OFFICE OF DEPUTY DIRECTOR OF PUBLIC INSTRUCTION, KOLAR DISTRICT, KOLAR

ACIDS, BASES AND SALTS

MULTIPLE CHOICE QUESTIONS:

1.Which among the below given is a synthetic indicator?

a.Phenolphthalein b. turmeric powder c. clove oil d. vanilla

2. Neutralization reaction among these is

a.Metal and Non-metal b. Metal and base c.Acid and base d. Metal and oxides of non-metal

3. When metal reacts with weak acid the gas evolved is

a. SO_2 b. N_2 c. CO_2 d. H_2

4.When copper oxide reacts with weak hydrochloric acid the solution turns bluish-green, the reason is

a. formation of $MgCl_2$ b. formation of $CuCl_2$ c.formation of $CuSO_4$ d. formation of $CaCO_3$

5. Among these which below reaction doesnot form salt and water

a. Acid and metal b. base and acid c. metal oxide and acid base and non-metaloxide.

6. This ionic percentage in all acids are more

a. H^+ b. OH^- c. Na^+ d. Cu^+

7. The pH value of a basic solution can be

a. less than 7 b. more than 7 c. 7 d.0

8.When the neetle leaves come in contact with the skin, a painful stinge is caused. This is caused due to the secretion of

a.Methanoic acid b. Citric acid c.Lactic acid d. Tartaric acid

ONE MARK QUESTIONS:

1.What is the colour obtained when turmeric powder is added to lime water?

2.Mention different forms of $CaCO3_3$

3.Give reason: When CO_2 gas is passed through lime water it turns milky.

4. Why the water becomes colourless when excess amount of CO_2 gas is passed through lime water?

5. Why metal oxides are called basic oxides?

6. Why aqueous acidic solution is a conductor of electricity?

7. Every time after consuming food have to clean mouth. Why?

8. Name the base which neutralises the acidity in the stomach.

9. Accidentally a student has spilled few drops of concentrated H_2SO_4 on his hands. Which type of first aid will you give him?

10. What is pH?

TWO MARK QUESTIONS:

1. Complete the following table:

Sl no	Salt	Molecular formula	Acid used	base used
01	Sodium Chloride	NaCl		NaOH
02	Potassium Nitrate	KNO_3	HNO_3	
03	Aluminium Chloride		HCl	
04		$ZnSO_4$	H_2SO_4	
05	Sodium Carbonate	Na_2CO_3		

2.The pH value of rain water of an area is 5.2. Can you consider this as acid rain? What happens to acquatic animals when this water flows to river?

3 Write the difference between concentrated and weak acids.

4. Draw a labelled diagram to show acid solution in water conducts electricity.

5. You have two solutions, A and B. The pH of solution A is 6 and pH of solution B is 8. Which solution has more hydrogen ion concentration? Which of these is acidic and which is basic?

6.Which acid is present in the below:

i. Tomato ii. Vinegar iii. Tamarind iv. Lemon

7. There is no change in the colour of red litmus and blue litmus paper when introduced into an aqueous solution of sodium Chloride. After passing direct current through the same solution, red litmus changes to blue colour. Which product is responsible for this change? Mention any two uses of this product.

8..HOHX +MM →MX+HOH

Analyse this equation and answer the following questions:

a.What type of chemical reaction is it?

b.Write the appropriate chemical equation for the above reaction and name the products.

9.A white coloured salt is used in the preparation of bread and cakes. This salt makes the bread soft and spongy. Name the salt and mention its components.

10. Write appropriate chemical equations for the below given reactions:

a. Acid+Base→Salt+Hydrogen

b. Metal oxide+Acid→Salt + Water

THREE MARK QUESTIONS:

1.When excess amount of CO2 is passed through lime water, the solution first turns milky and later it turns colourless. What is the reason for this? Write the chemical equations occured here.

FOUR MARK QUESTIONS:

1.Draw a neat labelled diagram to show the reaction of Zinc granules with dilute Sulphuric Acid and testing hydrogen gas by burning.

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METALS AND NON METALS

MULTIPLE CHOICE QUESTIONS:

1.In earth crust the metal present in highest proportion is

a.copper b.aluminium c.oxygen d.iron

2. The following gas is released when metals reacts with an acid

a.CO_2 b.H_2 c.CO d.CH_4

3. Non metal having colour and lustrous nature is

a.Bromine b. Iodine c. Silicon d. Carbon

4. Below method is used to reduce metals which are highly reactive metallic oxides.

a.Electrolytic reduction b.Heating with Carbon c. Heating with Aluminium d. Liquification

5. Solder is composed of the following metals

a. Lead and tin b. Lead and Zinc c. Lead and Copper d. Lead and Iron

ONE MARK QUESTIONS:

1.Why silver utensils became dark when exposed to air?

2. The oxide 'X' turns red litmus to blue, identify whether the oxide is prepared from metal or non-metal?

3.Why school bells are made from metals?

4. Name the metal which dissolves when we keep on palm.

5. Even though Aluminium is highly reactive than iron, why it does not corrode like iron.

TWO MARK QUESTIONS:

1.Following equation shows the reaction between metal 'X' and CuSO4. 'X' is metal among Fe and Ag.

Name the compound formed.

2.Why Calcium floats on water when it reacts with water, give reasons for your answer and write balanced chemical equation for the above reaction.

3. Write your observation and balancedequation, when iron nail is dipped in copper sulphate solution.

4. Name the metallic ore from which we extract metal, which is used in the blood pressure measuring instrument.

5.Explain thermite process with its equation.

6. Why before extraction of metallic sulphide and carbonates should convert into metallic oxide. Give reasons for your answer.

7. Metal ‘X’ does not release hydrogen when it reacts with dilute acid but it produce black product, name metal and chemical reaction.

8. Write reactivity series of metals.

9. Name two metals which float after few seconds when we dip in water and give reasons for floating. Explain briefly.

10. Name the metal stored in i) kerosene ii) liquid metal

THREE MARK QUESTIONS:

1.Write balanced chemical equations for the following and explain

i) When copper is heated in presence of air.

ii) Aluminium is heated in presence of air.

iii) Aluminium oxide reacts with sodium hydroxide.

2. Define alloy. Write the properties of alloy which are more beneficial than pure metals. Explain with suitable examples.

3. Explain the formation of ionic compundCaO with the help of electron dot structure. Atomic number of Ca and O is 2 and 8 respectively. List out the properties of ionic compound.

4.What is Cinnabar? How do you extract the metal from it? Explain briefly .

5. What do you mean by amalgum. ‘X’ is a metal which reacts with oxygen and on heating gives amphoteric natured oxide ‘Y’. Name ‘X’ and ‘Y’.

6. Draw a neat diagram of action of steam on a metal and label the following:

i) Hydrogen gas ii) Metal sample

7. Draw a neat diagram of electrolytic refining of copper and label any two parts.

FOUR MARKS QUESTIONS:

1.Explain activity which shows iron rusts when it is exposed to air and water.

2. Sodium, Magnesium and Copper is given to you. Write tw activities used for separation of above metals in decreasing order of their reactivity series.

