BHARTIYA SHIKSHA BOARD
MARKING SCHEME
SAMPLE QUESTION PAPER 2025-26
CLASS - X
SCIENCE (037)

	Section- A	
1.	(C) P and Q forms electrovalent compounds	1
2.	(B) The pH of an acid would increase and of the base would decrease.	1
3.	(C) Reaction of metal with acid	1
4.	(D) Part y did not grow at all.	1
5.	(C) <table><tr><th>Filtration</th><th>Selective reabsorption</th></tr><tr><td>Q</td><td>R</td></tr></table>	1
6.	(D) TtWw	1
7	(C) 220 V	1
8.	(B) plants increase and wolves decrease	1
9.	<table><tr><td></td><td>P</td><td>Q</td></tr><tr><td>C</td><td>$FeSO_4$</td><td>Fe_2O_3</td></tr></table>	1

10.	(B) Starch breaking down into sugar	1
11.	(B) 6	1
12.	(A) valves in heart.	1
13.	(B) 0·8 A	1
14.	(D) $Fe(OH)_3$	1
15.	(C) only (iii)	1
16.	(B) F_2 generation	1
17.	(A) : Both (A) and (R) are true and (R) is the correct explanation of (A).	1
18	(D) : (A) is false but (R) is true	1
19	(A) : Both (A) and (R) are true and (R) is the correct explanation of (A)	1
20	(B) : Both (A) and (R) are true but (R) is not the correct explanation of (A).	1

Section - B -

21. • When the body size of an animal is large, diffusion pressure alone cannot take care of the transportation of oxygen to all parts of the body. 1

• Hence Respiratory pigments take up oxygen from air in the lungs and carry it to tissues which are deficient in Oxygen. 1.

or

• Blood vessel having thick and elastic wall is Artery 1

• Arteries carry blood from heart to various organs. Since the blood emerges from the heart under high pressure, the arteries have thick ~~for~~ and elastic walls. 1.

22. The correct sequence of events taking place in Human Eye;

Ciliary muscles contract

↓

Curvature of the lens increases

↓

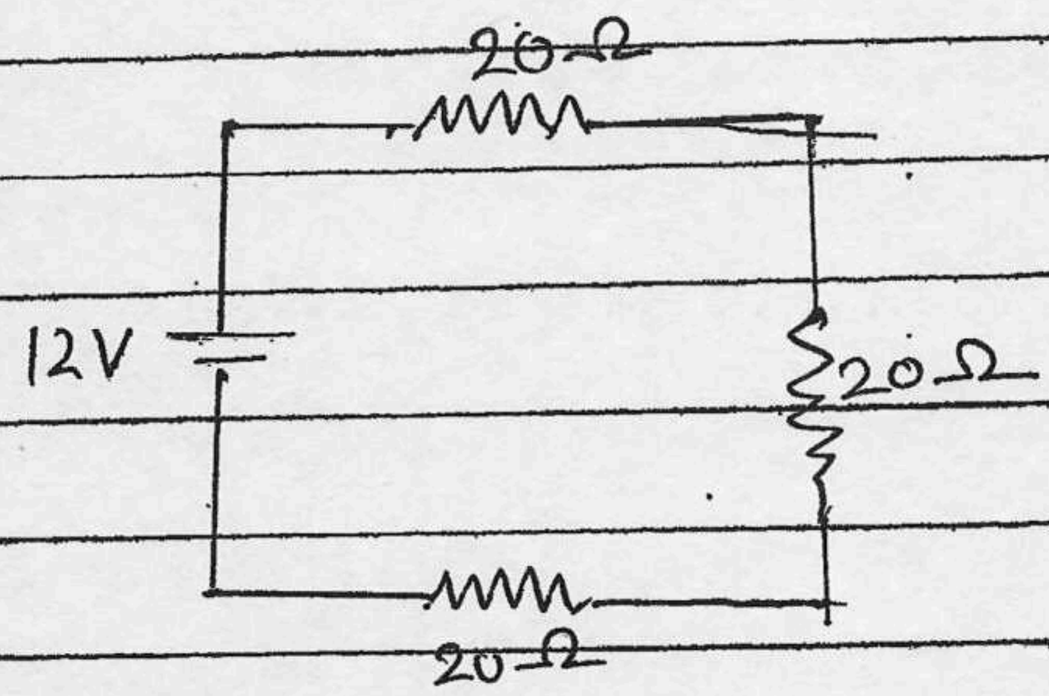
⊗ decrease in the focal length of the eye.

or

When sunlight passes through the atmosphere, the fine particles in the air scatter the blue colour (shorter wavelength) more strongly than the red (longer wavelength) 1

The scattered light maximally i.e. blue light enters our eye. Hence the colour of the clear sky appears blue. 1.

