CLASS 10

SCIENCE

PRACTICE WORKBOOK

NAME :

ROLL NO.:

TEACHER : Naseem

SCHOOL :

CLASS X : SCIENCE (CHEMISTRY)

CHAPTER 1 – CHEMICAL REACTIONS AND EQUATIONS

1. Balance the following reaction : $Mg + O_2 \rightarrow MgO$
2. Complete this reaction : $Fe + CuSO_4 \rightarrow$
3. When a metal reacts with acid, which gas is released?
4. Define (a) corrosion (b) rancidity.
5. What happens when silver chloride comes in contact with sunlight? Write a chemical equation to show the change.
6. Why should we clean a magnesium ribbon before burning it in air?
7. What is a redox reaction? Explain giving an example.
8. What do you mean by an exothermic reaction? Explain with an example.
9. How are photosynthesis and respiration different from each other?
10. What do you mean by a precipitation reaction? Give an example.

CHAPTER 2 – ACIDS, BASES AND SALTS

1. Write the name of any one natural indicator.
2. A substance changes red litmus to blue. Write the nature of the substance.
3. What do you understand by neutralization reaction? Give an example.
4. Why do we take antacid to get relief from acidity?
5. Write an equation to show the reaction between Plaster of Paris and water.
6. Name the sodium compound which is used for softening hard water. Also write its chemical formula.
7. Write three differences between acids and bases.
8. (a) What happens when CO_2 is passed through lime water? (b) What do we observe when excess of CO_2 is passed through lime water?(c) Write balanced chemical reactions in both cases.
9. (a) Write down the chemical name and chemical formula of bleaching powder. (b) How is it prepared? (c) Write down two applications of bleaching powder.
10. What is range of pH in which our body works?

CHAPTER 3 – METALS AND NON-METALS

1. Name a metal and a non-metal that exist in liquid state at room temperature.
2. Name two metals that can be easily cut with a knife.
3. Give name of (a) a metal which is a poor conductor of electricity (b) a non-metal which is a good conductor of electricity.
4. What do you understand by reactivity series of metals?
5. Why is sodium stored inside kerosene oil?
6. Complete the following reactions :

$Fe + H_2O \rightarrow$

$Mg + HCl \rightarrow$

7. Distinguish between roasting and calcination.
8. Describe thermit reaction and give its balanced chemical equation.
9. (a) Describe the process of electrolytic refining of copper. (b) Name the metal collected at cathode. (c)What happens at anode? (d) Which electrolyte is used in refining of copper?
10. (i))How can corrosion of metals be prevented? (ii) What are alloys? (iii)Give the components of (a)solder (b)brass (c)bronze.

CHAPTER 4 – CARBON AND ITS COMPOUNDS

1. List two properties of Carbon due to which it is able to form numerous compounds.
2. Write molecular formula for first two homologues of alcohol group.
3. Identify the functional group in the following : -CHO, -OH, -COOH, -X
4. Explain esterification reaction and give its applications.
5. Make the electron dot structure of the following : (a) O_2 (b) C_2H_6
6. How is soap different from a detergent?
7. What are micelles? How are they formed? Draw the diagram of a micelle.
8. A compound has molecular formula $C_2H_4O_2$. Its 5% solution is used to prepare pickles. (a)Identify this compound. (b) Write its functional group. (c) Which gas is evolved when it reacts with sodium hydrogen carbonate? Write a balanced chemical equation for it. (d)Name the compound formed when it reacts with C_2H_5OH.
9. How can we differentiate chemically between vegetable oil and butter?
10. Make the structural isomers of Pentane and name each of them.

CHAPTER 5 – PERIODIC CLASSIFICATION OF ELEMENTS

1. State the Modern Periodic Law.
2. Write the name of the element having electronic configuration 2,8,3.
3. On what basis has the Modern Periodic Table been formed?
4. Give any one example to show Dobereiner's triad.
5. What are the limitations of Mendeleev's Periodic Table?
6. How are the limitations of Mendeleev's Periodic Table addressed by Modern Periodic Table?
7. How does atomic size vary as we move (a) down a group (b) across a period?
8. The atomic size (in pm) for some elements has been given below. Arrange them in ascending order.

Na	Li	Rb	Cs	K
186	152	246	262	231

9. How are metalloids different from metals and non-metal? Give two examples of metalloids.
10. Three elements X,Y and Z have electronic configuration as follows :

    X – 2 Y – 2,6 Z – 2,8,2

    (a)Which element belongs to second period?

    (b)Which element is placed in group 18?

    (c)Which element belongs to the third period and second group?

IMPORTANT CHEMICAL REACTIONS

1. Double displacement reaction : $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4$ (white ppt.)+ NaCl

2. Displacement reaction : $CuSO_4 + Zn \rightarrow ZnSO_4 + Cu$

3. Decomposition of $FeSO_4$: $FeSO_4 \rightarrow Fe_2O_3 + SO_2 + SO_3$

4. Formation of bleaching powder : $Ca(OH)_2 + Cl_2 \rightarrow CaOCl_2 + H_2O$

5. Gypsum/POP reaction : $CaSO_4.2H_20 \rightarrow CaSO_4.\ 1/2\ H_2O + 1\ 1/2\ H_2O$

6. $NaHCO_3 + HCl \rightarrow NaCl + H_2O + CO_2$

7. Roasting : $ZnS + O_2 \rightarrow ZnO + CO_2$ /Calcination : $ZnCO_3 \rightarrow ZnO + CO_2$

8. Reduction of ZnO by Carbon : $ZnO + C \rightarrow Zn + CO$

9. Thermit reaction : $Fe_2O_3 + Al \rightarrow Fe + Al_2O_3 +$ Heat

10. Reaction of Amphoteric oxides ZnO/ Al_2O_3 with acid/base

a. $ZnO + HCl \rightarrow ZnCl_2 + H_2$ (b) $ZnO + NaOH \rightarrow Na_2ZnO_2 + H_2$