3. In thermite process iron compund reacts with a metal. Based on this, write the metal used. Name the metal obtained inliquid state. Write balanced chemical equation for above reaction. Mention the common use of product obtained from above reaction.

4. Write two very reactive metals and its symbols. Among these explain the metal which reacts with halogen with the help of electron dot structure. List out four physical properties of compound obtained.

5. Sodium is very reactive metal. We cannot obtain sodium from sodium oxide on heating with carbon and how do you extract sodium from sodium chloride.

FIVE MARK QUESTIONS:

1.How is it different to extract reactivity series above metals than middle one’s. Why we cannot apply same method for all. How do you extract sodium? Explain with equations.

2.Even though aluminium is very reactive metal, why is it used to pack food products? Aluminium is very reactive than iron but does not coorode like iron. Why? Hydrogen is non-metal. Why it is in reactivity series? Give reason, why non-metals donot displace hydrogen from acids.

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Carbon and its compounds

I Multiple choice questions:

1. Acetic acid belongs to the functional group
   a) carboxylic acid b) ketone c) aldehyde d) alcohol
2. How many C-H bonds present in ethane ($C_2 H_6$)
   a) 4 b) 6 c) 8 d) 10
3. Propanol belongs to the group
   a) Aldehyde b) ketone c) carboxylic acid d) Alcohol
4. The between two compounds in homologous series
   a) $C_2 H_2$ b) CH_2 c) $C_3 H_2$ d) CH_3

II One mark Questions:

1. Draw the electron dot structure for ethanoic acid.
2. What is catenation?
3. What is tetravalency?
4. What is combustion reaction?
5. What is addition reaction?

III Two marks Questions:

1. Why does micelle formation takes place when soap is added to water?
2. What is an homologous series? Explain with an example.
3. What is hydrogenation? What is its industrial application?
4. Differentiate between saturated and unsaturated hydrocarbon.

IV Three marks Questions:

1. Explain the mechanism of the cleaning action of soaps.
2. Draw the structural and molecular formula for the following compounds.
   a) Ethanoic acid b) Ethanol c) Hexanol
3. Give example for single, double and triple bond, 2 carbon compounds.
4. Why oils are chosen for cooking rather than animal fats.

V Four marks Questions:

1. How does chlorine react with methane in the presence of sunlight? Write with the help of equation. Does same occurs in dark? Why methane does not undergo addition reaction but ethene does.
2. Explain the formation of scam when hard water is treated with soap?
3. Write the molecular and structural and dot structural formula for the following compounds.
   a) Cyclohexane b) Benzene c) Propanol d) Ethanol

4.What are isomers? Explain with two examples. How many structural isomers can you draw for pentane.

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Periodic classification of elements

I.Multiple choice questions:

1.The element 'X' with atomic number 16 belongs to the following block and period.

A. 'p' block and 3rd period B. ‘p’ block and 2nd period

C. ‘s’ block and 3rd period D. ‘d’ block and 2nd period

2.The proper arrangement of the elements with increasing order of their atomic size is

A. Na, Mg,K B. K,Na,Mg C. Mg,Na,K D. Na,K,Mg

3.The ion with large atomic size is

A.F^- B.O^{2-} C. Na^+ D.Mg^{2+}

4. Element with one electron in outermost orbit is

A. He, Ne, Ar B. Li, Na, K C. H, Li, Mg D. Li, Na, Mg

5. The statement is wrong related to trend regarding periodic table when elements move from left to right

A. Decrease metallic Property of elements B. Increase in number of valency electrons

C. Elements very easily lose their electrons D. oxides of elements become highly acidic in nature.

One mark questions

1.Why hydrogen is kept in FirstGroup?

2.Lithium sodium and potassium are Dobereiner'straid. Lithium and potassium's atomic mass is 7 and 39 respectively. Find the atomic mass of sodium.

3.What is meant by electropositive molecules?

4.The elements X, Y and Z with atomic number 3,11 and 17 are given. Find two elements with same property. Explain with reason.

5.State the modern periodic law.

6.How metallic property of element depends on its atomic size?

7.State any two properties of elements with 1st group present in modern periodic table

8.Which element shows high electro negativity among nitrogen and phosphorus with atomic number 7 and 15 respectively.

9.Why Mg and Ca are kept in same group in modern periodic table?

10.Hydrogen do not get proper position in Mendeleev's periodic table? Give reasons for your answer.

Two marks questions

1.What is meant by electropositive atom? How electropositivity varied along period in modern periodic table.

2. The elements X,Y and Z belongs to 2,3 and 4th period. Y is with valency electrons 7. Find the valency electrons present in X and Z. Among X and Y the element contain large atomic radii.

3. The elements A,B,C,D and E with atomic number given below, based on this answer the following:

Elements	A	B	C	D	E
Atomic number	7	10	12	4	19

i)Two elements resembles in chemical properties ii)Inert gas

iii)Elements belongs to 3rd period iv)Non metal

4.Arrange Mg, Cl, P and Ar in descending order of their atomic size and give reasons for your answer.

5.Elements X and Y with atomic number 12 and 16. Find the period to which they belong and write the type of bond present between them. Give reasons for your answer.

6.Electronic configuration of element is 2,8 and 6. Write the position of the elements in periodic table and explain. State sodium atomic size smaller or larger. Give reasons for your answer.

7.How electronic configuration of element help in identifying position of element in periodic table. Explain with suitable example.

8.Write the electronic configuration of Mg and Al and mention the periods to which they belong and give reason why they belong only to that period.

9.

Group-1	Group-2
-	-
X	-
-	-
Y	-

In the above chart the elements X, Y and Z and their position in group are given. Write the ions obtained from element 'X'. Find the element having large atomic size among Y and Z.

10. Elements and atomic number are given below:

Element	Atomic number
P	3
Q	17

R	13
S	11

Write the valency electrons present in element 'R'. Write the chemical compounds and their molecular formula formed from elements P and Q. Among P and S the element having large atomic size.

Three marks questions:

1. The elements A and B have atomic number 11 and 12 respectively. Which element has high metallic property. Why? Write the molecular formula of the compound formed when the above elements react with the element of atomic number 8.

2. The elements A,B,C,D and E with atomic number 6,8,3,7 and 9 respectively. Find among these elements with high electro positive natured element and give reasons for your answer. Write the element with low metallic property and Why? Mention the relation between metallic property and electro positivity. Write your opinion.

3. Calcium atomic number is 20 and potassium's atomic number is 19. Based on this answer the following questions:

i) Is calcium a metal or non-metal.

ii) Which element's atomic radii is smaller among the above. Write its oxides with molecular formula.

4. Electronic configuration of element 'M' is 2,8,2. When it separately combine with NO_3^-, SO_4^{2-}, PO_4^{3-} compounds are formed. Write the molecular formula of the compounds obtained. Name the period and group to which the element 'M' belong. Mention the bond produced by element 'M' and give reasons for your answer.

