

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

Sl.No. 8581

Day
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11 (E)

(MARCH, 2019)

(NCERT SRT)

Time : 3 Hours]

[Maximum Marks : 80

Instructions :

- 1) All questions are compulsory.
- 2) The question paper consists of 30 questions divided into four sections A, B, C and D. Section A comprises of 8 questions of one mark each. Section B comprises of 6 questions of two marks each. Section C comprises of 10 questions of 3 marks each & Section D comprises of 6 questions of 5 marks each.
- 3) All questions in Section A are to be answered in one word or one sentence. The Section B, C & D are to be answered as per requirement of question.
- 4) There is internal choice.
- 5) Use of calculator is not permitted.

SECTION - A

■ Answer the following questions (Q.No.1 to 8) in short. Each question carries 1 mark.

- 1) Give another name of Calcium Sulphate hemihydrate and write its chemical formula. [1]
- 2) With increase in the concentration of $H^+_{(aq)}$ ion the value of pH _____. [1]
(Choose correct option from the following).
 - a) increases
 - b) decreases
 - c) remains same

- 3) In the modern periodic table which period consists of K and L shells. [1]
- 4) Name the long tube which connects the kidneys with the urinary bladder. [1]
- 5) Raju and Sanju found a flower which was unisexual in nature. Raju suggested that it was the flower of watermelon while Sanju argued that it was of mustard. According to you what is the correct answer? [1]
- 6) Name the trophic level to which the grasshopper and the snake belong to in the food chain given below:- [1]
Grass → Grasshopper → Frog → Snake → Eagle
- 7) Seema was explaining that chemicals are not degradable so they get accumulated progressively at each trophic level. As human beings occupy the highest trophic level in any food chain maximum amount of the chemicals get accumulated in our bodies. Name the phenomenon she was talking about. [1]
- 8) Jugnu is a farmer. His son suggested to him that they should recharge their underground water resource when it rains. Which technique was Jugnu's son talking about? [1]

SECTION - B

- Answer the following questions (Q.No. 9 to 14) in short. Each question carries 2 marks.

- 9) Balance the following chemical equations: [2]
- a) $\text{NH}_4\text{Cl} \rightarrow 2\text{NH}_3 + \text{HCl}$
- b) $\text{KMnO}_4 + \text{HCl} \rightarrow \text{KCl} + \text{MnCl}_2 + \text{H}_2\text{O} + \text{Cl}_2$
- 10) What is Biomass? Is it a conventional or non conventional source of energy. [2]

- 11) Deduce with a punnett square which aims to find the dominant coat colour in dogs. [2]
- 12) You have visited your village recently and found that the forest cover has reduced considerably. List four factors which could have led to damaging of the forests? [2]
- 13) Ratan's grandfather asked him to bring his spectacles lying on the table. Ratan at once got it for his grandfather and asked the power of the lens. His grandfather replied it was 4 dioptre or 4D. [2]
- a) Which good qualities did you see in Ratan? (Mention any two)
- b) What is the focal length of Ratan's grandfather's lens?
- 14) Three resistors each of resistance 3Ω are given to you. How will you connect them so that their combination gives an equivalent resistance of 4.5Ω . Draw a suitable circuit diagram to show it. [2]

SECTION - C

- Answer the following questions (Q.No. 15 to 24) in brief (Max. 50 words). Each question carries 3 marks.

15) What is meant by rancidity? State any two methods to prevent it? [3]

OR

When a solution of potassium iodide is added to a solution of lead nitrate in a test tube, a reaction takes place. [3]

- a) What type of reaction is this?
- b) Write a balanced chemical equation to represent the above reaction.
- c) Name the compound precipitated.

16) Show the formation of $MgCl_2$ by transfer of electrons (No need to explain). Show it with help of electron dot structures. [3]

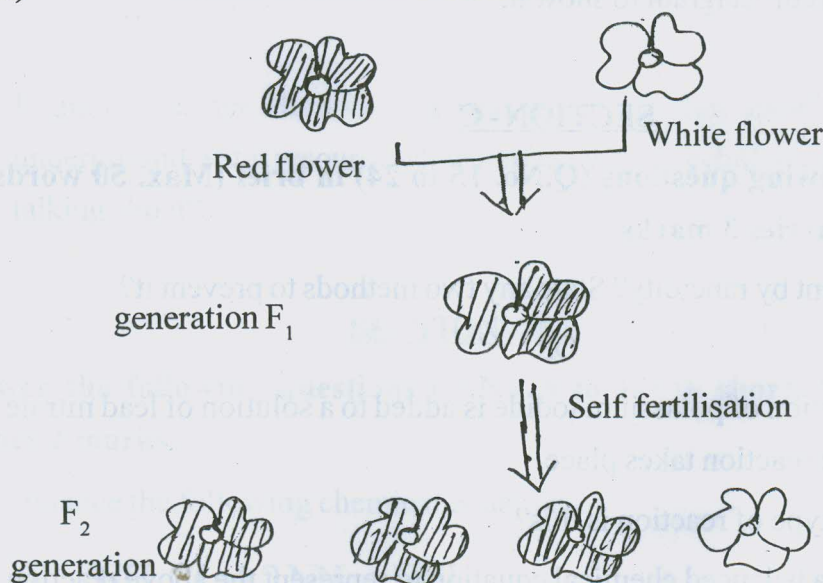
17) What is our tooth enamel made up of? What is the reason for corrosion of our enamel? What do the doctors advice to stop the decay of teeth? [3]