23.	(a) The amount of H_3O^+ (H^+) is equal to the amount of OH^- in the solution	1
	(b) Hydrochloric acid and nitric acid	$\frac{1}{2}+\frac{1}{2}$
24	The relation between resistance, potential difference and heat produced is	
	$H = \frac{V^2}{R}t$	$\frac{1}{2}$
	Thus, for a constant voltage, if the resistance is more, heat dissipiated will be less	$\frac{1}{2}$
	For Heat produced in minimum the resistance of the combination of 3 resistors should be maximum. So they all should be conneeted in Series.	$\frac{1}{2}$



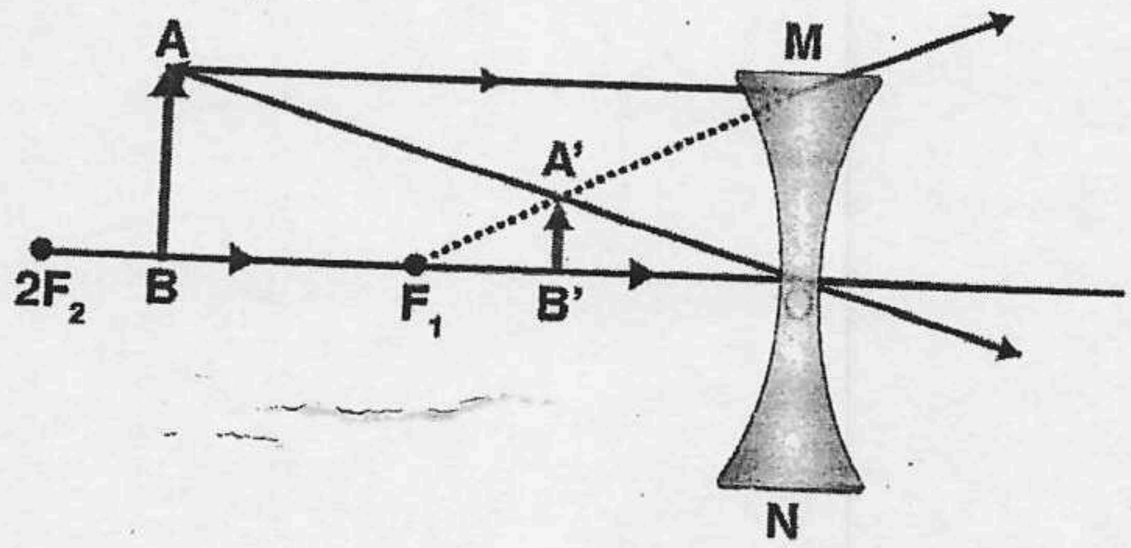
½

25.	During day time, the rate of photosynthesis is more than the rate of respiration, so the net result is evolution of oxygen	1
	At night there is no photosynthesis, so they give out carbon dioxide due to respiration	1.
26.	Colonies of yeast grow well in sugar because	
	• Sugar provides energy for sustaining life activities.	1
	• In water, it fails to reproduce because of ~~inadequate~~ inadequate energy in the cell	1

