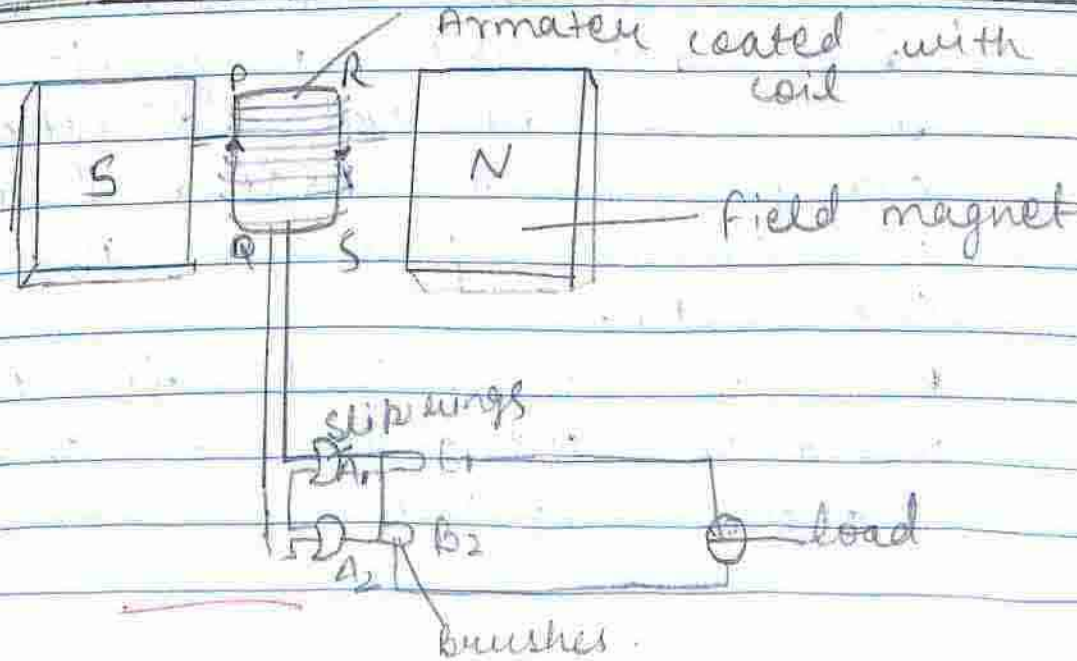
Here blue solution of copper sulphate displaced because zinc is more reactive than ~~copper~~.

b) Metalloid + acid

$Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$



25)



परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

Construction :-
1) Armature (PQRS) coated with copper wire
2) Magnetic field [south pole & North pole)
3) Slip rings
4) Brushes
5) load.

Working :- AC generature is used in to pruduced electric current. In this when we rotate the armature (PQ) half above then according fleming hand rule current is in upward direction and field magne generate around it. In this slip rings does not move. when PQ is move down after again RS is in the middle and out the magnetic lines. in this current direction is change from RSQP. Because 1st current pass to B_2 and then B_1.
we can say that in Ac generation the direction of current changes as the armature move.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

It depend on
1) Direction of current
2) Direction of magnetic field.

Q26 a) mass = 75kg
$g = 10 m/s^2$
$h = 5m$
$t = 25$ sec
Power = ?

According to Question-

$$P = \frac{w}{t}$$

$$= \frac{mgh}{t}$$

$$= \frac{75 \times 10 \times 5}{25}$$

$$= 150 \text{ Watt.}$$

b) mass of block = 9kg
$v = 4 m/s$
spring constant $K = 4 \times 10^4 N/Kg$

find $x = ?$

According to question

$$K.E = P.E$$

$$\frac{1}{2} mv^2 = \frac{1}{2} Kx^2$$

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

$\frac{1}{2} \times 9 \times (4)^2 = \frac{1}{2} \times 4 \times 10^4 \times x^2$

$\frac{1}{2} \times 9 \times 16 = 2 \times 10^4 \times x^2$

$72 = 2 \times 10^4 \times x^2$

$\frac{72}{2 \times 10^4} = x^2$

$\frac{36}{10^4} = x^2$

$\sqrt{\frac{36}{10^4}} = x$

$x = \frac{6}{10^2} = \frac{6}{100}$

$x = \frac{6}{10^2}$

$x = \frac{3}{50}$ m

$x = 0.06$ m

27. Genetic diversity

* This refers to the diversity, when an change or difference occur in the species due to genetic disorder.

genetic diversity has less chances of extinction because it adapt to its

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

environment due to many species.

Two threats of biodiversity are:-

1) Habitat fragmentation → Nowaday diversity is decreasing due to the construction of roads, railways, etc. every day 1 dozen of lion killed as the railway tract passes through Dhudwa sanctuary.

