

This Question Paper contains 8 printed pages.
(Section - A, B, C & D)

Sl.No.

11 (E)

(MAY, 2021)
(Old Course)

Time : 3 Hours]

[Maximum Marks : 80

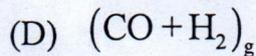
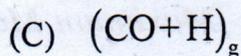
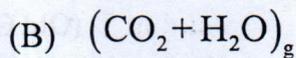
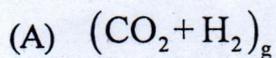
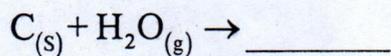
Instructions :

- 1) Write in a clear legible handwriting.
- 2) This question paper has four Sections A, B, C & D and Question Numbers from 1 to 53.
- 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 Q.No.1 to 24 as per the directions given. [Each question of 1 mark]. [24]
- Select the proper choice from the given multiple choice questions.
 - 1) Fullerene or buckyball is made up of _____ carbon atoms. [1]
(A) 20 (B) 60
(C) 75 (D) 100
 - 2) Which of the following materials has more number of free electrons? [1]
(A) Glass (B) Rubber
(C) Copper (D) Iron
 - 3) Which of the following is mostly used for the measurement of approximate pH of an aqueous solution? [1]
(A) Indicator (B) Litmus paper
(C) pH meter (D) Water

4) Complete the Equation:- [1]



5) Which of the following is not an excretory organ of human body? [1]

(A) Renal artery

(B) Renal Vein

(C) Pulmonary artery

(D) Ureter

6) How many molecules of ozone can be decomposed by one atom of chlorine? [1]

(A) 1000

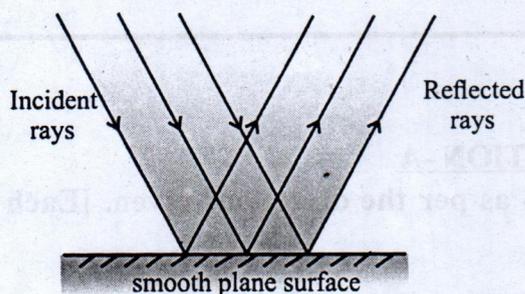
(B) 10,00,000

(C) 1,00,000

(D) 10,000

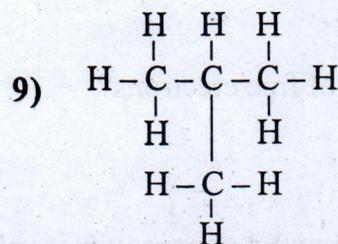
■ Fill in the blanks so as to make the following statements true.

7)



The above figure shows _____ form of reflection. (Regular, Irregular) [1]

8) The S.I. unit of electric charge is _____. (Ampere, Coulomb, Watt) [1]



The I.U.P.A.C. name of above structure is _____. (2-Methylpropane, 2-methylbutane, Cyclohexane) [1]

- 10) _____ functional group is seen in Ethanoic acid. [1]
(-CHO, $>C=O$, -COOH)
- 11) The process of obtaining food by Amoeba is known as _____. [1]
(Cytokinesis, Phagocytosis, Amoebiasis)
- 12) To reduce the use of LPG by making use of solar energy is an example of _____. [1]
(Recycle, Reduce, Reuse)

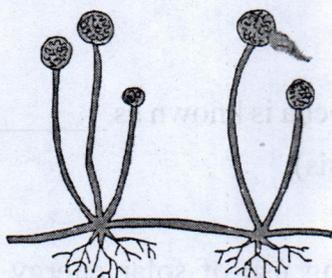
■ **State True or False.**

- 13) The SI unit of power of lens is diopetre. [1]
- 14) Three beautiful luminous rings add to the beauty of planet Saturn. [1]
- 15) 'pH' value of distilled water is zero. [1]
- 16) The cerebrospinal fluid protects the brain from mechanical shocks. [1]

■ **Do as directed:-**

- 17) Draw the symbol of variable battery. [1]
- 18) Draw the pictorial representation of magnetic field lines of a Bar magnet. [1]
- 19) Which polish mathematician proved that all the planets including earth revolve around the sun? [1]
- 20) Write the chemical formula of Gypsum. [1]
- 21) What is the total percentage of Carbon in Bituminous Coal? [1]
- 22) Define a polymer? [1]