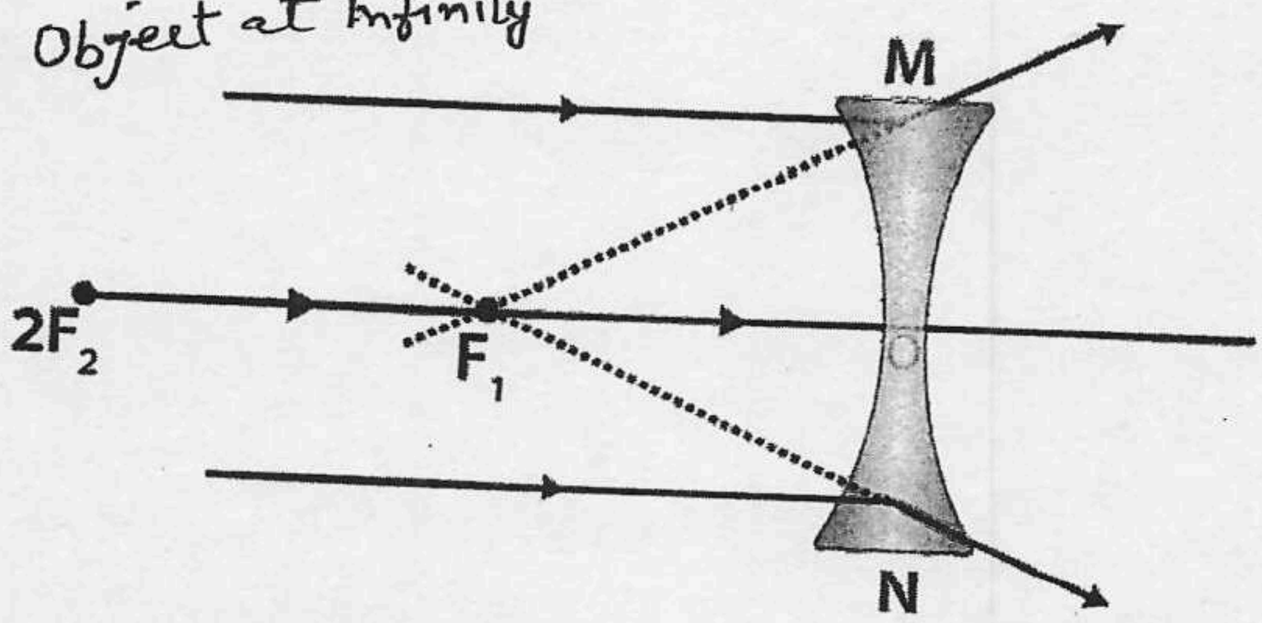
Section - C

27. If image formed by ~~a~~ a lens is always erect and diminished for all the values of 'u' (object distance), the lens is a concave lens ½

Object at any finite distance



Object at infinity



1

1

Power of a ~~concave~~ lens = -20D.

(Concave lens has -ve power)

$P = \frac{1}{f}$ — $\frac{1}{2}$

$f = \frac{1}{P} = \frac{-1}{20} = -0.05\,m$

$= 5\,cm$ — $\frac{1}{2}$

28. (a) • Applying a paste of baking soda in water at the stung area — Best remedy — $\frac{1}{2}$

• Because wasp sting releases methanoic acid (formic acid) into the sting region which causes itchness — $\frac{1}{2}$

• Baking soda is basic so it neutralises the effect of methanoic acid. — $\frac{1}{2}$

• ~~Lemon~~ Tamrind water is acidic so no effect shows no effect on methanoic acid (Sting region) — $\frac{1}{2}$

(b) • Universal indicator — $\frac{1}{2}$

• Universal indicator is a mixture of many different indicators giving different colours at different pH values — $\frac{1}{2}$

	OR:	
20. (a) B	The warning signs displayed on the containers of concentrated acids and bases indicates that they are corrosive and can cause harm if these chemicals come into contact with our skin or body.	1/2
	(These chemicals) can irritate our skin	1/2
	the label indicates that they are hazardous.	1/2
(b)	Add 10 ml of concentrated sulphuric acid slowly and dropwise to 90 ml of water with constant stirring.	1/2
	Dilution of acid is highly exothermic process.	1/2
	If water is added to concentrated acid, heat generated causes the mixture to splash leading to burns and the glass container can break.	1/2

29. (Presence of black or brown or blue colour of the eye is an example variations seen in human population.)

The observations made by the students suggests that vast majority of students have black or brown eye colour.

% of occurance of black or brown eye colour trait = $\frac{291}{300} \times 100 = 97\%$ 1 1

% of occurance of blue eye colour

$= \frac{9}{300} \times 100 = 3\%$ 1 1

This suggests that black or brown colour is dominant trait and blue colour is a recessive trait in human population. 1