(c) $Al_2O_3 + HCl \rightarrow AlCl_3 + H_2$ (d) $Al_2O_3 + NaOH \rightarrow NaAlO_2 + H_2$

11. Cu (brown)+ $O_2 \rightarrow$ CuO (black)

12. $Ca + H_2O \rightarrow Ca(OH)_2 + H_2$

(floating of Ca tablet due to H_2 bubbles attaching on its surface)

13. Hydrogenation reaction : $CH_2{=}CH_2 + H_2 \rightarrow CH_3{-}CH_3$

(in presence of Ni/Pd catalyst)

14. Esterification reaction : $CH_3COOH + CH_3CH_2OH \rightarrow CH_3COOCH_2CH_3 + H_2O$

(in presence of a few drops of conc.H_2SO_4)

15. Dehydration reaction : $CH_3{-}CH_2OH \rightarrow CH_2{=}CH_2 + H_2O$

(in presence of hot conc.H_2SO_4)

CLASS X : SCIENCE (BIOLOGY)

CHAPTER 6 – LIFE PROCESSES

1. Name the functional unit of kidney.
2. Write the equation for photosynthesis.
3. What is the role of salivary amylase, pepsin and trypsin in digestion?
4. What is the role of villi in the process of digestion?
5. Describe the role of the following in digestion : (a) bile juice (b) HCl.
6. Show the process of nutrition in Amoeba diagrammatically.
7. Differentiate between aerobic and anaerobic respiration.
8. Write three steps of the process of photosynthesis.
9. Draw a labelled diagram of human digestive system/human heart.
10. (a)Name the components of blood. (b) Give differences between arteries and veins. (c)Which gas is transported through plasma and RBCs?

CHAPTER 7 – CONTROL AND COORDINATION

1. Which gland is called master gland in the human body?
2. Name the hormones associated with puberty in both males and females.
3. Which part is the thinking part of the brain?
4. Why is it advised to eat iodized salt?
5. Explain reflex arc/reflex action with the help of a diagram.
6. What are the functions of auxins in plants?
7. Label the given diagram of neuron : (diagram)
8. Draw a diagram of brain and label any three parts.
9. Answer the following :

a. Difference between phototropism and geotropism
b. Name of emergency hormone
c. Function of insulin in our body
d. Example of one involuntary action

10. What is the need of a system for control and coordination in an organism?

CHAPTER 8 – HOW DO ORGANISMS REPRODUCE

1. What is the function of placenta?
2. Name the STD spread by bacteria.
3. Name the female reproductive part of plant.
4. Differentiate between (a) sexual and asexual reproduction (b) binary fission and budding.
5. List any two changes which occur at puberty in boys and girls.
6. Why variations are observed in offspring during sexual reproduction?
7. Write advantages of vegetative propagation over sexual reproduction in plants.
8. Draw the female reproductive system in human beings and label it.
9. Distinguish between pollination and fertilization. Draw a neat diagram of pistil showing growth of pollen tube and its entry into the ovule.
10. What are the various ways to avoid pregnancy?

CHAPTER 9 – HEREDITY AND EVOLUTION

1. What is the unit of heredity?
2. Write the scientific name of man.
3. Which plant was chosen by Mendel to do his experiments on heredity? Why?
4. What are the homologous organs? Give examples.
5. What are fossils?
6. What do you understand by dominant and recessive characteristics?
7. Explain fossil dating?
8. How is sex determination done in human beings?
9. What do you understand by monohybrid cross? Explain it with a suitable diagram.
10. How does variation occur in living things? What do you understand by natural selection and genetic drift?

CHAPTER 15 – OUR ENVIRONMENT

1. Write the full form of CFC.
2. Which of the following are not biodegradable? – wool, glass, aluminium foil, leather
3. What is the functional unit of ecosystem?
4. What is the role of decomposers in the ecosystem?
5. Name any two natural/artificial ecosystems.
6. Why is ozone layer important for the existence of life on the earth? List the causes of its depletion.
7. Explain how harmful chemicals enter inside our body.
8. Why is 'reuse' better than 'recycle'?
9. Identify first and second trophic levels in following food chain –

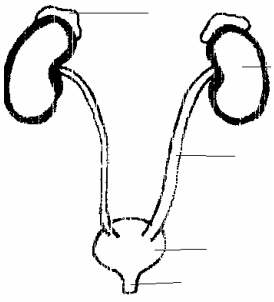
Grass → Deer → Lion

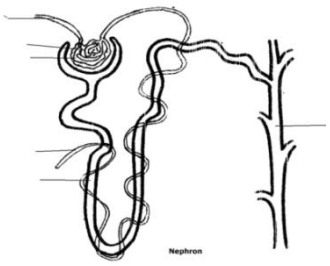
10. (a) (a) What was decided in UNEP in 1987? (b)State the 10% law of energy. (c) Differentiate between biodegradable and non-biodegradable substances.

