

This Question Paper contains 12 printed pages.
(Sections - A, B, C & D)

Sl.No.

11 (E)
(MARCH/APRIL, 2022)

Time : 3 Hours

[Maximum Marks : 80]

Instructions :

- 1) Write in a clear legible handwriting.
- 2) This question paper has four Sections A, B, C & D and Question Numbers from 1 to 54.
- 3) All questions are compulsory. There are only internal options.
- 4) The numbers to the right represent the marks of the question.
- 5) Draw neat diagrams wherever necessary.
- 6) New sections should be written in a new page. Write the answers in numerical order.

SECTION - A

Answer the questions 1 to 24 as directed. Each question carries 1 mark.[24]

Choose the correct option from given options :-

- 1) ✓ Potato chips manufacturers usually flush bags of chips with which inert gas to prevent the chips from getting oxidised? [1]
- (A) Oxygen
- (B) Hydrogen
- (C) Chlorine
- ✓ (D) Nitrogen

2) Butanone is a four-carbon compound with the functional group [1]

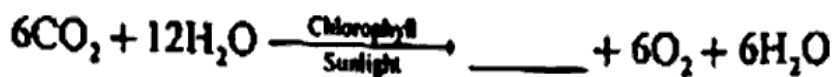
(A) Carboxylic acid

(B) Aldehyde

(C) Ketone

(D) Alcohol

3) Choose the correct option to complete the following reaction. [1]



(A) $\text{C}_2\text{H}_5\text{OH}$

(B) $\text{C}_6\text{H}_{12}\text{O}_6$

(C) CH_4

(D) CH_3COOH

4) Which metal is used for inter connection of cells in solar panel? [1]

(A) Silver

(B) Copper

(C) Cobalt

(D) Iron

5) If the object is placed at 40cm in front of plane mirror, what will be the distance between object placed and image formed? [1]

(A) 40 cm

(B) 80 cm

(C) 20 cm

(D) 60 cm

6) What is the least distance of distinct vision for a young adult with normal vision? [1]

(A) 25 m

(B) 2.5 cm

(C) 25 cm

(D) 2.5 m

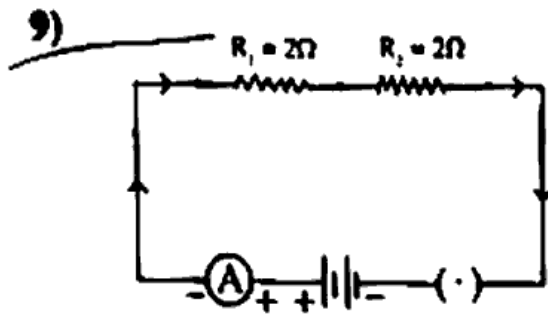
Fill in the blanks with correct answer :-

7) _____ is used as a catalyst in the hydrogenation of vegetable oils. [1]

(Nickel, Calcium, Carbon)

8) The element _____ has the electronic configuration 2,8,2. [1]

(Aluminium, Magnesium, Sodium)



_____ is the equivalent resistance in the above diagram. [1]

$$\left(\frac{1}{4} \Omega, 1\Omega, 4\Omega \right)$$

10) In somatic cells of human being, the chromosomes are found in _____ pairs. [1]

(22, 23, 46)

11) _____ mirror is used in the head lights of a car. [1]
(Concave, Convex, Plane)

12) The device used for producing electric current is called _____. [1]
(generator, ammeter, motor)

State if following statements are true or false.

13) Tooth decay starts when pH of the mouth is lower than 5.5. [1]

~~14)~~ The outermost shell of noble gases have 7 electrons. [1]

15) Vegetative propagation takes place in the buds produced in the notches along the margins of Bryophyllum leaf. [1]

16) Carbon-di-oxide is a green house gas. [1]

17) Solder, an alloy of lead and tin has high melting point. [1]

18) Absciscic acid is a plant hormone which promotes growth. [1]

Answer the following questions as directed in one word or a sentence.