30. The two ways by which energy is lost:

(i) Heat

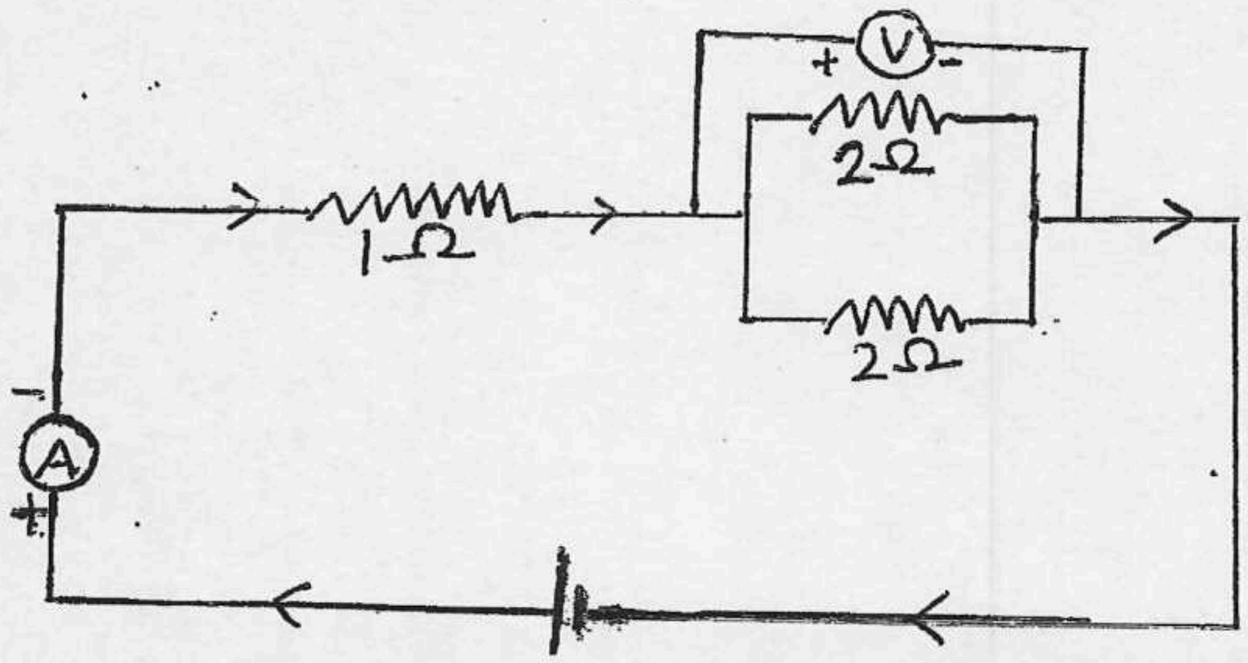
(ii) in maintaining life processes.

30 Pond is a natural ecosystem and is also a self sustaining unit. Aquatic plants acts as a producers which are eaten by mosquitoes or beetles which are Herbivores and these are eaten by small fish (Carnivore). Small fish is eaten by big fish. Microorganisms present in the soil of pond act as decomposed and they decompose the dead remains and waste products into simpler inorganic substances and clean the pond. 2.

But an aquarium is an artificial ecosystem in which transfer of energy takes place from producers to herbivores to carnivores and no decomposers so it requires cleaning regularly. 1

31.	(i) After burning magnesium, magnesium oxide is formed which is white in colour	
	$2Mg + O_2 \longrightarrow 2MgO$	1
	(ii) When MgO is mixed with water, $Mg(OH)_2$ is formed.	
	$MgO + H_2O \longrightarrow Mg(OH)_2$	1
	(iii) ~~Magnesium~~ $Mg(OH)_2$ is basic in nature because when it is tested with red litmus paper, it turns blue showing that it is basic in nature.	1
32.	Both copper wires have the same length but wire A is thick and has ~~same~~ bigger diameter (radius), more cross sectional area than wire B and has less resistance ~~than~~ copper wire	
	Since $R_A = \rho \frac{l}{A_A}$	$\frac{1}{2}$
	$R_B = \rho \frac{l}{A_B}$	
	More the area (radius), less will be the resistance ($R \propto \frac{1}{A}$)	$\frac{1}{2}$
	$\therefore$ ~~Hence~~ Resistance of Wire B is more than resistance of Wire A	1

(b)



1

33. (a) The phenomenon which could explain the formation of rainbow is dispersion or splitting of light into its component colours. 1

(b) We do not observe splitting of white light into its component colours when light passes through a glass slab because the refracting surfaces in a glass slab are parallel to each other 1
whereas they are inclined at an angle in a glass prism. 1

Section-D.