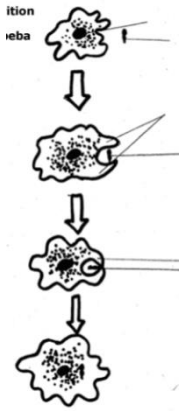
CHAPTER 16 – MANAGEMENT OF NATURAL RESOURCES

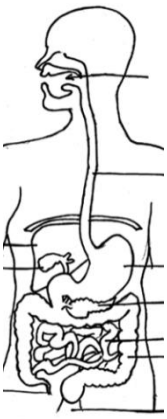
1. Write the names of two natural resources.
2. On which river is Sardar Sarovar Dam situated?
3. State two benefits/disadvantages of dams.
4. Who are stakeholders when we consider conservation of forests?
5. What is rainwater harvesting? Give two ways of rainwater harvesting.
6. How is burning of fossil fuels affecting our environment?
7. What is sustainable development? How is it important?
8. What are the three R's?
9. Write short notes on (a) Chipko Andolan and (b) Advantages of ground water
10. Mention some environment-friendly ways we can follow.

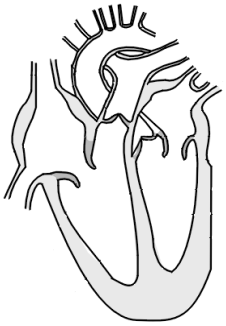
IMPORTANT DIAGRAMS FOR LABELLING (BIOLOGY)

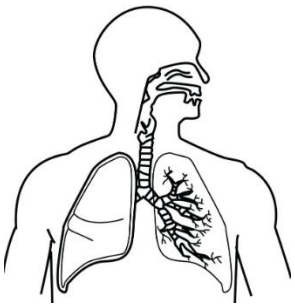


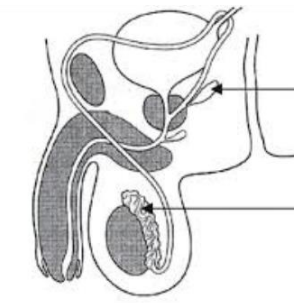


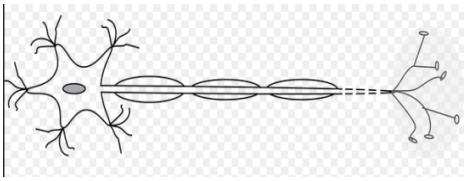


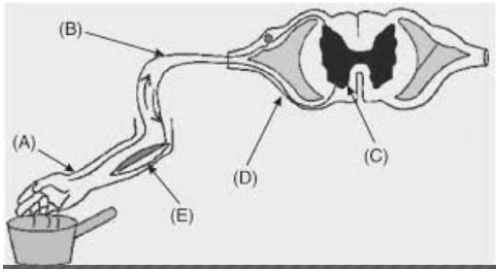


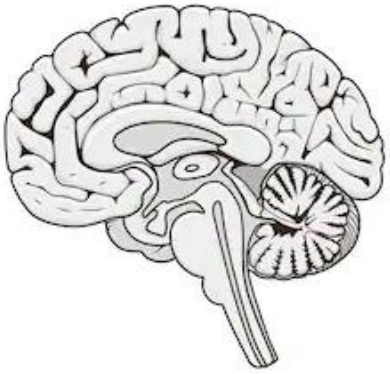


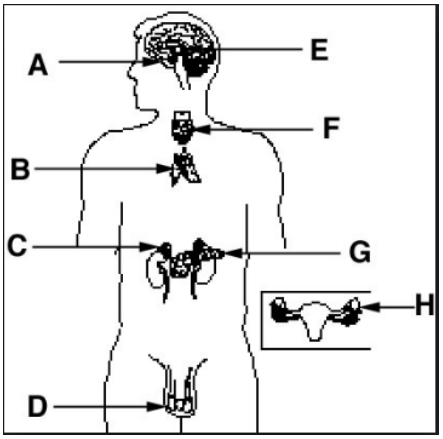












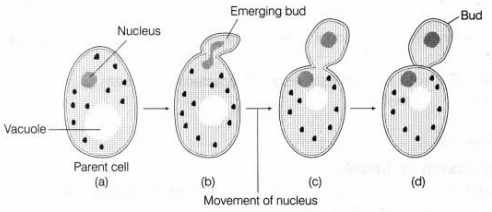
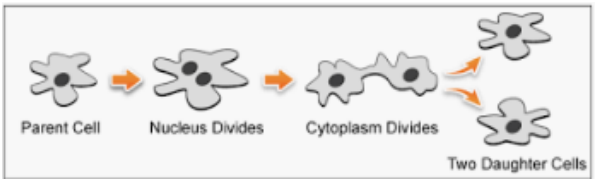
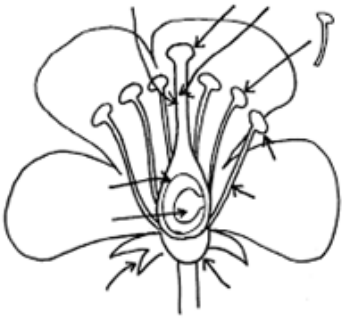
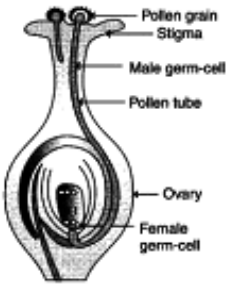


Fig. 3 Budding in yeast cells







CLASS X : SCIENCE (PHYSICS)