5. Write electronic configuration of element 'X" which belongs to 3rd period and 2nd group. Is the element metal or non-metal? The electronic configuration of element Y is 2,6 and Z is 2,8,7 respectively. Name the molecular formula of compounds formed when 'X' reacts Y and X reacts with Z.

Four marks question:

1.The following chart shows six elements A,B,C,D,E and F and its positions.

Group→ Period↓	1	2	3-12	13	14	15	16	17	18
2	A	-	-	B	-	C	-	-	D
3	-	-	-	-	E	-	-		F

Based on the above chart answer the below questions

i)Name the element which produce only covalent bond.

ii)Mention the element which is non-metal with valency three.

iii) Name the elelent with large atomic size among B and C.

iv) Mention the family to which D and F elements belongs.

2. The elements A,B,C and D with electronic configuration is given below:

Elements	A	B	C	D
Electronic Configuration	2,1	2,8	2,8,1	2,8,8

i)Among above elements the which two elements belong to same period?

ii) Which two elements belong to same group?

iii)Which is very reactive element among A and D? Why? Give reasons for your answer.

3.The elements P,Q,R and S with atomic number 12,13,14 and 15 respectively. Find the valency of Q. Using the above chart separate metals and non-metals. List out the elements which produce highly basic oxides.

Five marks questions:

1.The element with fully filled electrons in two orbital. Name the element with 2,8,2 electronic configuration. The elements with three orbital with 4 electrons in outermost orbit. Name the element with electrons in first orbit is double than 2nd orbit.

2.

Group→ Period↓	1	2	13	14	15	16	17	18
3	X	-	B	C	D	E	--	-
4	Y	-						
5	Z	-						

Based on this chart, answer the questions below:

i)The element with smaller atomic size.

ii) The electronic configuration of element E.

iii) The elements which have similar properties with the element 'Y'.

iv)The element with smaller atomic size among B and C. Give reason for your answer.

v)Write the valency of element D.

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LIFE PROCESS

MULTIPLE CHOICE QUESTIONS:

1.Urea produced in

a.pancreas b.kidney c.lungs d.skin

2. Nitrogenous waste released by birds is in the form of

a.Carbon dioxide b. urea c. ammonia d.urearic acid

3.Exchange of substances between blood and cells took place in

a. Arteries b. Veins c. Capillaries d. Valves

4.The component of blood which transport

a.Plasma b. RBC c. WBC d. Platelets

5. The process of transport of products produced in photosynthesis is as follows:

a. suction b. translocation c.diffusion d. osmosis

ONE MARK QUESTIONS:

1.Why ventricles have thickwall compared to auricles?

2. Write the function of lymph.

3. Define osmotic control.

4. Why in Uricotelic animals ammonia is converted into uric acid crystals?

5.Why is it necessary to separate oxygenated and deoxygenated blood in mammals?

TWO MARK QUESTIONS:

1.How does transpiration is helpful in plants?

2. Write the function of pulmonary arteries and pulmonary veins.

3. Differentiate between arteries and veins.

4. Among arteries and veins which blood has thin walls and why?

5. Define translocation. How it occur in plants?

6. What is excretion? How does unicellular organisms remove wastes?

7. How does plants excrete waste? List out any four methods.

8. In human excess of water is absorbed in nephron. Mention the factors on which absorption depends.

9. Name the basic filtration unit in the kidney. Why it is called so?

10.Why nitrogen is called essential element? How does plants obtain nitrogen?

THREE MARKS QUESTIONS:

1.What do you mean by lymph? How lymph is differ from plasma present in the blood. List out the two functions of blood.

2. What would be the consequences of deficiency of haemoglobin in our body and describe double circulation of blood in human beings. Why is it necessary?

3.Explain the structure and function of nephron.

4. Write the organs involved in urine formation. Explain different steps in urine formation. List out the three main functions of kidneys.

5. Name the nitrogenous waste present inurine. Which is the functional unit of kidney? How is quantity of urine formation is controlled?

6. Draw a neat schematic sectional view of the human heart and label the following parts.

a. Blood vessel transport blood from heart to lungs.

b. Part which separates right ventricle and right auricle.

7. Draw a neat diagram of nephron and label the following parts:

a. cup shaped structure. b. urine collecting place.

8. Draw a neat diagram of excretory system of man and label the following parts:

a. Urine producing organ

b. Urine collecting organ

c. Organ which join a and b.

d. Releases urine outside.

FOUR MARKS QUESTIONS:

1.Write the uses of transpiration in plants. How transpiration is differ from translocation and why plants have slow transport system?

2. How plants absorb water from roots andtranport to the tip of the shoot? List out the four methods used by plants for excretion of wastes?

FIVE MARK QUESTIONS:

1.Name the main basic unit of kidney. Give relation between heart problem and function of kidney and explain with suitable reasons. Mention the main functions of kidney. Name the factors which involved in the reabsorption of water in nephron.

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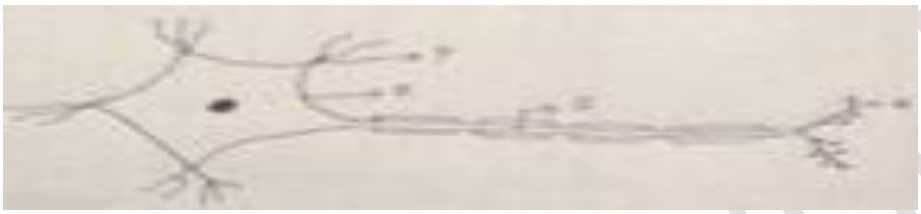
CONTROL AND COORDINATION

MCQ:

1.Which part of a nerve cell contains a nucleus?

a. Axon b. Dendrite c. Cyton d. Nerve endings

2. The correct path of the movement of nerve impulses in the following diagram is



a.Q→S→R→P b. P→Q→R→S c. S→R→Q→P d. P→R→S→Q

3. The gap between two nerve cells is said to be

a.Dendrite b. Axon c. Synapse d. Impulse

4.Which of the following is not a ductless gland

a.Adrenal b.Liver c.Thyroid d.Pituitary

5.Main function of the brain is

a.Thinking b.controls heart beat c. body balancing d.All of the above.

6.Touch me not plant is sensitive to which of the below actions

a. Light b. Smell c. Touch d. Heat

7. Which of these is a plant hormone?

a. Insulin b. Thyroxin c. Estrogen d. Cytokinin

8.The part of the brain that controls the involuntary actions

a.Forebrain b. Mid brain c. Hind brain d. Spinal cord

9. Identify the correct statement among the following with respect to plant hormones

a.Cytokinin promotes wilting of leaves b.Auxin inhibits stem elongation

c.Abscisic acid inhibits the growth of plants. d. Gibberlin promotes falling of leaves.

ONE MARK QUESTIONS:

1.Which are the two components of central nervous system in humans?

2.What is the importance of reflex action?

3.A potted plant is made to lie horizontally on the ground. Which part of the plant will show

a. positive geotropism? b. negative geotropism?

4. A young green plant receives sunlight unidirectionally. What will happen to its roots and shoots?

5. Name the plant hormone which help to promote

a. cell division b.growth of stem

6. Among these which are the promoters?

a. phototropism b. geotropism c. chemotropism

7.give an example of a plant hormone that promotes its growth. Where is it synthesized?