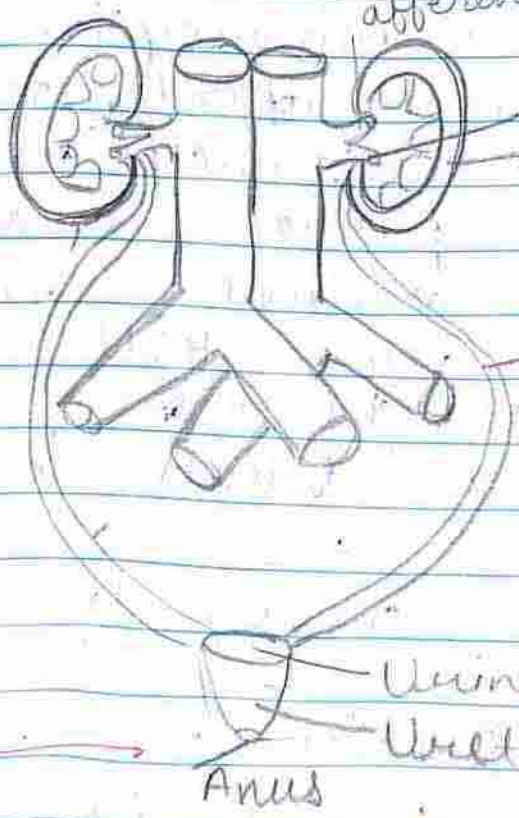
2) Spiritual misconception → Many people also affect the biodiversity due to misconception. like gugroni parrot and Godavan became extinct due to this. People also kill goyra as they thought that there is poisonous breath in them.

Section - D

a) The process of removal of waste, harmful substance like urine, etc from our body is called excreation.

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

b) This glomerular is made by the tuft of arteries. Blood is coming through afferent artery and going out through efferent artery. In this all the unuseful product are filtered like salt, etc. In the form of urine. This urine goes to urinary bladder to Henles loop and then excreate out by our body.



परीक्षक द्वारा प्रयुक्त कुल | प्रश्न संख्या | परीक्षार्थी उत्तर

29. a) The metallic character of element decrease from left to right in ~~me~~ period because as we move from the left to right the effective nuclear charge increase and the atomic radius ~~inc~~ decrease due which element ~~o~~ have tendency to attract the electron.
we know that elements which gain the electrons show property of Non metallic.
Therefore as we move from left to right metallic characte decreases.

b) Dobereiner given a triad law for classification of elements. ~~boo~~
According to him the sum ~~ave~~ avera of 1st and 3rd element is always equal to the middle element.
~~titel~~ like Li 7
Na 23
Ca 39

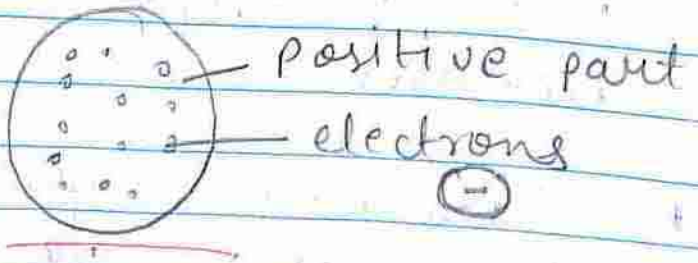
परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

c)

~~The~~ positive

c) The atomic particles present in the sphere of represented thomson atomic model are electrons

He gave the plum pudding model in which he gave eg. of watermelon that in watermelon the fleshy part is the positive charge and the seeds embedded in it is electrons which contain negative charge.



30. a) magnification is the ratio of height of image to the ratio of height of it's object. the power to magnify the object is called

परीक्षक द्वारा प्रदत्त अंक | प्रश्न संख्या | परीक्षार्थी उत्तर

magnification

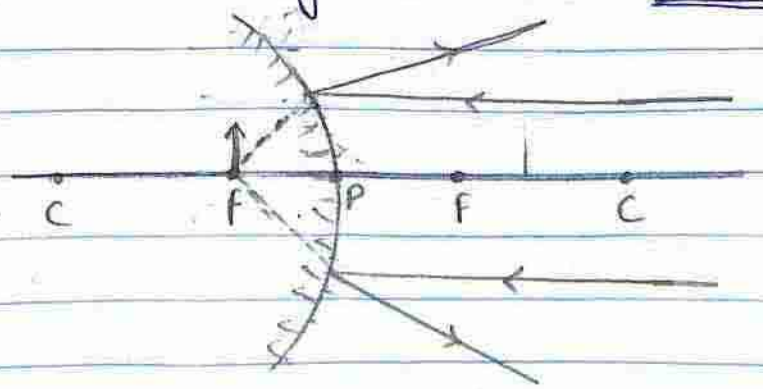
$$m = \frac{-v}{u}$$

b) The power of accomodation of an eye is equal to $\frac{1}{f}$ where f denotes the focal length of lens. The power of range of the vision is

The point at which our eye can see the object is called the power of accomodation of an eye.

The range of the vision of our eye is 25cm.

c)



In the ray diagram the image is made on focu

END