CHAPTER 10 – LIGHT : REFLECTION AND REFRACTION

1. What is absolute refractive index? What is the unit of refractive index?
2. Refractive index of water is 4/3. What is the speed of light in water, if the speed of light in air is 3×10^8 m/s?
3. What do you understand by the term 'optical density' of a medium?
4. Where should an object be kept in front of a convex lens to obtain a virtual and erect image?
5. What do you understand by lateral displacement in a rectangular glass slab? Draw a well labelled diagram showing it.
6. State Snell's law of refraction.
7. Write (a) Mirror formula (b) Lens formula
8. What is the power of a lens? Find the focal length of a lens of power -2D. Identify the type of lens.
9. A concave lens of focal length 15cm forms an image 10cm from the lens. How far is the object placed from the lens?
10. Draw a ray diagram to show the position of the image for : (a) a concave mirror when object is placed between F and C (b) a convex lens when the object is placed beyond $2F_1$.

CHAPTER 11 – HUMAN EYE AND THE COLOURFUL WORLD

1. Which type of lens is present in the human eye?
2. What is the near point for a normal human eye?
3. Name the muscular diaphragm that controls the size of the pupil inside our eye.
4. What do you mean by ‘power of accommodation’ and how is it achieved?
5. (a) Why is the colour of the clear sky blue? (b) Why is the colour of the sun red at sunrise and sunset?
6. During the splitting of white light by a prism, the light of which colour bends the most and which the least?
7. (a) Define dispersion of light. (b) In how many colours white light can split? (c) Name the coloured band formed.
8. Draw a well labelled diagram of the human eye.
9. (a) What do you understand by ‘myopia’? (b) List the causes of myopia and how can it be corrected. (c) Draw a diagram showing a myopic eye.
10. Why do the stars twinkle but the planets do not?

CHAPTER 12 – ELECTRICITY

1. (i) How is voltmeter and ammeter connected in an electric circuit?

(ii) Write the SI unit of (a)resistance (b) electric current (c) potential difference.

(iii) Which device is used to measure (a)electric current (b) potential difference?

2. Why is tungsten used to make the filament of an electric bulb?

3. How is the fuse wire working as a safety device?

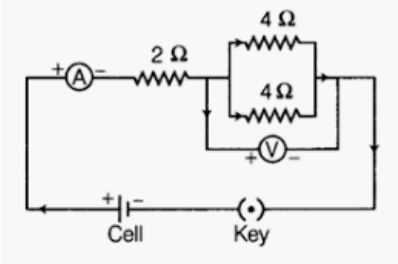
4. (i) State Ohm's Law and give its mathematical expression. (ii) Write the factors affecting the resistance of a conductor.

5. If the length of a conductor is doubled and its thickness is halved, calculate the new resistance of the conductor.

6. (i) State the relationship between KW-h and Joules. (ii) Define electric power.

7. In an electric circuit two resistors of 4 Ω and 20 Ω are connected in series. There is a 6 V battery in the circuit. Calculate the equivalent resistance of the circuit. Find the potential difference across 4 Ω resistor.

8. Observe the circuit given below and calculate the equivalent resistance. If the cell has a potential difference of 2 V, find the total current and the reading shown by the voltmeter.



9. Current of 5 Amperes is passing through a 2Ω resistor for 30 minutes. Calculate the electrical energy transferred.

10. In an electrical circuit 2Ω, 3Ω and 5Ω resistances are used. Calculate the effective (a)maximum resistance (b) minimum resistance.

CHAPTER 13 – MAGNETIC EFFECTS OF ELECTRIC CURRENT

1. Give the characteristic of magnetic field lines.
2. State the right hand thumb rule.
3. What is a solenoid? Draw magnetic field lines formed due to a current carrying solenoid.
4. How will you increase the magnetic field of a solenoid?
5. Draw magnetic field lines in (a) a bar magnet (b) a current carrying circular loop.
6. State Fleming's left hand rule.
7. What are the causes of overloading?
8. Answer the following : (a) Why don't two magnetic lines of force intersect each other? (b)Explain the principle of working of an electric motor. (c) Give one advantage of AC over DC.
9. (a) What is the function of an earth wire? (b) When does short circuit occur? How can it be prevented?
10. What is electromagnetic induction? How can current be induced in a coil? Give one application of electromagnetic induction.

CHAPTER 14 – SOURCES OF ENERGY

1. Write the characteristics of a good fuel.
2. Give differences between renewable and non-renewable sources of energy.
3. Compare and contrast thermal power plants and hydro power plants as sources of energy.
4. What is a solar panel? Which elements are used to (a) make solar cells (b) interconnect the solar cells?
5. Write three steps to reduce energy consumption.
6. (a) What is biogas? (b) How is it produced? (c) State the advantages of biogas.
7. What should be the minimum speed of wind to produce electrical energy through windmills? Mention two limitations of harnessing wind energy.
8. Write full form of OTEC.
9. Give any two advantages and disadvantages of using a solar cooker?
10. Name any two fuels from which nuclear energy is generated.