8. State the function of:

a. gustatory receptors b. olfactory receptors

9.Mention the part of the body where gustatory and olfactory receptors are located?

10. Mention the function of hind brain in humans.

11. Name the place of the human body where largest number of neurons are found.

12. Name the hormone that regulates blood sugar level. Name the gland associated in secretion.

13. Adrenalin hormone is called emergency hormone. Why?

14. Name the important hormone secreted by thyroid gland and mention a function.

15. Name the hormone which is associated with the metabolism of carbohydrates, proteins , calcium and phosphorus.

16. Why is pituitary gland called “Master gland”?

17. Why hormones are called as “chemical messengers”?

18. Why are endocrine glands called duct glands?

19. Why is it advised to use iodised salt in our diet?

20. Which part of our brain is responsible for maintaining posture and balance of our body?

21. If we step on something sharp accidentally , we move our foot away at once. What type of response is it?

TWO MARKS QUESTIONS:

1.How do auxins promote the growth of a tendril around a support?

2.How the nervous system is contrast from endocrine system in forming control and coordination in animals?

3.Which is the control centre of reflex action? What is the route taken by the reflex action called?

4. Which is the largest part of the brain? Write its function.

5. The given experimental set-up establishes the response of different plant parts towards gravity

i)Give the scientific term used for such response/movement.

ii)How is shoot response different from root response/movement.

6. Classify the following movements as tropic or nastic.

i) opening of flower ii) roots moving downwards iii)shoots moving towards light. iv)twirling of a tendril.

7.Mention the name of pituitary hormone and its function secreted in humans.

8.List out the functions of Testosteron and Oestrogen.

9. How do you support the statement that 'pancreas' are the overall controller of blood sugar level?

10.Justify that the pancreas and the gonads perform dual function.

THREE MARKS QUESTIONS:

1.Draw the structure of neuron and label these parts.

i)cell body ii) axon

2. Name the below parts of neuron

i) Which part acquires the information in the neuron?

ii)Through which part does the information travel?

3. Mention the functions of phytohormones.

4.What is synapse?How are electric impulses created in a nerve cell?

5. a) Which are the plant hormone present (secreted) in the plant parts where rapid cell division takes place?

b) Give examples for plant growth promoters and plant growth inhibitors.

6. Explain how auxins are helpful for the plant shoot to bend towards light?

7. What is meant by Reflex-action? With the help of a labelled diagram trace the sequence if events which occur when we touch a hot object.

8. When a boy is met with an accident looses his memory? Which part of his is affected?

FOUR MARKS QUESTIONS:

1.Draw a diagram of longitudinal section of human brain and label the below parts.

i)The part which controls involuntary actions in hind brain.

ii) Area receiving sensory impulses.

2.Mention the functions of plant hormones. Name four types of plant hormones.

FIVE MARKS QUESTIONS:

1.a) How does control and co-ordination take place in plants?

b) Distinguish between cerebrum and spinal cord.

c) Give technical terms for following events:

i) The movement of plant in the direction of light.

ii) The movement of plant parts in response to water.

iii) The movement of plant parts towards chemical substance.

iv) The downward movement of roots in response to gravitational force.

2. What is reflex arc? Draw a neat labelled diagram of the components in a reflex arc. Why do impulse flow only in one direction in relex arc?

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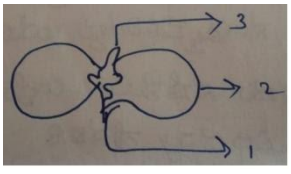
HOW DO ORGANISMS REPRODUCE?

Multiple Choice Questions:-

1. Read the following statements and choose the correct answer.
   i) The flowers which pollinate through air should produce more number of pollen grain
   ii) The pollen grains produced through cross pollination will produce very weak and unhealthy plants.
   a) (i) false (ii) true. b) (i) true (ii) false
   c) (i) and (ii) both true d) (i) and (ii) both false
2. The duet which connects oviduct to uterus.
   a) Ustert tube b) vas deferens c) fallopian tube d) collecting tube
3. In females name the part of womb where fertilization occurs.
   a) uterus b) mouth of uterus c) fallopian duct d) oviduct
4. In flowers male and female are in sequence
   a) stamen and ovary b) ovary and stamens
   c) pistil and petals d) stigma and anther
5. The steps involved from pollination to formation of seeds in flower are
   a) pollen on stigma → pollen tube from pollen → ovary → seed → fruit
   b) pollen tube from pollen → pollen on stigma → ovary → seed → fruit
   c) fruit → seed → ovary →pollen on stigma → pollen tube from pollen
   d) seed → fruit → ovary → pollen tube from pollen → pollen on stigma
6. Which of the below will not spread through sexual contact
   a) syphilis b) gonoria c) warts on genital organs d) hepatitis
7. Which among the following is not devised to avoid pregnancy
   a) lens b) condom c) copper T d) loop
8. The number of oviducts present in female reproductive system
   a) 1 b) 2 c) 3 d) 4
9. Parts of pistil are
   a) stigma, style and pollen grain b) stigma, style and petals
   c) pollen grain, style and ovary d) stigma, style and ovary
10. Stored food is accumulated in
    a) female gamete b) male gamete
    c) female and male gamete both d) not female and male gamete
11. Example for bisexual plant
    a) papaya b) watermelon c) hibiscus d) coconut

One / two marks Questions

1. Draw a neat longitudinal section of flower and label the parts.
2. Draw a neat labeled diagram of germination of pollen grain on stigma.
3. Germination of seed is shown below and write labelled part with numbers given.



4. What are the common changes that occurs in both boys and girls during teenage periods.
5. Define puberty.
6. Write the functions of testosterone hormone.
7. Differentiate between male and female reproductive system.
8. Name the common tube which unites and forms common passage for both sperms and urine.
9. Name the two glands present along the path of vas deferens.
10. Name the tube through which the egg is carried from ovary to the womb in females.
11. Explain how fertilized egg will grow into an fetus.
12. Name the tissue that from which embryo gets nutrition from the mothers blood.
13. Explain the structure of placenta briefly.
14. What is meant by menstrual cycle?
15. Through which microbial infections gonorrhea syphilis are transmitted?
16. Write the functions of testis?
17. Why menstrual cycle takes place in females?
18. Name the different ways have been devised to avoid pregnancy
19. What is the major importance of DNA replication in process of reproduction?
20. In the process of sexual reproduction why DNA replication is most important?
21. Differentiate between pollination and zygote formation.
22. Write the functions of vas deference and prostrate gland.
23. In mothers womb how the fetus will get nutrition?
.
24. "Predetermination of sex of fetus is prohibited". Justify your answer.

