

This Question Paper contains 8 printed pages.

(Section A, B, C & D)

Sl.No. 2491

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**11 (E)**

(MARCH, 2018)

(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 no overall choice.
- 5) Use of calculator is not permitted.

**SECTION - A**

- Answer the following questions (Q.Nos.1 to 8) in short. Each question carries 1 mark.

- 1) Name the reaction in which iron oxide is reduced to iron by aluminium. [1]
- 2) There are 7 electrons in the outermost 'L' shell of an element. Predict the period and group in the periodic table, this element belongs to. [1]
- 3) Why is the walls of ventricles thicker than the walls of atria? [1]

- 4) Name the part of the neuron where information is acquired. [1]
- 5) The sky appears dark instead of blue to an astronaut. State its reason. [1]
- 6) What is the nature of the image formed on the retina? [1]
- 7) Name the reaction responsible for the large energy production in the sun. [1]
- 8) List any two advantages of using wind energy. [1]

### **SECTION - B**

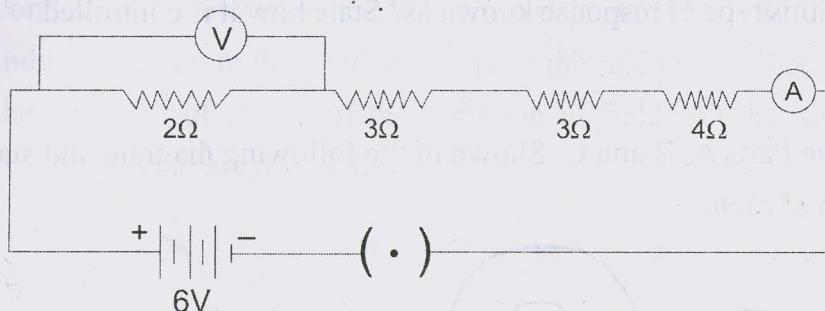
- Answer the following questions (Q.Nos. 9 to 14) in short. Each question carries 2 marks.

- 9) Write the skeletal equation for the following reactions. [2]
- a) Hydrogen Sulphide reacts with Sulphur dioxide to form sulphur and water.
- b) Methane on burning combines with oxygen to produce carbon dioxide and water.

What is the need of balance equation?

- 10) Write molecular, electronic and structural formulae of ethene. [2]
- 11) Name the property that causes tendril to circle around the object. Explain how it happens. [2]
- 12) You are given a concave mirror, a plane mirror and a convex mirror. How can you distinguish between them by just looking your face in them. State the common nature of the image that you see in all of them. [2]

- 13) Find out the reading of ammeter and voltmeter in the circuit given below. [2]



- 14) Write any two differences between food chain and food web. [2]

### SECTION - C

- Answer the following questions (Q.Nos. 15 to 24) in brief. Each question carries 3 marks.

- 15) State the type of chemical reactions and write chemical equations, that takes place in the following : [3]

- a) Magnesium wire is burnt in air.
- b) Electric current is passed through water.
- c) Ammonia and hydrogen chloride gases are mixed.

- 16) a) List four characteristics of homologous series.  
b) Draw the electron dot structure of Carbon dioxide.

[3]

- 17) Name :

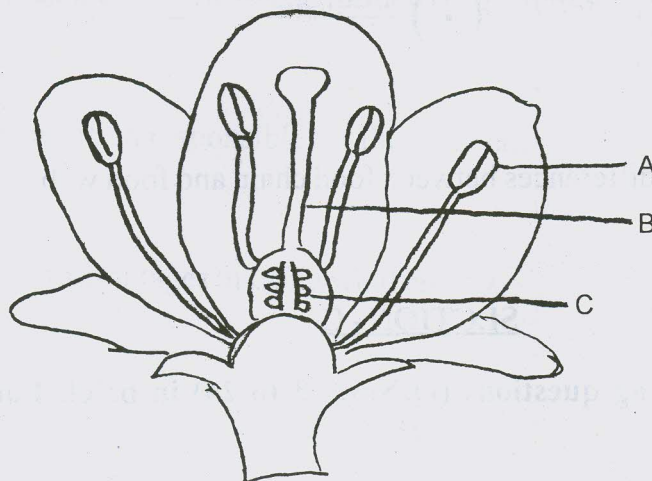
- a) Two elements that have a single electron in their outermost shell.
- b) Two elements that have two electrons in their outermost shell.
- c) Two elements with filled outermost shell.