19) Write the chemical formula of Bleaching powder? [1]

20) The breakdown of pyruvate to give carbon dioxide, water, energy takes place in which organelle? [1]

21) I measure the electric current. Which device am I? [1]

22) Write full form of AC and DC? [1]

23) What are fossil fuels? [1]

- 24) Match the following type of Asexual reproduction with correct examples. [1]

Type of Asexual Reproduction		Examples	
(i)	Fragmentation	a)	Planaria
(ii)	Regeneration	b)	Amoeba
		c)	Spirogyra

SECTION - B

Question No. 25-37 each carries 2 marks. Answer in short in 40-50 words approximately. Attempt any 9 questions only. [18]

- 25) What are isomers? Draw the structural formulas of butane. [2]

- 26) Write differences between Soaps and Detergents. [2]

- 27) The position of three elements A, B, C in the periodic table are shown below. [2]

Group 16	Group 17
-	-
-	A
-	-
B	C

- State whether A is metal or nonmetal
- State whether C is more reactive or less reactive than A.
- Will C be a larger or smaller in size than B.
- Which type of ion, cation or anion will be formed by element A?

- 28) Draw a neat labelled diagram of Neuron? [2]
- 29) How does phototropism and geotropism occur in plants? [2]
- 30) What is pollination? Explain difference between self pollination and cross pollination. [2]
- 31) What are the changes seen in the boys at the time of puberty? [2]
- 32) Draw a diagram of sex determination in human being. [2]
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- 33) Explain the terms analogous and homologous organs with examples. [2]
- 34) What is reflection of light? Write laws of reflection of light. [2]
- 35) Write uses of concave mirror. [2]
- 36) How much work is done in moving a charge of 2C across two points having potential difference of 12V? [2]
- 37) What is ozone and how does it affect any ecosystem? [2]

SECTION - C

Question No. 38-46 each carries 3 marks. Answer in short in 60-80 words approximately. Attempt any 6 questions only. [18]

- 38) Write differences between endothermic reactions and exothermic reactions? [3]
- 39) Write physical properties of metals? [3]
- 40) Write different ways of prevention of corrosion of metals. [3]
- 41) Write Mendeleev's Periodic Law? Explain achievements of Mendeleev's Periodic table. [3]
- 42) Explain the different methods of contraception? [3]
- 43) A convex mirror used for rear-view on an automobile has a radius of curvature of 3.00 m. If a bus is located at 5.00 m from this mirror, find the position, nature and size of the image. [3]
- 44) Draw a labelled diagram of solar cooker? Write the advantages and disadvantages of using a solar cooker? [3]

45) Explain the following term :-

[3]

- i) Ecosystem
- ii) Food chain
- iii) Biological magnification

46) Explain the three R's : Reduce, Recycle, Reuse to save the environment. [3]

SECTION - D

Question No. 47-54 each carries 4 marks. Answer in long in 90-120 words approximately. Attempt any 5 questions only. [20]

47) How is plaster of paris formed? Write an equation to show the reaction between plaster of paris and water? Write uses of plaster of paris. [4]

48) Compounds such as alcohols and glucose also contain hydrogen but are not categorised as acids. Describe an activity to prove it. [4]

49) Draw a neat labelled diagram of human alimentary canal. Write the role of saliva and role of hydrochloric acid in digestion of food. [4]

50) Explain the nutrition in Amoeba with a neat labelled diagram. [4]

51) What is Dispersion of white light by a glass prism? Explain the dispersion of white light by the glass prism with a diagram. [4]

- 52) Let the resistors in parallel connection be R_1, R_2, R_3 . Derive an equation to find equivalent resistance $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$ in a parallel connection. [4]
- 53) What is magnetic field? Draw magnetic field lines around a bar magnet. Write the properties of magnetic field lines. [4]
- 54) State the principle, construction and working of an electric motor with a neat labelled diagram. [4]



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