34.(A) (a) (i) Sulphur, Nonmetal — $\frac{1}{2} + \frac{1}{2}$

(ii) $S + O_2 \longrightarrow SO_2$ — $\frac{1}{2}$

(b) Aluminum (Al) — $\frac{1}{2}$

$3MnO_{2(s)} + 4.Al_{(s)} \xrightarrow{Heat} 3Mn_{(l)} + 2Al_2O_{3(s)} + Heat$ — 1

$Fe_2O_{3(s)} + Al_{(s)} \xrightarrow{Heat} 2Fe_{(l)} + Al_2O_{3(s)} + Heat$ — 1

(c) (i) Mg. — $\frac{1}{2}$

(ii) Cu — $\frac{1}{2}$

OR

(B) (a) Silver ~~na~~ nitrate must not be stored in a copper vessel (Cu) because the reactivity of copper metal is higher than that of silver according to

Or

(B) (a) Extraction of less reactive metals like Mercury (Hg) from its Sulphide ore (Cinnabar). The steps are as follows:

I. Roasting: Heating of metal Sulphide in the excess of air forming metal oxide. 1/2

Sulphide Ore $\xrightarrow{\text{Roasting}}$ Metal oxide

$2HgS + 3O_2 \longrightarrow 2HgO_{(s)} + 2SO_2$ 1/2

(Mercury II)

II. obtaining metal from its oxide by Reduction (by Heating in air) 1/2

Metal oxide $\xrightarrow[\text{Reduction}]{\text{Heat}}$ Metal

$2HgO_{(s)} \xrightarrow[\text{Reduction}]{\text{Heat}} 2Hg_{(l)} + O_{2(g)}$ 1/2

mercury metal.

(b) This ore is of Zinc because Zinc is the metal that forms amphoteric oxide and Zn releases H_2 gas when reacts with dil H_2SO_4, and its ore is ZnS. its 1/2

I This ore is first Roasted to get its oxide. 1/2

$ZnS + O_2 \xrightarrow[\Delta]{\text{Roasting}} ZnO + SO_2$

II This oxide of metal (Zn) is reduced by reducing agent coke (C) 1/2

$ZnO + C \longrightarrow Zn + CO$.

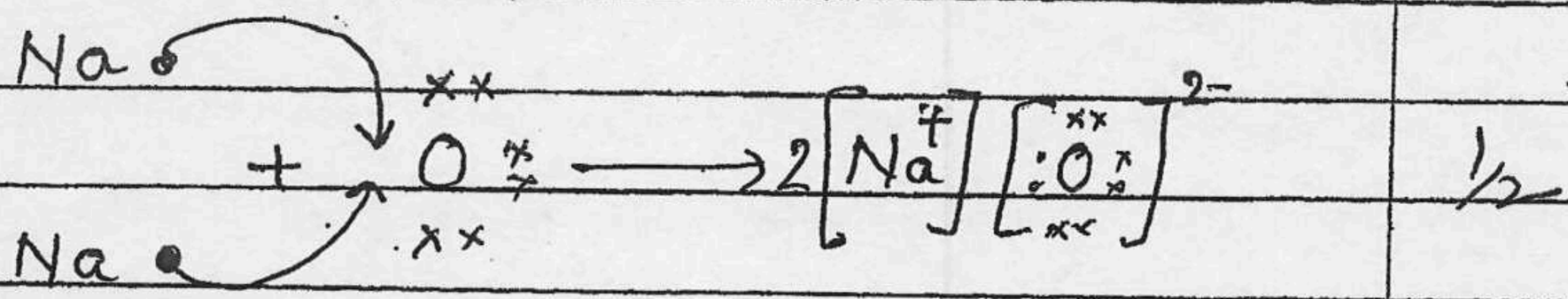
The Zn metal further refined to get pure metal 1/2