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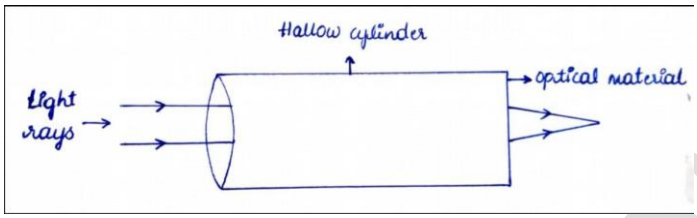
LIGHT : REFRACTION AND REFLECTION

I Multiple choice questions.

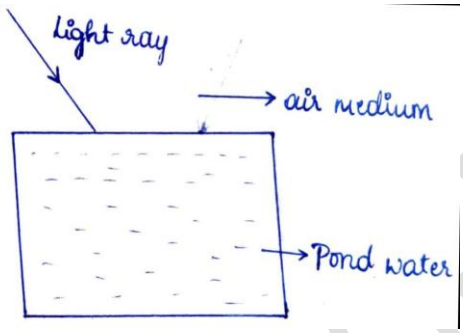
1.



In the above shown picture the optical instrument is

a) concave lens b) convex lens c) concave mirror d) convex mirror

2.

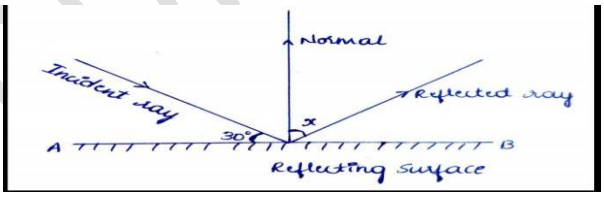


The light ray shown in the above diagram, after refraction travels

a) without any deviation b) reflects completely

c) towards normal d) away from normal

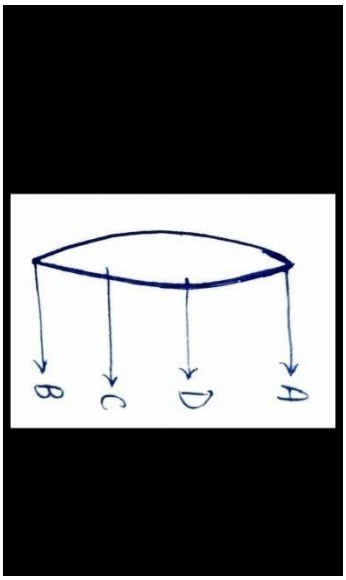
3.



In the above diagram the $\angle x$ measures

a) 90^0 b) 30^0 c) 60^0 d) 180^0

4.



A convex lens is given above and markings A, B, C and D are made at different positions. If a light ray has to experience to least deviation, then it has to travel through point.

a) A b) B c) C d) D

5. If the power of a lens is +2.0D, then
   a) It is a concave lens with focal length 0.5m.
   b) It is a convex lens with focal length 0.5m.
   c) It is a concave lens with focal length 2m.
   d) It is a convex lens with focal length 2m
6. If magnification of image is +1, then
   a) Image size is equal to object and erect.
   b) Image size is equal to object and inverted.
   c) Image size is double the size of object.
   d) Image size cannot be decided by the given value.
7. Where should be the object kept before a convex lens to obtain virtual, erect and larger image.

   a) between 2F and F b) at 2F c) at F d) between F and O

II One mark questions.

1. An object placed at the bottom of the water filled tank appears to be elevated. Why?
2. The convex lens forms a real and inverted image of an object. The size of image is the same as the object. Where is the object placed?
3. Define refractive index.
4. "The magnification produced by the lens is -2." Write the points that you have understood by the statement.
5.

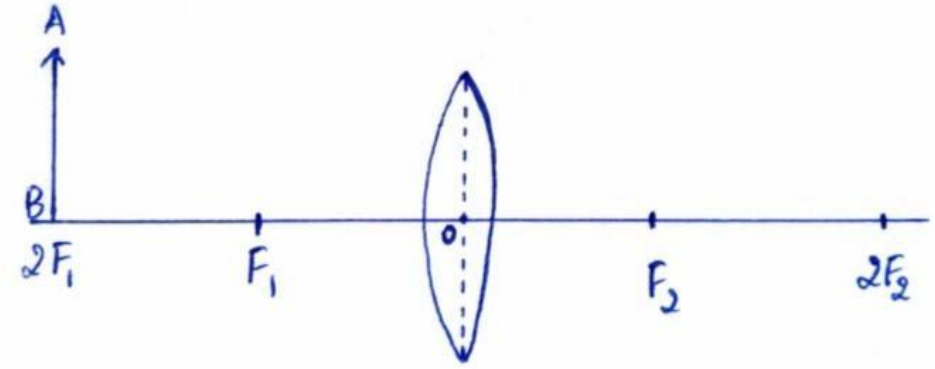
Two convex lens A and B are given above. Which of these have higher

a) focal length

b) radius of curvature.

III Two mark questions.

1. The focul length of a convex lens is 25cm. Calculate the power of the lens.
2. When a light ray travels from water to air, will it bend towards normal or away from normal? Why?
3. Complete the ray diagram.



4.. Which spherical lens is also called as

a) converging lens.

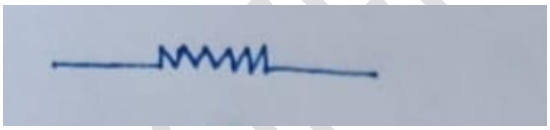
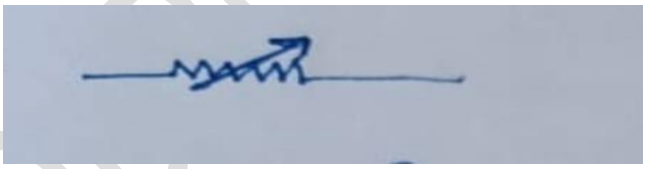
b) diverging lens.

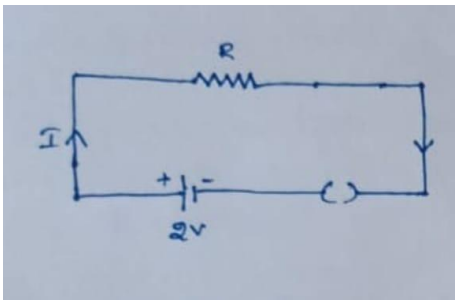
IV Three marks questions.

1. A 3cm tall object is placed perpendicular to the principle axis of convex lens of focal length 15cm. The distance of the object from the lens is 30cm. Find the nature, position and size of the image.
2. A one cm high object is placed 10cm from a convex lens perpendicular to its principle axis. The image formed by the lens is real and inverted with size 2cm. Calculate the power of the lens.

