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

Sl.No. 022932

11 (E)

(MARCH, 2020)
(New 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 39.
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 16 in a word or sentence. [One mark each][16]

Fill in the blank with correct answer :-

1) $ZnO + C \rightarrow Zn + CO$
In the above equation reduction takes place in _____ substance. [1]

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

3) The farmers have arrested flower development in ____ to have bred broccoli. [1]

4) If _____ is deficient in our diet, there is a possibility that we might suffer from goitre. [1]

State if the following are true or false.

5) The soap molecules form structures called miscelles where one end of molecules is towards the oil droplet while ionic end faces outside? [1]

6) Optician has prescribed corrective lens indicating –0.4D. This means the lens prescribed is convex. [1]

7) The reflex action is controlled by the heart. [1]

Choose the correct option from the given options :-

8) Which among the given options is not an inert gas? [1]

(A) H

(B) He

(C) Ne

(D) Ar

9) Which of the following is not a part of the female reproductive system in human beings? [1]

(A) Ovary

(B) Uterus

(C) Vas deferens

(D) Fallopian tube

10) The fossil dating technique is used to find which among the following?[1]

(A) Composition of soil

(B) Age of fossil

(C) Inheritance of traits over generations

(D) Composition of fossil

11) The least distance of distant vision for a young adult with normal vision is _____. [1]

(A) 25 m

(B) 2.5 cm

(C) 25 cm

(D) 2.5 m

Do as directed :

12) In the modern Periodic Table I am an element belonging to the second group and third period. Who am I? [1]

13) Name the type of energy from sea that we get due to the gravitational pull of mainly the moon on the spinning earth the level of water in the sea rises and falls. [1]

14) Name the scientist after whom the SI unit of electric current is expressed?[1]

15) Name the group of bacteria, found in human intestines, whose presence in water indicates contamination by diseases causing micro organisms?[1]

Complete the sentence

16) We should avoid the use of disposable plastics because, _____. [1]

SECTION - B

Answer the questions 17 to 26 in brief : (approximately 40 to 50 words)

[2 marks each] **[20]**

17) A milkman adds a very small amount of baking soda to fresh milk. [2]

(a) Why does he shift the pH of the fresh milk from 6 to slightly alkaline?

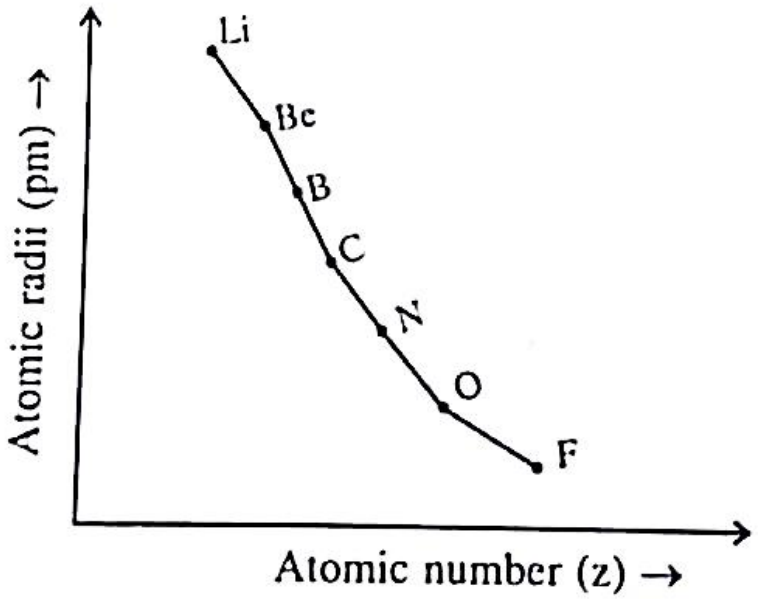
(b) Why does this milk take a long time to set as curd?

18) Give Reason : "Aluminium with Nitric acid does not produce hydrogen gas. [2]

19) State the limitations of Newland's Law of Octaves. [2]

OR

19) Study the variation in the atomic radii of second group elements are given below and answer the questions given.



(a) In the second group which element has the highest metallic characteristics?

(b) In this second group of elements which element has the smallest atomic size?

20) Write the equation necessary for the process of photosynthesis. [2]

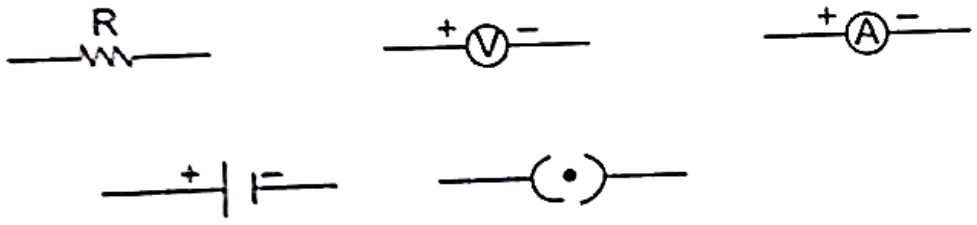
OR

20) Differentiate between Aerobic respiration and Anaerobic Respiration.

21) What are the changes seen in girls at the time of puberty? [2]

22) Name the type of mirror used in side / rear view mirror of a vehicle. Support your answer with reason. [2]

23) Symbols of some components are given below. Using all of them only once draw an appropriate circuit diagram. Assume you are already having the wires for connection. [2]



Also name each component used.