18) a) What is an electric fuse?
 b) What material is considered suitable for the use of fuse wire?
 c) Give an appropriate reason that every house should have electric fuse? [3]

19) Identify me: [3]

- I am a metal but as soon as you hold me in your palm I will melt. Who am I?
- I am an alkali metal belonging to the 2nd period of the periodic table, so soft that I can be cut with a knife. I have low density and low melting point. Who am I?
- I am a non metal element existing in different forms. One of my allotrope adds sparkle in your finger ring. Who am I?

20) Cross fertilisation [3]



- Which trait is dominant in F₁ generation in the above diagram?
- Which trait did not express in F₁ generation but appears in F₂ generation?
- What is the ratio of recessive trait to dominant trait in the above diagram?

- 21) What should be the colour of insulation of an earthing wire? Why should you connect appliances like refrigerator oven etc. to a three pin plug while using them. [3]

OR

- a) Draw the symbols for electrical components.
- i) Rheostat
 - ii) A wire joint
- b) Name the device that helps maintain potential difference across a conductor.
- c) Give S.I. unit of resistance. [3]

- 22) The position of three elements A, B, C in the Periodic table are shown below:- [3]

	Group 1	Group 2
1 st period	-	-
2 nd period	-	A
3 rd period	-	-
4 th period	B	C

- a) State whether B is a metal or non-metal.
- b) Is C more reactive or less reactive than A.
- c) Which type of ion will be formed by B : Cation or Anion?

- 23) You were walking in the garden and you saw a touch me not plant. You touched it and it moved away from your touch. [3]
- Which part of the plant actually moved:- point same as point of touch or point different from point of touch?
 - How did the plant convey this information from cell to cell?
 - How did the cells change its shape to help in the movement of plant?
- 24) How are involuntary actions and reflex actions different from each other? (3 points only) [3]

SECTION - D

- Answer the following questions (Q.No. 25 to 30) in detail. Each question carries 5 marks. (Max. 100 words only)

- 25) What is esterification reaction? Write the chemical equation for esterification reaction. What happens when ester undergoes alkaline hydrolysis? (Only write the chemical equation). Give any two uses of ester. [5]
- OR
- What is a soap? Why are soaps not suitable for washing clothes when water is hard?
 - Explain the action of soap in removing an oily spot from a piece of cloth with the help of labelled diagram. [5]
- 26) Explain with help of diagram the mode of nutrition in Amoeba. [5]
- 27) a) Why does the sun at noon appear white but at sunset gives a reddish appearance?
- b) The far point of a person suffering from near sightedness is 50 cm in front of the eye. What is the nature and power of lens required to correct the problem. [5]

- 28) a) An electric refrigerator rated 400W operates 10 hours/day. What is the cost of the energy to operate it for 30 days at Rs. 4.00 per kWh?
- b) A wire of given material having length l and area of cross section A has a resistance 10Ω . What would be the resistance of another wire of the same material having length $2l$ and area of cross section $\frac{A}{2}$? [5]
- 29) a) Refractive index of rock salt is 1.5μ and that of diamond is 2.42μ through which would the speed of light be more.
- b) Define one dioptre of power of a lens.
- c) An object placed 22.5 cm from a lens forms an image on a screen placed 45 cm on the other side of the lens. State type of lens determine its focal length and power. [5]
- 30) The knowledge of genetics and heredity help us in bringing about a positive outlook to our social life. [5]
- a) Why is it necessary that the parents of boy and girl also enquire about each other's family genetic history before marriage?
- b) How is the sex of the child determined in human beings? In any human being what is the chance of giving birth to a male or female child.
- c) How many pairs of chromosomes should a normal human child have? Where are the genes located?
- d) Define Gene and who is known as the father of genetics?
- e) What are fossils? How do we know how old the fossils are?



Space for Rough Work

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