ELECTRICITY

I Multiple Choice Questions:

1. Joule/coulomb is same as
   a) watt b) ampere c) ohm d) volt
2. If two resistors with different resistance each are connected in sereies to a circuit, then
   a) same amount of current flows through each resistor
   b) different amount of current flows through each resistor
   c) current flow depends upon battery source capacity
   d) current flow depends upon voltmeter connected in the circuit
3. The device that provides a constant potential difference between the ends of a conductor is
   a) battery b) voltmeter c) ammeter d) rheostat
4. When a cell is connected to the wire
   a) charges flow from positive end to negative end
   b) charges flow from negative end to positive end
   c) charges may flow in either directions
   d) charges are immovable
5. If two resistors with resistance R_1 and R_2 respectively are connected in parallel to a circuit, then the equivalent resistance R_p can written as
   a) $R_p = R_1 + R_2$ b) $R_p = 1 / R_1 + R_2$
   c) $R_p = R_1 \ R_2 / R_1 + R_2$ d) $R_p = R_1 + R_2 / R_1 \ R_2$
6. 
   Is the circuit symbol for
   a) voltmeter b) plug key c) ammeter d) resistor
7. 
   The function of the circuit symbol shown is
   a) to measure current in the circuit
   b) to measure potential difference in the circuit
   c) to change the resistance in the circuit
   d) to measure the voltage in the circuit
8.



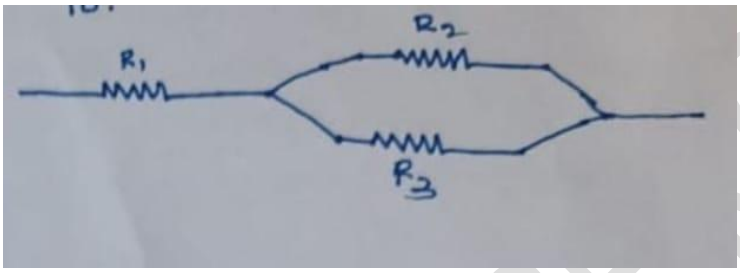
In the above circuit, if current flowing to the resistor R is 1A, then its resistance is

a) 1 Ω b) 2 Ω c) 3Ω d) 4 Ω

9. The total resistance of three equal resistances connected in parallel is 3 ohm. Their total resistance when connected in series is

a) 3 Ω b) 9 Ω c) 27 Ω d) 13Ω

10.



Observe the figure and choose the correct statement

a) R1 and R2 are connected in parallel
b) R2 and R3 are connected in series
c) R1 and R3 are connected in series
d) R2 and R3 are connected in parallel

II one mark questions

1. How can we maintain constant potential difference between the ends of a conductor in a circuit?
2. "The potential difference between the ends of a conductor is one volt". What is the meaning of the statement?
3. How many electrons constituting one coulomb of charge?
4. Calcullate the number of joule's constituting one kilowatthour.
4. What happens to current when the length of conducting wire is doubled?
5. If the resistance of an electrical component remains constant while the potential difference across the two ends of the component decreases to half of its former value. What change will occur in the current flowing through it?
6. State ohm's law.
7. What is electric power? Write its SI unit?
8. Define electrical resistance. Write its SI unit?

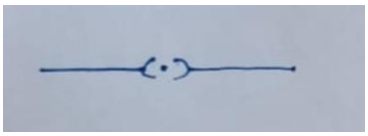
III Two marks Questions

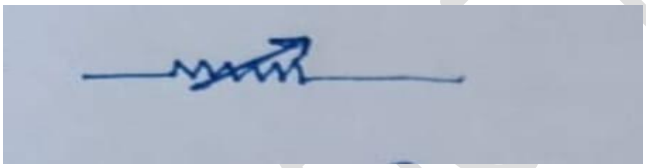
1. List out the factors on which resistance of a conductor depends?
2. How does the resistance of a wire is related with the following.
   a) length of a wire
   b) area of cross section of wire
3. Will current flow more easily through a thick wire or a thin wire of the same material, when connected to the same source? Why?

4. To which wire is fuse connected and how is it connected? Give reason for your answer.
5. A wire of length 3m and area of cross section 1.7 X $10^{-6}m^2$ as a resistance 3 X 10^{-2}ohm . Calculate the resistivity of the wire?
6. A device of 2.2 kw power is operated on a voltage supply of 220V in a circuit that has a fuse rated 5A. What result do you expect? Explain.
7. If a wire is stretched to double its length, what will its new resistance be? Explain.
8. If a wire is stretched to double its length, what will its new resistivity be? Give reason.
9. Write the advantages of connecting resistors in parallel to a circuit.
10. Write the disadvantages of connecting resistors in series to a circuit.

IV Three marks questions

1. State Joule's law of heating effect and write the mathematical equation.
2. State Joule's law of heating effect and list the applications of the law in our daily life.
3. What do the following symbols represent in circuit? Write the name and one function of each.

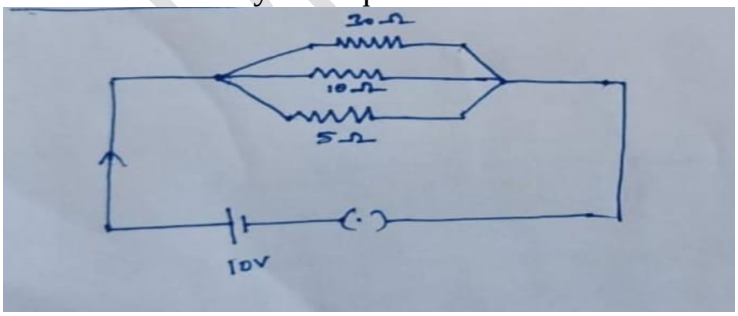
i) 

ii) 

iii) 

V Four marks question.

1. Two wires A and B are of equal length and have equal resistance. If the resistivity of A is more than B. Which wire is thicker and why?
2. From the electric circuit given below calculate the current in each resistor, total current drawn from battery and equivalent resistance of the circuit.



VI Five marks questions.

1. Two identical wires one of nichrome and other of copper are connected in series. and a current (I) is passed through them. State the change observed in the temperatures of the two wires. Justify your answer. State the law which explains the above observation. Also write the mathematical form of the law.

MAGNETIC EFFECT OF ELECTRIC CURRENT

I Multiple Choice Questions:-

1. Inside the magnet, the field lines moves
   a) from north pole to south pole b) from south pole to north pole
   c) away from south pole d) away from north pole
2. Forelectro magnetic induction
   a) there must be a relative motion between the coil and galvanometer
   b) there must be a relative motion between the coil and magnet
   c) there must be a relative motion between magnet and galvanometer
   d) there must be a relative motion between galvanometer and generator
3. What happens to current in short circuit
   a) increases heavily b) vary continuously
   c) reduces gradually d) does not change
4. A soft iron bar is inserted inside a current carrying solenoid. The magnetic field lines inside solenoid
   a) will decrease b) will increase
   c) become zero d) will remain same
5. A positive charge is moving towards a person. The direction of magnetic field line will be in
   a) vertically upward b) vertically downward
   c) clock wise direction d) anti clock wise direction
6. A fuse should always be placed in the
   a) live wire of the main circuit b) neutral wire of the main circuit
   c) earth wire of main circuit d) both live and neutral wire of main circuit
7. The shape of magnetic field lines produced by a current carrying straight conductor are
   a) straight lines b) concentric circles
   c) concentric ellipse d) concentric parabola
8. The strength of magnetic field around a current carrying conductor is
   a) inversely proportional to the current but directly proportional to the square of the distance from wire
   b) directly proportional to current and inversely proportional to the distance from wire
   c) directly proportional to distance and inversely proportional to the current
   d) directly proportional to current but inversely proportional to the square of the distance from wire
9. The nature of magnetic field lines passing through centre of current carrying circular loop is
   a) circular b) ellipse c) parabolic d) straight line
10. The factors on which one magnetic field strength produced by current carrying solenoids depends on
    a) magnitude of curent b) number of turns
    c) nature of cone material d) all the above

11. AC generator works on the principle of
    a) force experienced by a conductor in magnetic field
    b) electro magnetic induction
    c) electrostatic
    d) force experienced by a charge particle in electric field

II One mark questions.

