

A. All questions are compulsory.
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B. The **Question Paper** comprises of **Two** Sections, **A and B**. You are to attempt both the sections.

C. All questions of **Section-A** and **Section-B** are to be attempted separately.

D. There is an internal choice in **three questions** of **three marks** each and **two question** of **five marks**.

E. Question number **1 to 2** in **Section-A** are **one mark** question. These are to be answered in **one word** or in **one sentence**.

F. Question numbers **3 to 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.

G. Question numbers **6 to 15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each.

H. Question numbers **16 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.

I. 9. Question numbers **22 to 27** in **Section-B** are questions based on **practical** skills and are **two marks** questions.

Section A

1

Why should a magnesium ribbon be cleaned before burning in air?

[1]

2

What are the raw materials for photosynthesis?

[1]

3

An element M is in the third group of the periodic table. Write the formulae of its chloride and oxide.

[2]

4

A convex mirror used for rear-view on an automobile has a radius of curvature of 3.00 m. If a bus is located at 5.00 m from this mirror, find the position, nature and size of the image.

[2]

5

Why is Government imposing ban on the use of plastic bags? Give alternatives to these bags and explain how this ban is likely to improve the environment.

[2]

6

What are artificial magnets? What are their common shapes?

[3]

OR

Name the law which gives relationship between the potential difference across a conductor and the current flowing through it.

[3]

7

Draw a schematic circuit diagram consisting a battery, a plug key, an ammeter and a bulb all connected in series with a voltmeter connected in parallel with the bulb.

[3]

8

A cross was made between pure breeding pea plants one with round and green seeds and the other with wrinkled and yellow seeds.

(a) Write the phenotype of F₁ progeny. Give reason for your answer.

(b) Write the different types of F₂ progeny obtained along with their ration when F₁ progeny was selfed.

[3]

9

Given below are some elements of the modern periodic table:

${}_4\text{Be}$, ${}_{26}\text{Fe}$, ${}_{14}\text{Si}$, ${}_{19}\text{K}$, ${}_{20}\text{Ca}$

(i) Select the element that has one electron in the outermost shell and write its electronic configuration.

(ii) Select two elements that belong to the same group. Give reason for your answer.

(iii) Select two elements that belong to the same period. Which one of the two has bigger atomic size?

[3]

10

Write the functions of the following in human female reproductive system: Ovary, oviduct, uterus.

How does the embryo get nourishment inside the mother's body? Explain in brief.

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OR

List and explain in brief three methods of contraception.

[3]

11

Explain Mendel's law of independent inheritance. Give one example.

[3]

12

A concave mirror of focal length 15 cm can form a magnified, erect as well as inverted image of an object placed in front of it. Justify this statement stating the position of the object with respect to the pole of the mirror in both the cases for obtaining the images.

[3]

13

When hydrochloric acid is added to marble pieces, a gas (A) is evolved. On passing gas A through lime water, a white precipitate of (B) is formed. When excess of A is passed, B dissolves due to the formation of soluble C. Identify A, B and C. Explain the reactions.

[3]

OR

What is gypsum? What happens when gypsum is heated to 120°C ?

[3]

14

Define evolution. How does it occur? Describe how fossils provide us evidences in support of evolution.

[3]

15

List four points of significance of reproductive health in a society. Name any two areas related to the reproductive health which have improved over the past 50 years in our country.

[3]

Draw the pattern of magnetic field lines around a straight conductor carrying electric current. Apply

right hand thumb rule to mark the direction of magnetic field.

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[5]

17

(a) Define the term 'isomers'.

(b) Draw two possible isomers of the compound with molecular formula C_3H_6O and write their names.

(c) Give the electron dot structures of the above two compounds.

[5]

OR

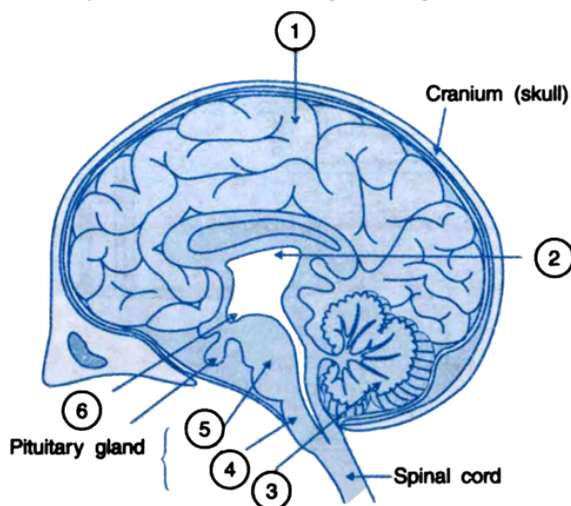
An organic compound A has the molecular formula C_2H_6O . On oxidation in air in presence of heated copper as catalyst, it is oxidised to CH_3COOH . What is the compound 'A'?

Give the equation for the reaction.