(c) $2\left[Na \longrightarrow Na^{+} + e^{-}\right]$

2,8,1

$O + 2e^{-} \longrightarrow O^{2-}$ 1/2

2,6



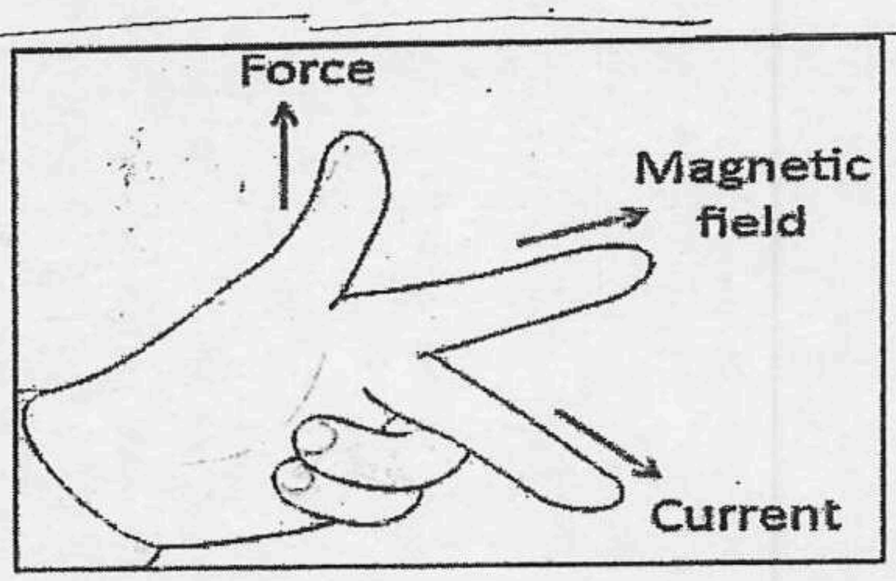
1/2

35. (a) Fleming's Left Hand Rule 1/2

(A) Stretch the forefinger, the centre finger and the thumb of left hand in mutually perpendicular directions.

If the forefinger shows the direction of the magnetic field, centre finger that of current, then the thumb will point towards the direction of motion of the conductor or direction of force 1/2

or. alternately answer by giving diagram



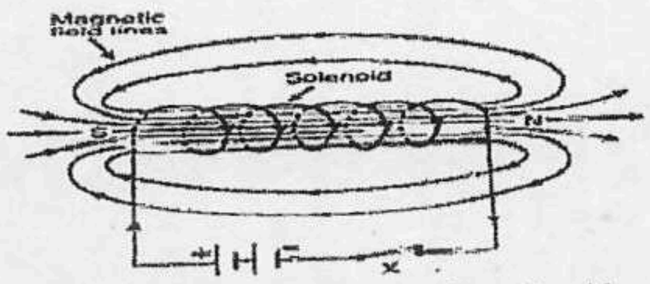
(b) (i) . Force on electron is minimum in fig (iii) $\frac{1}{2}$

. because the electron is moving along / parallel to the direction of magnetic field. $\frac{1}{2}$

(ii) . Force on electron is maximum in fig (ii) $\frac{1}{2}$

. because the direction of motion of electron or current is at right angle or perpendicular to that of magnetic field. $\frac{1}{2}$

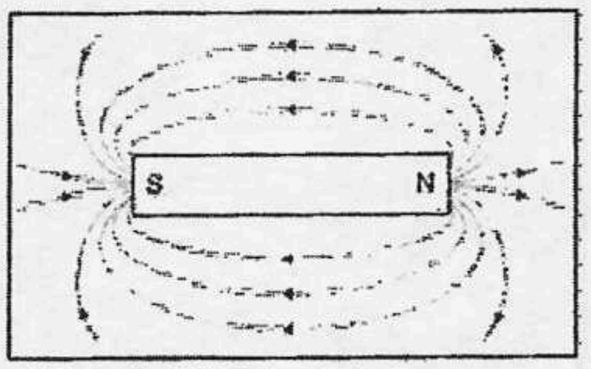
(c) magnetic field lines of current carrying solenoid.