1. What change is noticed in induced current when the direction of magnetic field is reversed?
2. A motor converts one form of energy to other. Name the two forms in sequence.
3. You have a coil and a bar magnet. You can produce an electric current by moving which one?
4. What is the shape of magnetic field lines near a current carrying straight wire.
5. What will happen when a magnet is brought towards a magnetic loop?
6. Name the instrument used in DC motor to change the direction of current in the coil.
7. What would be the force experienced by an electron, minimum or maximum, if it is moving parallel to magnetic field lines?
8. What kind of magnets are used in commercial motors?

III Two marks questions.

1. What happens when
   a) conductor moves perpendicular to magnetic field lines.
   b) conductor moves parallel to magnetic field lines.
2. Differentiate between motor and generator.
3. Write the functions of brushes and split rings in motor.
4. How can the strength of the commercial motors be increased?
5. State the principles on which an electric motor and an electric generator are based?
6. What is an electromagnet? How can you make an electromagnet?
7. How does overload occurs in domestic circuits?

IV Three marks questions.

1. Statei) Flemings left hand rule
   ii) Flemings right hand rule
   iii) Right hand thumb rule.
2. What is electromagnetic induction? Describe an experiment to demonstrate it?
3. Write the properties of magnetic field lines.
4. What is function of the earth wire? Why is metallic body of an electric appliance connected to the earth wire?

V Four mark questions.

1. Briefly explain the construction and working of an electric motor.
2. Briefly explain the construction and working of generator.

VI Five marks Question

1. Describe the activity to show that a current carrying conductor experiences a force in a magnetic field. State the rule to determine the direction of force.
2. Describe an activity to demonstrate the pattern of magnetic field lines around a straight conductor carrying current and state the rule to find the direction of magnetic field associated with a current carrying conductor.

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SOURCES OF ENERGY

I Multiple Choice Questions:

1. Which among these is not the characteristic feature of a good source of energy?
   a) low energy output per unit volume b) easy availability
   c) safe to use d) low in cost
2. The non renewable form of energy among these is
   a) solar energy b) wind energy c) nuclear energy d) ocean thermal energy
3. Which energy is not derived from sun?
   a) wind energy b) biomass energy c) nuclear energy d) wave energy
4. The fuel used in thermal power plant is
   a) water b) coal c) uranium d) wind

II One mark questions

1. Generally thermal power plants are set up near coal or oil fields. Why?
2. "There is a need to conserve fossil fuels". Justify the statement with valid reason.
3. Charcoal is a better fuel than wood. Give reason.
4. The inner surface of a solar cooker is painted black. Why?
5. Write any two limitations of solar cooker.
6. What are the advantages of geo thermal energy?
7. What is nuclear fission?
8. Name any two fuels that are used in nuclear reactors.
9. What is the main constituent of bio gas? Write its molecular formula.
10. Why tidal energy cannot be a major source of electricity?
11. What does the biomass include?
12. How charcoal is obtained from wood?
13. What are hot streams?

III Two marks questions

1. List out the characteristics of good source of energy.
2. Write the advantages of hydro electricity.
3. What are the advantages of biogas.
4. What are the limitations of generating electricity from solar cells.
5. What are the disadvantages of wind energy.

IV Three marks questions.

1. List out the advantages and disadvantages of nuclear energy.
2. Briefly explain the construction and working of biogas plant.
3. List out the advantages and disadvantages of solar cooker.
4. Draw a neat labeled diagram of biogas plant.

Our Environment

I **Multiple choice questions:**

1. Pollutants causes acid rain are
   a) carbon oxides b) Nitrogen oxides
   c) Sulphur oxides d) sulphur and nitrogen oxides

II One mark Questions:

1. Which is pollutant that causes ozone depletion?

III Two marks Questions:

1. What are the causes for ozone depletion.
2. Write the difference between biodegradable and non-biodegradable pollutants.

Sustainable Management Of Natural Resources

Multiple Choice Questions :-

1. The pollutant which reduce absorption of oxygen in the blood.
   a) CO_2 b) CO c) SO_2 d) NO_2
2. The state in which sal forests found
   a) Andhra Pradesh b) Karnataka c) Madhya Pradesh d) West Bengal
3. Bacteria present in human intestine
   a) colliform b) rhizobium c) azetobacter d) clostridium
4. Rajasthan : Kadin and Qadis : : Maharasthra :
   a) and dams b) Budis and ahar
   c) Bandara and Hynes d) Bandara and Lala
5. The age old method of water harvesting in Himachal Prades
   a) Heri b) Aahar c) Kuls d) Nadins
6. The forest officer involved in protection sal forests
   a) Patnar b) Loburn c) A.K.Banerji d) Chandrapal
7. In which year AmrutadeviBishnoi and and other 363 members involved protection Khejri trees
   a) 1731 b) 1831 c) 1931 d) 2001
8. World Forest Day
   a) June – 5 b) September – 4 c) December – 12 d) March – 21
9. The day celebrated on March – 22
   a) World environmental day b) World Water day
   c) World Forest day d) World Ozone day
10. Stakeholders of forest are
    a) Government Forest Department b) city people c) Villagers d) Town people

One /two marks questions:

1. Why did Government of India instituted an 'Amrita Devi Bishnai National Award'?
2. When and how the movement in 'Reni' of Garwal was started?
3. What are the two methods of water management?
4. Give an example for reuse?
5. Give an example for recycle things ?

6. Write two important uses of constructing dams.
7. Sardar Dam was built on Narmada river. Which was built against river Ganga?
8. In which year Ganga project was first implemented?
9. Which is the measure of bio diversity?
10. What are the resourses that are obtained from outside ?
11. list the products obtained by the people living near forest?
12. Write any two advantages of building dams.
13. What are the reasons for pollution of river Ganga?
14. Write the 5R's used to save the environment.
15. Why should we use our resources carefully?
16. What is meant by mining? What are the disadvantages of mining?
17. Who are the four stakeholders that we have to consider during the conservation of forests and willife?
18. What is meant by ChipkoAndolan? How does ChipkoAndolan helped local people and for environment?
19. What is meant by Water harvesting? How did this technology helped in water conservation?
20. Give an example for each water harvesting in an age old concept in India?
21. List the advantages of water storing in underground.
22. Name the industries that depends on forests.
23. List the important uses of forests.
24. What are the disadvantages of spoing forests?
25 What it indicates the coliform bacteria found in human intestine is present in water? How we can easily measure the pollution of water?
26. List six things that can use commonlu in your school. Identify recycle things among them.
27. "Sustainable development will bring changes in all development of life". Justify this statement.
28 What does the Chipko Movement indicates? Write the two aims of ChipkoAndolan.
29. Forest are "biodiversity hotspots". Justify this statement.
30. Write the sketch of Traditional Water Harvesting System and label the parts.
31. Justify with different reasons the sustainable management of natural resources are very difficult.
32. Write the different ways in which we can reduce the CO_2 in the environment.
33 What are causative agents that shows water pollution?
34 What are the important aspects of management of Natural resources?
35 Why did forests are called biodiversity hotspots?
36 Give suggestion to reduce the pollution of rivers by age old traditional practices.
37.Name the effects of following when Gange water is polluted
A.aquatic animals B) life style of people
38 What is meant by wild life? The conservation of wildlife is important give reason.
39 Give reasons for reduce of underground water.
40 List the different methods of traditional water harvesting method.