[5]

18a

Label parts 1 to 6 in the given figure of the brain.



[3]

18b

How are involuntary actions and reflex actions different from each other?

[2]

19

(a) A person cannot read newspaper placed nearer than 50 cm from his eyes. Name the defect of vision. Like. Share. Bookmark. Download. Make Notes. Print - Your Favourite Questions. Join www.zigya.com

vision he is suffering from. Draw a ray diagram to illustrate this defect. List its two possible causes.

Draw a ray diagram to show how this defect may be corrected using a lens of appropriate focal length.
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(b) We see advertisements for eye donation on television or in newspapers. Write the importance of such advertisements.

[5]

20a

A certain metal 'X' lies between potassium and magnesium in the activity series.

Answer the following questions:

(a) What will happen when is added to cold water?

(b) What reaction will take place between X and dil. hydrochloric acid?

[2]

20b

What will happen if a strip of zinc is kept immersed in a solution of copper sulphate for some time?

Write the ionic equation of the reaction that takes place.

[3]

21a

What is sustainable management? Why is reuse considered better in comparison to recycle ?

[2]

21b

Management of forest and wild life resources is a very challenging task. Why ? Give any two reasons.

[3]

OR

Study the picture given below and comment on the encircled organisms with respect to

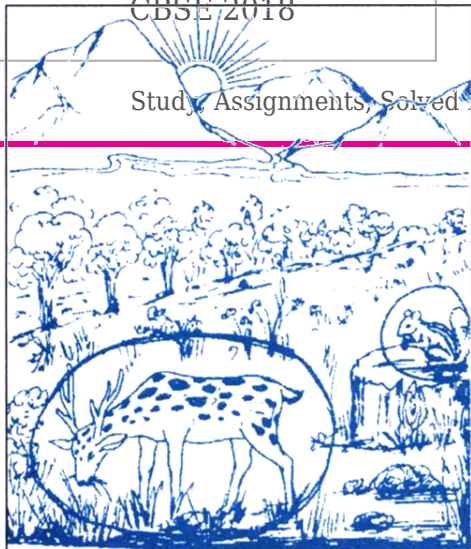
(i) the category according to the food they eat.

(ii) trophic level to which they belong.

(iii) percentage of energy available at their trophic level.

(iv) two abiotic components of the ecosystem inhabited by them.

(v) energy used for food production by the producers.



[5]

Section B

22

A gas is liberated immediately with a brisk effervescence when you add acetic acid to sodium hydrogen carbonate powder in a test tube. Name the gas and describe the test that confirms the identity of the gas.

[2]

23

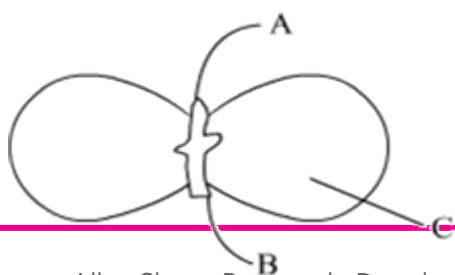
Dry raisins were soaked in water for 2 hours, to determine the percentage of water absorbed by raisins. Before final weighing of swollen raisins, the extra water left on the surface of soaked raisins was removed by:

- A. gently rubbing with cotton cloth
- B. hot air blower
- C. dry cotton wool
- D. dry cotton wool

[2]

24

In the figure, the parts marked A, B and C is sequentially:



- B. Radicle, Plumule and Cotyledon
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C. Plumule, Cotyledon and Radicle
D. Plumule, Cotyledon and Radicle

[2]

25

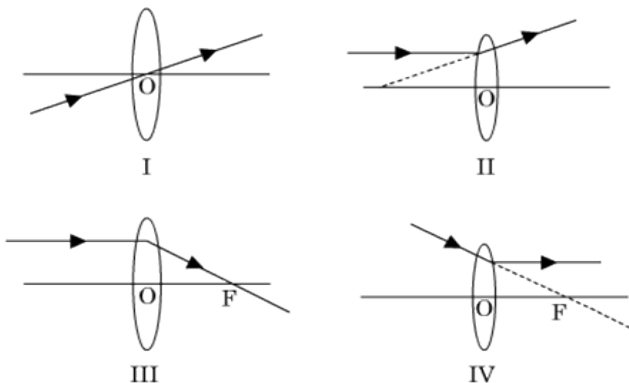
Iron nails were dipped in an aqueous solution of copper sulphate. after about 30 minutes, it was observed that the colour of the solution changed from

- A. Colourless to light green
B. Blue to light green
C. Blue to colourless
D. Blue to colourless

[2]

26

A student has obtained a magnified image of a flame on a screen using a convex lens. To draw the corresponding ray diagram to show the image formation, which of the following two rays whose paths after refraction are shown, should he select?



- A. I and II
B. II and III
C. III and IV
D. III and IV

[2]

27

Find the effective resistance in the given circuit?

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[2]