[3]



- 18) If accidentally we step on something sharp at once we move our foot away. [3]  
What is this type of response known as? State how it is controlled.

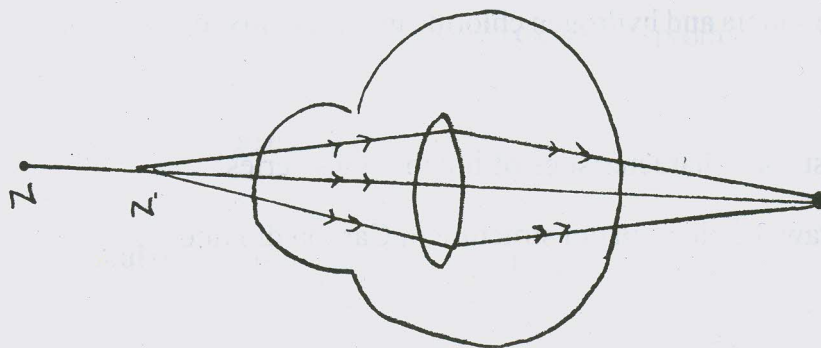
- 19) Name the Parts A, B and C. Shown in the following diagram and state one [3]  
function of each.



- 20) List four methods of contraceptions used by humans. How does their use [3]  
have a direct effect on the health and prosperity of a family?

21)

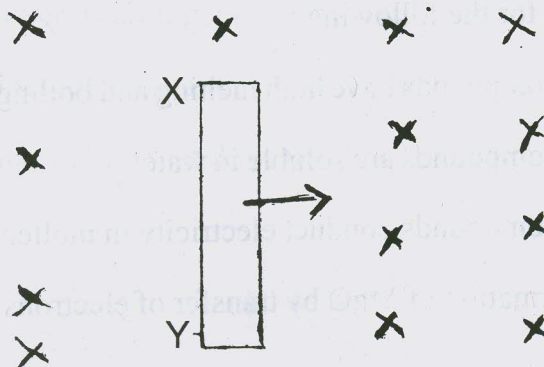
[3]



Study the diagram and answer the questions given below.

- Name the defect of the vision depicted in the diagram.
- List two causes of the defect.
- Draw the ray diagram for the correction of the above defect using an appropriate lens.

- 22) Crosses  $\otimes$  represent a uniform magnetic field directed into the paper. A [3]  
conductor XY moves in the field towards right side. Find the direction of  
induced current in the conductor. Name the rule you applied. What will be  
the direction of current if the direction of field and the direction of the  
conductor both are reversed.



- 23) What is Solenoid? Draw the field lines of the magnetic field produced on [3]  
passing current through and around a current carrying solenoid.
- 24) Suggest three ways to maintain a balance between environment and [3]  
development to Survive.

### SECTION - D

- Answer the following questions (Q.Nos. 25 to 30) in detail. Each question carries 5 marks.

- 25) a) Write balanced chemical equations only for the following chemical properties of acids.
- When an acid reacts with a metal?
  - When an acid reacts with a metal bicarbonate?
  - When an acid reacts with a base?

- b) Three solutions A, B and C has pH values 5, 8 and 10 respectively. Amongst the three, which solutions has maximum hydrogen ion concentration? Classify the nature of the three solutions as acidic or basic.

[5]

- 26) a) Give reason for the following :

- i) Ionic compounds have high melting and boiling points.
- ii) Ionic compounds are soluble in water.
- iii) Ionic compounds conduct electricity in molten state.

- b) Show the formation of MgO by transfer of electrons.

[5]

- 27) What is meant by Speciation? List four factors that could lead to Speciation. [5]  
Which of these cannot be a major factor in the speciation of a self pollinating plant Species. Give reason to justify your answer.

- 28) a) What is meant by power of a lens? What is its SI unit? Name the type of lens whose power is positive.

- b) The image of an object by a lens is real, inverted and of the same size as the object. If the image is at a distance of 40 cm from the lens, what is the nature and power of the lens? Draw ray diagram to justify your answer.

[5]

- 29) a) List the three kinds of blood vessels of human circulatory system and write their functions.

- b) Write two points of difference between aerobic and anerobic respiration.

[5]

[5]

30) Explain the following :

- a) Why is tungsten used exclusively for filament of electric lamps?
- b) Why are the conductors of electric heating devices such as bread toasters and electric iron made of an alloy rather than a pure metal?
- c) Why is Series arrangements not used for domestic circuit?
- d) How does the resistance of a wire vary with its area of cross section?
- e) How many joules are there in one kilowatt hour?