Magnetic field lines of a current carrying solenoid

1

(iii) magnetic field lines of a bar magnet — 1

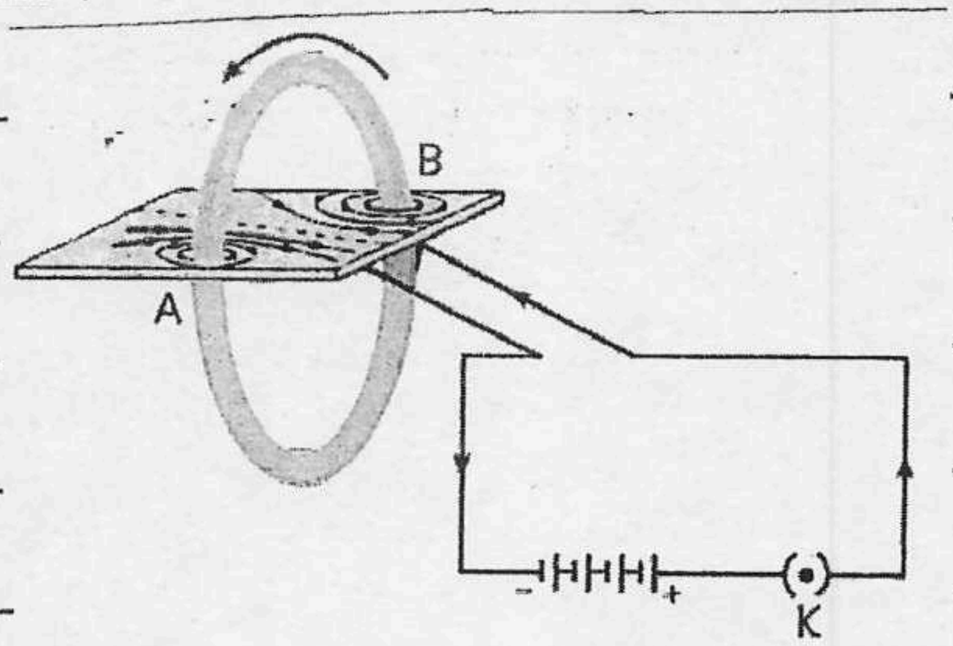


Magnetic field lines of a bar magnet

or

B. (a) The straight current carrying conductor should be placed in the same plane as that of a paper. — $\frac{1}{2}$

According to the Right hand thumb rule, the direction of the magnetic field is perpendicular to the direction of the magnetic field current. — $\frac{1}{2}$

	. If a magnetic compass is brought closer to the current carrying conductor, the deflection is maximum.	$\frac{1}{2}$
	. But when the needle is placed near the point A in the plane as that of the paper as shown in the figure, there ~~is no~~ will be no deflection.	$\frac{1}{2}$
(b)	(i) 	1
	Note: draw arrows for the direction of current in the circuit.	
(ii)	~~Right hand thumb rule~~	
	• The magnetic field lines are concentric circles at every point of a current carrying circular loop.	1
	• The direction of magnetic field of every section (inside and around) of circular loop can be found by using Right hand thumb rule.	1

36.A	191 On sipping a sip of hot tea, first the sensory neurons get activated, taking the information to the brain or spinal cord.	½
	. Next the motor neuron become active and bring the (electrical) impulses from the brain to the muscle (effector). In receiving these impulses, ~~the muscles contract~~ the muscles contract and the tongue gets rolled and we pull away our mouth immediately.	½ ½ ½
(b)	• Auxin	½
	• When plant is kept in a room where only one door is open, The shoot of the plant bend towards the direction of light.	½
	• In shoot of plants, auxin hormone is formed that diffuses towards the shady side (where no light or less light) of the shoot.	½

(auxin)

it stimulates the cells to live longer on the side of the shoot which is away from light ½

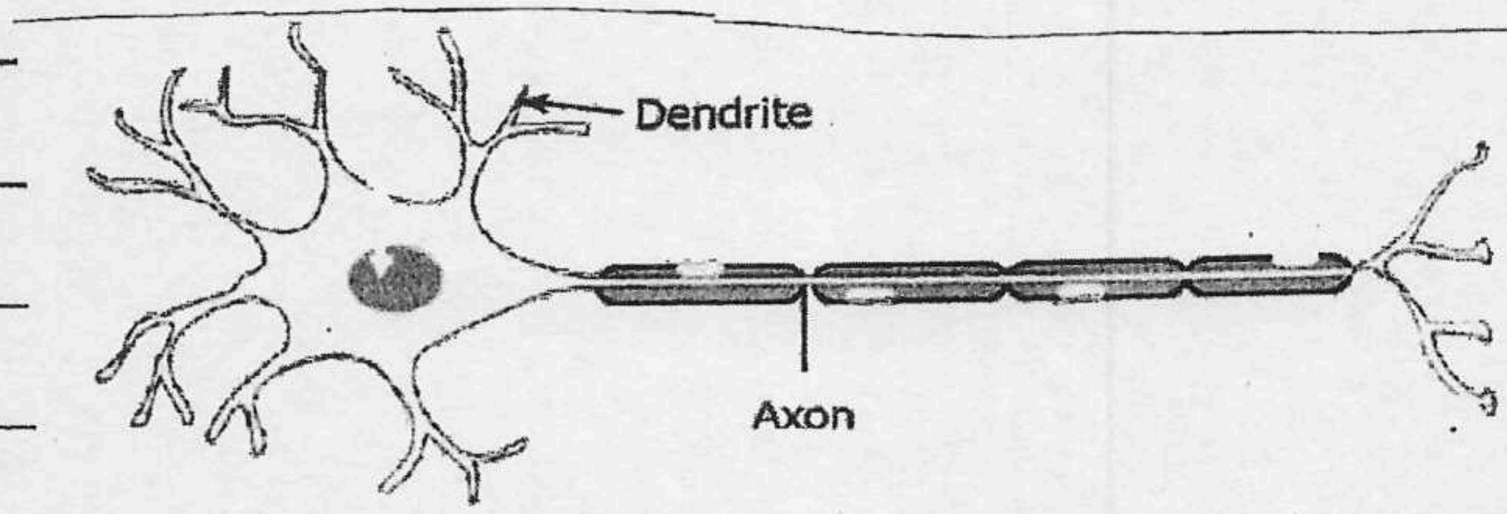
Thus the shoot bends towards the light ½