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ELECTRICITY

I Multiple Choice Questions:

1. Joule/coulomb is same as
   a) watt b) ampere c) ohm d) volt
2. If two resistors with different resistance each are connected in sereies to a circuit, then
   a) same amount of current flows through each resistor
   b) different amount of current flows through each resistor
   c) current flow depends upon battery source capacity
   d) current flow depends upon voltmeter connected in the circuit
3. The device that provides a constant potential difference between the ends of a conductor is
   a) battery b) voltmeter c) ammeter d) rheostat
4. When a cell is connected to the wire
   a) charges flow from positive end to negative end
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5. If two resistors with resistance R_1 and R_2 respectively are connected in parallel to a circuit, then the equivalent resistance R_P can written as
   a) $R_P = R_1 + R_2$ b) $R_P = 1 / R_1 + R_2$
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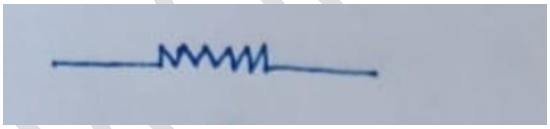
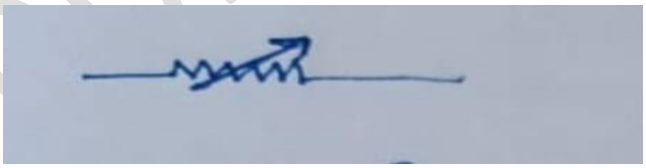
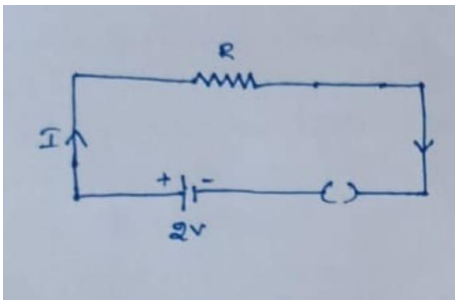
6. 
   Is the circuit symbol for
   a) voltmeter b) plug key c) ammeter d) resistor
7. 
   The function of the circuit symbol shown is
   a) to measure current in the circuit
   b) to measure potential difference in the circuit
   c) to change the resistance in the circuit
   d) to measure the voltage in the circuit

8.



In the above circuit, if current flowing to the resistor R is 1A, then its resistance is

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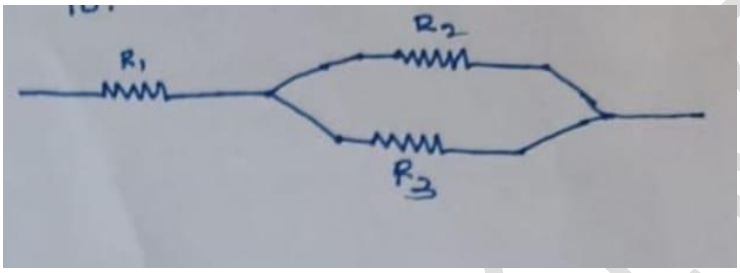

Observe the figure and choose the correct statement

a) R1 and R2 are connected in parallel
b) R2 and R3 are connected in series
c) R1 and R3 are connected in series
d) R2 and R3 are connected in parallel

II one mark questions

1. How can we maintain constant potential difference between the ends of a conductor in a circuit?
2. "The potential difference between the ends of a conductor is one volt". What is the meaning of the statement?
3. How many electrons constituting one coulomb of charge?
4. Calcullate the number of joule's constituting one kilowatthour.
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6. State ohm's law.
7. What is electric power? Write its SI unit?
8. Define electrical resistance. Write its SI unit?

III Two marks Questions

1. List out the factors on which resistance of a conductor depends?
2. How does the resistance of a wire is related with the following.
   a) length of a wire
   b) area of cross section of wire

3. Will current flow more easily through a thick wire or a thin wire of the same material, when connected to the same source? Why?
4. To which wire is fuse connected and how is it connected? Give reason for your answer.
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8. If a wire is stretched to double its length, what will its new resistivity be? Give reason.
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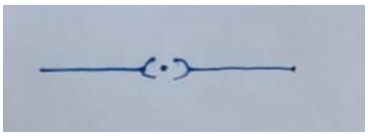
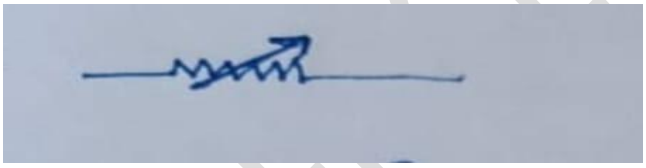
IV Three marks questions

1. State Joule's law of heating effect and write the mathematical equation.
2. State Joule's law of heating effect and list the applications of the law in our daily life.
3. What do the following symbols represent in circuit? Write the name and one function of each.

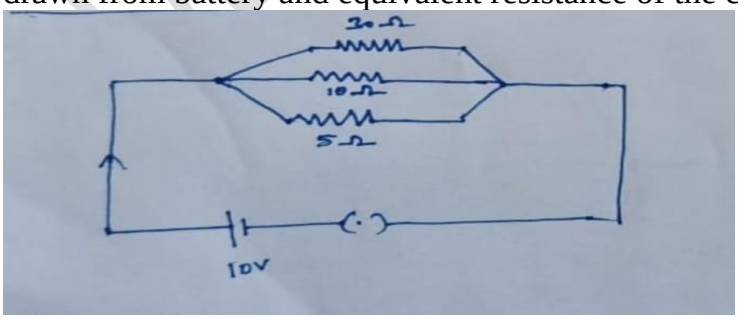
i) 

ii) 

iii) 

V Four marks question.

1. Two wires A and B are of equal length and have equal resistance. If the resistivity of A is more than B. Which wire is thicker and why?
2. From the electric circuit given below calculate the current in each resistor, total current drawn from battery and equivalent resistance of the circuit.



VI Five marks questions.

1. Two identical wires one of nichrome and other of copper are connected in series. and a current (I) is passed through them. State the change observed in the temperatures of the

two wires. Justify your answer. State the law which explains the above observation. Also write the mathematical form of the law.