IMPORTANT FORMULAE :

1. $I = Q/t$
2. $V=W/Q$
3. $V = IR$
4. $R = \rho l/A$
5. $R_s = R_1 + R_2 + R_3$
6. $1/R_p = 1/R_1 + 1/R_2 + 1/R_3$
7. $P = VI$
8. $P = I^2R$
9. $P = V^2/R$
10. $H = VIt$
11. $H = I^2Rt$
12. $H = V^2t/R$
13. $E = P \times t$
14. $1kW\ h = 3.6 \times 10^6\ J$
15. Mirror formula : $1/v + 1/u = 1/f$
16. Magnification formula for mirror : $m = - v/u$ and $m = h'/h$
17. Lens formula : $1/v - 1/u = 1/f$
18. Magnification formula for lens : $m = v/u$ and $m = h'/h$

Practice Paper- Part I

(From syllabus (Ch.1 to Ch.8)

Class X for Compartment students

Science

TIME: 2 Hr MM:50

GENERAL INSTRUCTIONS:

i. The Question Paper comprises of five sections, A ,B,C,D and E You have to attempt all the sections.
ii. All Questions are compulsory.
iii. Internal choice is given in Sections C and D.
iv. Question numbers 1 and 3 in section A are one – mark Questions.
v. Question numbers 4 to 8 in section B are two – marks Questions.
vi. Question numbers 9 to 15 in section C are three – marks Questions.
vii. Question numbers 16 and 17 in section D are five – marks Questions.
viii. Question numbers 18 to 20 in section E are two – marks Questions based on practical skills.

Section A

Q1. What are the final products formed after digestion of carbohydrates and proteins? 1

कार्बोहाइड्रेट्स और प्रोटीन के पूर्ण पाचन के पश्चात् बनने वाले उत्पाद क्या हैं?

Q2. Name two tissues that provide control and coordination in animals. 1

जन्तुओ मे नियंत्रण एवं समन्वय प्रदान करने वाले दो उत्तकों के नाम लिखिये.

Q3. List two functions performed by testis in human beings. 1

मानवों में वृषण दुआरा किये जाने वाले किन्ही दो कार्यों की सूची बनाइये.

Section B

Q4.a.Why do we store silver chloride in dark colored bottles?

b. A white salt on heating decomposes to give brown fumes and a residue is left behind. Name the salt ? 2

a . हम सिल्वर क्लोराइड को गहरे रंग की बोतल मे क्यों रखते है. .

b .एक सफ़ेद रंग के लवण को गर्म करने पर वह वियोजित होने पर भूरे रंग का धुआँ देता है और एक पदार्थ का अवक्षेप बनाता है. इस लवण का नाम लिखिये.

Q5. Explain the formation of magnesium chloride. What is the nature(type) of bond formed in this compound? 2

मैग्नीशियम क्लोराइड के निर्माण का वर्णन कीजिये. इस पदार्थ मे बने आबंध की क्या प्रकृति(प्रकार)है.?

Q6.Draw the structure of butanone, and propanol . 2

व्यूटानोन(butanone) और प्रोपनोल (propanol) का संरचना चित्र बनाईय ।

Q7. a. Name the scientist who proposed modern periodic law? On which fundamental property of elements it is based?

b. What periodic trends do we observe in terms of atomic radii or atomic sizes in Modern periodic table? 2

a. किस वैज्ञानिक ने आधुनिक आवर्त नियम प्रदान किया? ये तत्वों के किस गुणधर्म पर आधारित है ?

b. आधुनिक आवर्त सारणी मे परमाणु व्यास या आकार की प्रवृति किस प्रकार प्रभावित होती है

Q8. How does chemical coordination take place in animals? 2

जंतुओं मे रासायनिक समन्वय कैसे होता है?

Section C

Q9. Explain the human excretory system with diagram. 3

मानव मे उत्सर्जन तंत्र का चित्र सहित वर्णन कीजिये.

Q10.Write the balanced chemical equation for the following reaction and identify the type of reaction in each case.

a. Magnesium ribbon burn in an atmosphere of nitrogen gas to form solid magnesium nitride

b. Chlorine gas is passed in an aqueous potassium iodide solution to form potassium chloride solution and solid iodine.

c. A Solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. 3

निम्न रासायनिक अभिक्रियाओं का संतुलित रासायनिक समीकरण लिखिए.और इनकी पहचान कर रासायनिक अभिक्रियाओं का नाम भी लिखिए.

a. मैग्नीशियम रिबन को नाइट्रोजन गैस के वातावरण मे जलाने पर मैग्नीशियम नाइट्राइड का निर्माण होता है.
b. क्लोरीन गैस को पोटाशियम आयोडाइड के विलयन मे से गुजरने पर पोटाशियम क्लोराइड विलयन एवं ठोस आयोडीन प्राप्त होता है.
c. पोटैशियम क्लोराइड के विलयन को सिल्वर नाइट्रेट के विलयन मे मिलने पर एक सफ़ेद अघुलनशील पदार्थ बनता है

Q 11a. What is the chemical name of chloride of lime? How it is prepared? List its uses.

b. Tooth enamel is one of the hardest substance in our body. How does it undergo damage due to the eating of chocolates and sweets? What should we do to prevent it? 3

a.क्लोराइड ऑफ़ लाइम का रासायनिक नाम क्या है?इसका निर्माण किस प्रकार किया जाता है ?इसके उपयोग लिखिए.

b.दन्त इनेमल हमारे शरीर का कठोरतम पदार्थ है। यह चॉकलेट तथा मिठाई खाने के कारण क्षतिग्रस्त हो सकता है। इसका बचाब किस प्रकार किया जा सकता है ।

OR

1 g of solid sodium chloride is taken in a clean and dry test tube and 2 mL of conc. sulphuric acid is added to it. If the gas evolved is tested first with dry and then with wet blue litmus paper, in which case will the litmus paper change colour? Give reason for your answer. What inference can be drawn about the nature of the evolved gas ? Support your answer with chemical equation for the reaction.