(C) Abscisic acid ½

Cytokinins ½

or

B. (a)



1

(i) Dendrite. } labelling ½

(ii) axon ½

(b) • Adrenaline increases the heart beat and breathing rate which results in the supply of more oxygen to muscles. 1

• It reduces the blood to the digestive system and skin, as a result blood is further diverted to muscles (skeletal) 1

		No. of Marks
	• All these responses ~~@~~ make the body ready to deal with the emergency situations	
(c)	Endocrine glands ~~are~~ are ductless glands and the hormones secreted by these glands has to act at target sites. Therefore, they release their secretions into the blood.	1
	Section - E.	
37. (a)	At. No. of Carbon (C) = 6 Electronic configuration = 2, 4 number of electrons present in the valence shell of 'C' = 4	½ ½
(b)	Tetravalency and Catenation	½ + ½

(c) (i) • Hydrogenation reaction — ½

• used in hydrogenation of vegetable oil which has unsaturated hydrocarbon into vegetable fat. — ½

(ii) In the above given reaction, the unsaturated hydrocarbon when heated in presence of Ni/Pd catalyst, gets converted into saturated hydrocarbon. Therefore the hydrogenation of unsaturated hydrocarbon is said to be an addition reaction. — 1

or

Compound 'Y' is methanoic acid = HCOOH — ½

Compound Z is ethanol = C_2H_5OH — ½

$$HCOOH + C_2H_5OH \longrightarrow C_2H_5-O-\overset{\overset{O}{\|}}{C}-H$$

'Y' 'Z' 'X' — 1

38.

38 (a)	because of the preference of male child in indian societies and also female foeticide ~~&~~ takes place due to this.	1
(b)	Death rate and birth rate	$\frac{1}{2}+\frac{1}{2}$
(c) (i)	The doctor refused ~~for~~ is for sex-determination in order to prevent the female foeticide which leads to a decline in child sex-ratio	1
(ii)	The increasing size of population is a matter of great concern as expanding population makes it difficult to provide good living standard (Affordable), health services and nutrition to each and every person	1

	OR	
(c) (i)	Copper-T cannot protect the woman from acquiring sexually transmitted disease. It can only protect her from unwanted pregnancy	$\frac{1}{2}$ $\frac{1}{2}$
(ii)	Fertilization may take place but the zygote may develop in the tube instead of uterus.	1
39. (a)	Convex lens	1
(b)	negative as the image is real and inverted.	1
(c)	$\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$	$\frac{1}{2}$
	$\frac{1}{20} = \frac{1}{v} - \frac{1}{(-30)}$	$\frac{1}{2}$
	$\frac{1}{20} = \frac{1}{v} + \frac{1}{30}$	
	$\frac{1}{v} = \frac{1}{20} - \frac{1}{30}$	$\frac{1}{2}$
	$\frac{1}{v} = \frac{3-2}{60} = \frac{1}{60}$ $v = 60$ cm	$\frac{1}{2}$

or

given $u = -10$ cm

$f = +15$ cm

∴ object distance (u) is less than the focal length (f). So the object lies between optical centre and F_1. $\frac{1}{2}$

Image formed will be enlarged, virtual and erect and on the same side of the lens as the object. $\frac{1}{2}$