

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

Sl.No. 0347

11 (E)

(JULY, 2018)
(NCERT SRT)

Time : 3 Hours]

[Maximum Marks : 80

Instructions :

- 1) All the 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.No.1 to 8) in short. Each question carries 1 mark.

- 1) a) Write the formula used to determine the maximum number of electrons which a shell in an atom can accommodate.
b) Write the electronic configuration of the element carbon. [1]
- 2) What is geothermal energy? [1]
- 3) Name the following in the digestive system of human beings: [1]
a) The substance which facilitates the action of pepsin.
b) The structure which increases the area of absorption in small intestine.

- 4) Why is CNG considered an environment friendly fuel? [1]
- 5) List any two activities controlled by cerebellum. [1]
- 6) Which phenomenon of light is responsible for its dispersion reflection or refraction? [1]
- 7) Why do ionic compounds have high boiling point? [1]
- 8) Why is a normal eye not able to see clearly the objects placed closer than 25 cm? [1]

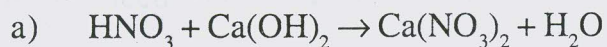
SECTION - B

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

- 9) State briefly how the formation of micelles help to clean the clothes having oily spots. [2]
- 10) What are trophic levels? Give an example of a food chain and state the different trophic levels in it. [2]

11) "The magnification produced by a spherical mirror is -3 ". List four informations you obtain from this statement about the mirror/image. [2]

12) Balance the following chemical equations: [2]



13) Name the hormone secreted by the gland which are associated with the following problems: [2]

a) A girl has grown extremely tall.

b) A women has swollen neck.

14) State Ohm's law? Draw a circuit diagram showing the arrangement of the apparatus used in an experiment to verify Ohm's law. [2]

SECTION - C

■ Answer the following questions (Q.No. 15 to 24) in brief. Each question carries 3 marks.

15) What were the limitations of Newland's law of octaves? [3]

16) Write the names of following: [3]



17) a) What will happen when the egg is not fertilized?

b) Draw and label the longitudinal section of a flower.

[3]

18) Why is variation beneficial to the species but not necessarily for the individual? [3]

19) Distinguish between exhaustible and in-exhaustible resources of energy. Give one examples for each. [3]

20) Why does the sun appear reddish early in the morning? Will this phenomenon be observed by an observer on the moon? Justify your answer. [3]

21) Explain the effect on force acting on a current carrying conductor placed in a magnetic field. [3]

22) Name the property the tendrils of a pea plant have in order to circle around an object. Explain how it happens & how the plant is benefitted by it. [3]

23) In the electrolysis of water: [3]

- a) Name the gas collected at the cathode and anode respectively.
- b) Why is the volume of one gas collected at one electrode double that at the other? Name this gas.
- c) How will you test the evolved gases?

24) What is electric motor? Explain the principle and draw a labelled diagram of electric motor. [3]

SECTION - D

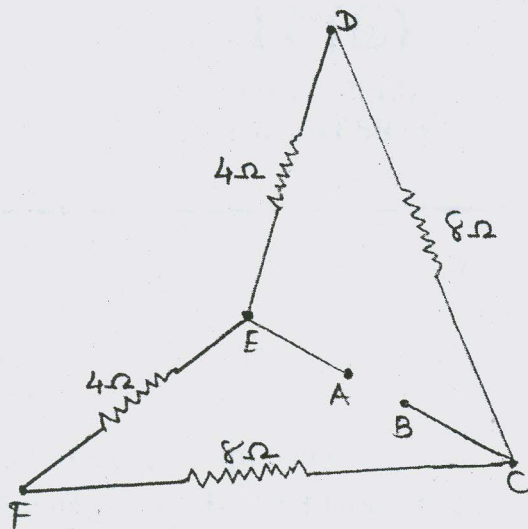
- Answer the following questions (Q.No. 25 to 30) in detail. Each question carries 5 marks.

- 25) a) Explain how heart works as a pump inside human beings.
- b) Draw a sectional view of human heart.

[5]

- 26) Write the name and symbols of two most reactive metals. Explain by drawing electronic structure, how any one of the two metals react with a halogen. State any four physical properties of compound formed. [5]
- 27) a) Describe the importance of pH in everyday life. Discuss any two in detail.
- b) How sodium hydroxide is used in industries? [5]
- 28) a) Define centre of curvature of a spherical lens.
- b) A divergent lens has a focal length of 20 cm. At what distance should an object of height 4 cm be placed from the centre of the lens. So that its image is formed 10 cm away from the lens. Find the size of the image also.
- c) Draw a ray diagram to show the formation of image in the above situation. [5]
- 29) a) What is speciation? List four factors responsible for speciation.
- b) Differentiate between homologous and analogous organs. [5]

- 30) a) Calculate the equivalent resistance of the circuit A and B are the terminals of a battery.



- b) A wire of given material having length ' l ' and area of cross-section ' A ' has a resistance of 27Ω . What would be the resistance of the same material having length $\frac{l}{3}$ and area of cross-section $3A$?

[5]