1 g ठोस सोडियम क्लोराइड को एक साफ तथा शुष्क परखनली मे २ ml सांद्र सल्फ्यूरिक अम्ल मिलाया जाता है.उत्सर्जित गैस को पहले शुष्क तथा बाद मे गीले नीले लिटमस पत्र से जांचने पर किस लिटमस पत्र के रंग मे परिवर्तन होगा?अपने उत्तर का कारण स्पष्ट कीजिये। उत्सर्जित गैस की प्रकृति के बारे मे क्या निष्कर्ष निकला जा सकता है?इस प्रतिक्रिया के लिये रासायनिक समीकरण के साथ अपने उत्तर की पुष्टि कीजिये.

Q 12.What is meant by double circulation? Mention its advantages. 3

दोहरा परिसंचरण से किया अभिप्राय है?इसके फायदे बताइये।

Q 13. An element X of atomic number 12 combines separately with NO_3^- and $(SO_4)^{2-}$, $(PO_4)^{3-}$ radicals.

a) Write the electronic configuration of element X

b) Write the formulae of the three compounds so formed.

c) To which group and period of the periodic table does the element 'X ' belong? 3

एक तत्व X जिसकी परमाणु संख्या 12 है जो NO_3^- और $(SO_4)^{2-}$, $(PO_4)^{3-}$ से अलग अलग संयोजित होता है।

a) X का इलेक्ट्रॉनिक विन्यास लिखिए।

b) इन से बने तीन पदार्थों के सूत्र लिखिए।

c) X आवर्त सारणी के किस वर्ग एवम समूह से सम्बंधित है।

Q14.Explain how auxins help in bending of plant stem towards light. 3

पोधों के तने को प्रकाश की तरफ झुकने मे आक्सिन किस प्रकार मदद करता है.संक्षेप मे वर्णन कीजिये?

Q15..Explain in brief three contraceptive methods to control the size of human population .which contraceptive method can give some protection from STD's. 3

मानव आबादी के आकार को नियंत्रित करने के लिए तीन गर्भ निरोधक विधियों का संक्षेप मे वर्णन कीजिये? गर्भ निरोधक की कौन सी विधि STD से कुछ सुरक्षा प्रदान कर सकती है.

Or

a. What is spore formation?

b. Draw a diagram showing spore formation in Rhizopus

a.बीजाणु समासंघ क्या है ?

b.राइजोपस मे बीजाणु समासंघ को चित्र द्वारा दर्शाइये।

Section D

Q16. a. An ore on treatment with dil. hydrochloric acid produces brisk effervescence. what step will be required to obtain metal from the enriched ore.

b. What is an alloy ? state the constituent of solder.

c. Draw the neat labeled diagram for electrolytic refining of copper. 5

a.एक अयस्क मे तनु हाइड्रोक्लोरिक अम्ल मिलाने पर बुदबुदाहट उत्पन होती है. इस अयस्क से धातु का निष्कर्षण किस प्रकार होता है ।

b.मिश्रातु क्या है ? सोल्डर के अवयव लिखिये।

c.कॉपर के विद्युत अपघटनी परिष्करण का नामांकित चित्र बनाइये।

Q17.a.Ethanoic acid reacts with absolute ethanol in the presence of Conc. H_2SO_4 to form a compound.
(i) Write the chemical equation for the reaction and state the role of Conc.H_2SO_4 in the reaction.
(ii) Write one use of the product of this reaction.
b. what is the next higher homologue of C_3H_7OH? write its formula and name of the compound. 5

a.एथनोइक अम्ल मे एथेनॉल को Conc. H_2SO_4 की उपस्थिति मे मिलाने से किसी यौगिक का निर्माण होता है।
i.इस अभिक्रिया का रासायनिक समीकरण लिखिये तथा इस अभिक्रिया मे Conc.H_2SO_4 की भूमिका लिखिए।
ii.इस अभिक्रिया मे बने उत्पाद का कोई एक उपयोग लिखिये।
b. C_3H_7OH समजातीय श्रेणी के अगला पदार्थ का सूत्र एवम नाम लिखिये।

Or

(a) Write a chemical test to distinguish between saturated and unsaturated hydrocarbons.
(b) Name the products formed when ethane burns in air. Write chemical equation for this reaction.
(c) Write the reaction between methane and chlorine in the presence of sunlight. Why is this reaction considered a substitution reaction?

(a)संतृप्त और असंतृप्त हाइड्रोकार्बन मे अंतर स्पष्ट करने के लिये एक रासायनिक परीक्षण (टेस्ट) लिखिये।
(b)एथेन के वायु दहन होने पर उत्पन्न पदार्थों के नाम लिखिये। इस अभिक्रिया का रासायनिक समीकरण भी लिखिये।
(c)सूर्य के प्रकाश मे मीथेन और क्लोरीन के वीच होने वाली अभिक्रिया को लिखिये। इस अभिकिर्या को प्रतिस्थापन अभिक्रिया क्यों कहा जाता।

Section E

Q 18 Reena strongly heated 2 g of ferrous sulphate crystals in a test tube. she observe that a pungent smell comes out from it and the colour of ferrous sulphate is changed.

a. write the chemical reaction for this.
b. what is the colour of ferrous sulphate crystals and final product formed in the test tube. 2