- 23) Name the type of a Sexual mode of reproduction, in figure. [1]



- 24) Which technique is used to study age of fossils? [1]

SECTION - B

- Answer the following questions 25 to 36, any nine of the following. [approximately 40 to 50 words]. [Each question of 2 marks]. [18]

- 25) Explain the importance of Nanotechnology in the area of security towards mankind. [2]
- 26) Why are danger signal lights red in colour? [2]
- 27) Write faradays laws of Electrolysis. [2]
- 28) Draw a simple electric circuit to represent its electrical components with their symbols. [2]
- 29) Discuss the hazardous effects caused due to burning of sulphur. [2]
- 30) Make the correct pairs from below mentioned (X) and (Y). [2]

X	Y
(1) Sulphuric acid	(1) H_2
(2) Oleum	(2) NH_3
(3) Ammonia	(3) H_2SO_4
(4) Lightest gas	(4) $H_2S_2O_7$
	(5) H_2SO_3

- 31) Differentiate between Saturated and Unsaturated Hydrocarbon. (Two points only)[2]
- 32) Draw a neat and a labelled diagram of a nerve cell. [2]
- 33) Write any four properties of Hormones. [2]
- 34) What are Homologous Organs? Explain giving examples:- [2]
- 35) What steps should be taken to control Household Waste Management? [2]
- 36) Describe the ill effects caused due to deforestation. [2]

SECTION - C

- Answer the following questions 37 to 45, any six of following. [approximately 60 to 80 words]. [Each question of 3 marks]. [18]

- 37) What is dispersion of light? Explain the dispersion of white light by a glass prism. [3]
- 38) Why does the clear sky appear blue in colour? [3]
- 39) Write a short note on milky way. [3]
- 40) What is neutralisation reactions? Explain giving two chemical equations of your choice. [3]
- 41) Explain the importance of pH in digestion of food. [3]

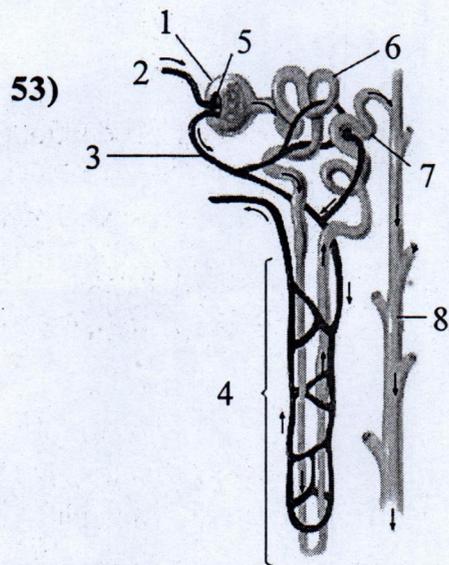
- 42) Explain the extraction of ammonia by Habers process and explain two uses of ammonia gas? [3]
- 43) What is polymerization? Explain the extraction and uses of Polyester. [3]
- 44) With the help of a diagram explain Sexual Reproduction in a flowering plant. [3]
- 45) a) What is the basic difference between asexual and sexual reproduction?
b) Which of the following organisms reproduce by sexual and asexual method?
Amoeba, Cats, Human, Hydra and Birds. [3]

SECTION - D

- Answer the following questions 46 to 53, any five of the following. [approximately 90 to 120 words]. [Each question contains 4 marks]. [20]

- 46) Explain the principle, construction and working of an compound microscope. [4]
- 47) Describe refraction of light through a rectangular glass slab so as to explain "lateral shift". [4]
- 48) Describe various safety measures to be applied in the use of Electricity. [4]
- 49) What is an 'alloy'? Write three names of any alloy with its components. [4]

- 50) Define 'Metallurgy'. Describe various steps of obtaining pure metal from its ore, so as to explain with the help of a figure Magnetic Separation method. [4]
- 51) Define Nutrition. Describe in detail various modes of Hetrotrophic nutrition. [4]
- 52) Describe the process of Respiration in human beings. (Figure not necessary) [4]



In the figure above label the numbers 1 to 8 as indicated, so as to explain process of urine formation. [4]