OR

23) An electric refrigerator rated 400W and an electric bulb rated 100W. Operates 10 hours/day. What is the cost of the energy to operate it for 10 days at Rs 8.00 per kWh?

24) What precaution should be taken to avoid the overloading of domestic electric circuits? [2]

25) How can you help in reducing the problem of waste disposal? Give any two methods? [2]

26) To save the environment you have come across the words "Reuse" and "Recycle". What do they refer to? [2]

OR

26) Mention any two problems addressed to by construction of large dams.

SECTION - C

Answer the question Numbers 27 to 34 in detail (approximately 60 to 80 words) [3 marks each] [24]

27) A solution of a substance 'X' is used for whitewashing [3]

(a) Name the substance 'X'

(b) Write formula of substance 'X'

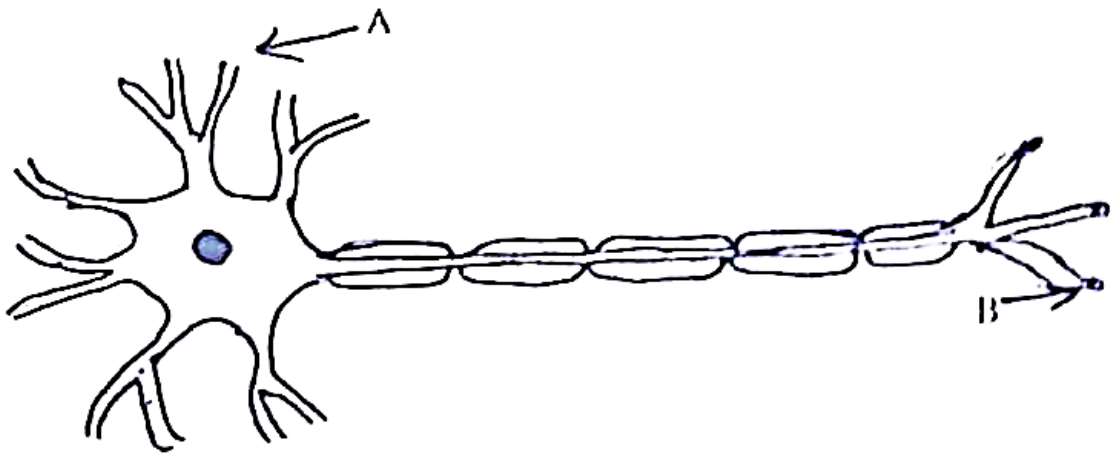
(c) Write reaction of substance 'X' with water

28) Explain the electrolytic refining of copper with the help of a diagram.[3]

OR

28) Explain thermit process with equation.

29) From the diagram given below name the parts A and B. Also write the function of Part A and Part B. [3]



30) State the different types of asexual reproduction and explain binary fission in amoeba. [3]

31) Explain Homologous organs and analogous organs giving an example each. [3]

OR

31) Ramesh has two daughters and his wife Maya is pregnant again. He desires to have a son. So he forces his wife Maya to go for sonography for sex determination of the child

(a) Who is responsible if the child born is a girl or boy? Father's or Mother's sex chromosome.

(b) In case of Ramesh's daughters which set of sex chromosome is not present in them?

(c) Is sex determination test illegal? Why?

32) Draw the diagram of Image formation by a concave mirror when the object is placed between Centre of Curvature and Focus of the concave mirror. Also state the position, size and nature of the image formed. [3]

OR

32) A pencil, 4.0cm in size, is placed at 25.0cm in front of a concave mirror of focal length 15.0cm. At what distance from the mirror should a screen be placed in order to obtain a sharp image? Find the nature and the size of the image.

33) Derive the equation of equivalent resistance of resistors connected in parallel. [3]

34) The electricity bill of Atulbhai's house is more. So Sachin advised him to go for Government's subsidy scheme and put solar panels in his house. By doing so Atulbhai's electricity bill reduced. [3]

(a) In the solar panel the solar energy is converted into what form of energy?

(b) How many watts of electricity is produced from a typical solar cell when exposed to sun?

(c) State the limitations of solar energy.

SECTION - D

Answer the question Numbers 35 to 39 in detail (approximately 90 to 120 words) [4 marks each] **[20]**

35) Name the chemical compound commonly used by your mother in the kitchen for making tasty crispy pakoras or cake. State its chemical formula and write the chemical equation of its production. **[4]**

OR

35) Describe the reaction of zinc granules with dilute sulphuric acid with diagram. Also write the equation of zinc with sodium hydroxide.

36) (a) Draw the structure of compounds of carbon given below.

i) Benzene

ii) Chloropropane

(b) What is esterification reaction? Also write its equation.

[4]

37) Draw the schematic sectional view (diagram) of human heart and also describe the circulation of blood in heart. **[4]**

38) Shyam a student has difficulty reading the blackboard while setting in the last row. What could be the defect the child is suffering from? How can it be corrected? Explain with help of appropriate diagram. **[4]**

39) Explain the underlying principle, working and uses of an electric generator with a labelled diagram. [4]

OR

39) What is electromagnetic induction? A coil of insulated copper wire is connected to a galvanometer. What will happen in the galvanometer if a bar magnet is

(a) pushed into the coil

(b) withdrawn from inside the coil

(c) held stationary inside the coil