रीना ने २ g फेरस सल्फेट क्रिस्टल को एक परखनली मे अधिक गर्म किया। उसने प्रेक्षण किया की इस क्रिया मे बहुत तीखी गंध उत्पन्न होती है और एक पदार्थ परखनली मे रह जाता है।

a.रासायनिक अभिक्रिया लिखिये

b. फेरस सल्फेट क्रिस्टल और अभिक्रिया के बाद बचे उत्पाद का रंग क्या है।

Q19.sonu took 2 g of sodium carbonate in a test tube. He added few drops of hydrochloric acid in it. He observed brisk effervescence of CO_2 come out of the test tube. what happen if he pass this gas through freshly prepared lime water? write chemical reaction for this. 2

सोनू ने 2 g सोडियम कार्बोनेट एक परखनली मे लिया। उसने इसमे कुछ बूंदे हाइड्रोक्लोरिक अम्ल डालने पर तेजी से बुदबुदाहट के साथ CO_2 उत्पन्न होने का प्रेक्षण किया। क्या होगा यदि इस गैस को चूने के पानी से गुजारा जाये? रासायनिक समीकरण लिखिये।

Q20.a. Name the asexual reproduction by which Amoeba reproduces.

b. Draw various stages of asexual reproduction in Amoeba. 2

a.अमीबा मे अलैंगिक जनन की विधि का नाम लिखिये।

b.अमीबा मे जनन के चरणों का चित्र बनाईये।

Practice Paper- Part II

(syllabus (Ch9 to Ch16)

Class X for Compartment students

Science

TIME: 2 Hr MM:50

GENERAL INSTRUCTIONS:

i. The Question Paper comprises of five sections, A ,B,C,D and E You have to attempt all the sections.
ii. All Questions are compulsory.
iii. Internal choice is given in Sections C and D.
iv. Question numbers 1 and 3 in section A are one – mark Questions.
v. Question numbers 4 to 8 in section B are two – marks Questions.
vi. Question numbers 9 to 15 in section C are three – marks Questions.
vii. Question numbers 16 and 17 in section D are five – marks Questions.
viii. Question numbers 18 to 20 in section E are two – marks Questions based on practical skills.

Section A

1.Under what condition is the force experienced by a current carrying conductor placed in a magnetic field maximum? 1

किस परिस्थिति में चुम्बकीय क्षेत्र में रखा विद्युत धारावाही सुचालक अधिकतम बल अनुभव करता है?

2.What is renewable source of energy? 1

ऊर्जा का नवीकरणीय स्रोत क्या है?

3.Why is reuse a better practice than recycle? 1

पुनःउपयोग,पुनःचक्रण से ज्यादा उपयोगी क्यों है?

Section B

4.Differentiate between homologous and analogous organs. 2

समजात और समरूप अंगों में अंतर स्पष्ट कीजिए|

5.Write the expressions for the equivalent resistance of three resistors R1 , R2 and R3 connected in-- i)series ii) parallel 2

तीन प्रतिरोध R1,R2 और R3 के कुल प्रभावित प्रतिरोध का सूत्र लिखिए जब वे निम्नलिखित क्रम में संयोजित हों.

(1) श्रेणी क्रम (2) समांतर क्रम

6. How do Mendel's experiments show that traits may be inherited. 2

मेंडल के प्रयोगों ने किस प्रकार दर्शाया कि जीवों के लक्षण आनुवंशिक होते हैं?

7.Suggest two measures for controlling carbon dioxide levels in the atmosphere. 2

वातावरण में *कार्बन डाई* आक्साइड की मात्रा को नियंत्रित करने के किन्ही दो सुझावों को लिखिए|

8.State two reasons for the need of conservation of forest and wildlife. 2

वन्य संरक्षण और वन्य जीवन संरक्षण क्यों आवश्यक है?कोई दो कारण लिखिए|

Section C

9. What is earth wire? How it works in our domestic circuits? 3

भू-संपर्क तार क्या है? यह हमारे घरेलू परिपथ में कैसे कार्य करती है?

10 a) State Fleming's left hand rule.

b) Draw magnetic lines around a bar magnet. 3

a) फ्लेमिंग का वाम हस्त नियम लिखिए |

b) एक छड़ चुम्बक की चुम्बकीय रेखाएं दर्शाए |

11. How is the sex of the child determined in human beings. 3

मानव में एक नवजात शिशु का लिंग-निर्धारण कैसे किया जाता है?

12. Mention any three applications of solar cells. 3

i) Why are solar heating devices painted black?

ii) Name two such devices and state two limitations of these.

सोलर सेल की किन्ही उपयोगों का वर्णन कीजिए|

i) सौर-तापक युक्तियों में पृष्ठ को काला क्यों किया जाता है?

ii) ऐसी किन्ही दो युक्तियों के नाम लिखिए और इनकी दो सीमायें भी बताइए

13. "Energy flow in food chains is unidirectional."Justify this statement .Explain how the pesticides enter a food chain and subsequently get into our body. 3

खाद्य श्रंखला में ऊर्जा स्थानांतरण एक ही दिशा में होता है-इस कथन को तर्कसंगत कीजिए। समझाइए की कीटनाशक किस प्रकार खाद्य श्रंखला में आते हैं और फिर मानव शरीर में स्थान लेते हैं।

Or

Name the chemical responsible for causing hole in the ozone layer. What may be the consequences of ozone hole?

ओजोन परत में छिद्र के लिए उत्तरदायी रसायन का नाम लिखिए। ओजोन छिद्र के क्या दुष्परिणाम संभावित हैं?

14. State Ohm's law. Draw a labelled circuit diagram used for its experimental verification and also the V-I graph. 3

ओम का नियम लिखिए। इसकी प्रयोगात्मक पुष्टि हेतु उपयुक्त विद्युत परिपथ को चिन्हित कीजिए तथा V-I ग्राफ को भी दर्शाइए।

15.List three changes you can make in your habits to become more environment friendly. 3

स्वयं को अधिक पर्यावरण मैत्रिक बनाने हेतु आप अपने दैनिक चर्या में क्या परिवर्तन ला सकते हैं?

Section D

16.a)List four properties of the images formed by plane mirrors.

b)What is meant by power of a lens ?The focal length of a lens is -10cm. Write the nature of the lens and find its power. 5

a) समतल दर्पण द्वारा बनाए गए प्रतिबिंबों के किन्हीं चार गुणों की सूची बनाइए।

b) लेंस क्षमता से क्या अभिप्राय है? एक लेंस की फोकल दूरी 10 cm है| इस लेंस की प्रकृति और क्षमता लिखिए।

Or

a)Name the type of mirror that should be used:

i. As a rear view mirror ii. By the dentists.

Also mention the reason of their use

b)The radius of curvature of a spherical mirror is 20cm. What is its focal length.

a) उस दर्पण का नाम लिखिए जिसका उपयोग किया जाना चाहिए:

(i) ड्राइवर द्वारा पीछे की वस्तुएं देखने के लिए (ii) दंत चिकित्सक द्वारा

इनकी उपयोगिता का कारण भी लिखिए।

(b) एक गोलीय दर्पण की वक्रता त्रिज्या 20 cm इसकी फोकल दूरी क्या है?

17.a)Write two phenomenon involved in the formation of a rainbow.

b)Briefly explain why is the colour of clear sky blue? What would have happened if there was no atmosphere on earth? Give reason to justify your answer. 5

a) इंद्रधनुष के बनने में कौन-सी दो परिघटनाएं सम्मिलित हैं?

b) संक्षिप्त में समझाइए कि स्पष्ट आसमान का रंग नीला क्यों होता है। पृथ्वी पर यदि वातावरण नहीं होता तो क्या होता? अपने उत्तर की पुष्टि कारण सहित कीजिए।

Or

a)Draw the structure of human eye and label on it the following:

i) Cornea ii) ciliary muscles iii) vitreous humour

iv) retina

b)Explain how we enable to see nearby as well as distant objects distinctly.

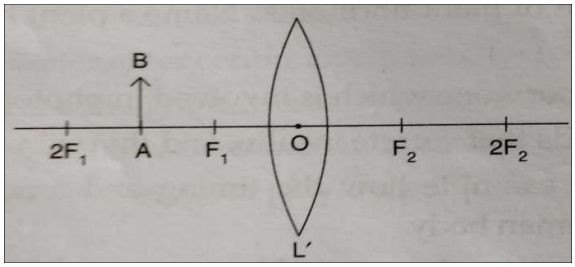
मानव **नेत्र की संरचना चिन्हित कीजिए** और निम्नलिखित भाग नामांकित कीजिए-

(i) श्वेत मंडल (कॉर्निया) (ii) **पक्ष्माभी** पेशियां (iii) विट्रस ह्यूमर (iv) दृष्टि पटल

समझाइए कि हम निकट और दूर की वस्तुएं स्पष्टता से कैसे देख पाते हैं?

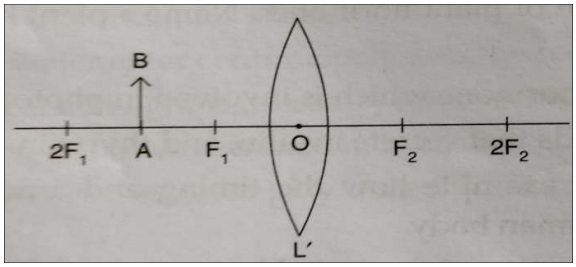
Section E

18.Observe the following figure where an object is placed between F1 and 2F1 in front of a convex lens.



After refraction where will the image be formed. Draw ray diagram to determine the nature , position and relative size of the image in the above case. 2

नीचे दर्शाए गए चित्र का अवलोकन कीजिए जिसमे उत्तल लेंस के समक्ष एक बिम्ब F1 और 2F1 के मध्य रखा



परावर्तन के पश्चात प्रतिबिंब कहाँ बनेगा? एक आरेखित चित्र बनाइए जो उपरोक्त अवस्था मे प्रतिबिंब की प्रकृति, स्थिति और संबन्धित आकार बताए

19. A student has to trace the path of a ray of light passing through a glass prism. List two precautions he should observe for better results. 2

एक विद्यार्थी ने काँच के प्रिज़्म **से गुजरने वाली प्रकाश किरण को दर्शाना है| इसके सुपरिणाम हेतु उसे कौन सी दो** सावधानियों की सूची बनानी चाहिए|

20.The rest positions of the needles of a milliameter and voltmeter when not being used in a circuit are as shown. Determine the least count and zero error in each of these instruments. 2

नीचे दिए गए चित्र मे मिलीअ**मीटर और वोल्टमीटर की** स्थितियों को दर्शाया गया है, **जब वे विद्युत परिपथ मे** प्रयोग में नहीं थे | **इन यंत्रों के न्यूनतम मान और शून्य त्रुटि** को ज्ञात कीजिए|