CSSC COMMON EXAMINATIONS 2018-19

Class – X

Science– 086 **Set - II**

Time : 3 Hrs. **Maximum Marks : 80**

General Instructions:

(i) The question paper comprises of five sections A, B, C, D and E. You have to attempt all the sections.

(ii) All questions are compulsory.

(iii) Internal choice is given in Sections B, C, D and E.

(iv) Question numbers 1 and 2 in Section – A are one mark questions. These are to be answered in one word or in one sentence.

(v) Question numbers 3 to 5 in Section – B are two marks questions. These are to be answered in about 30 words each.

(vi) Question numbers 6 to 15 in Section – C are three marks questions. These are to be answered in about 50 words each.

(vii) Question numbers 16 to 21 in Section – D are five marks questions. These are to be answered in about 70 words each.

(viii) Question numbers 22 to 27 in Section – E are based on practical skills. Each question is a two marks question. These are to be answered in brief.

Section A

1. Why do we get cramps during vigorous muscular activity? (1)
2. Name any four traditional water harvesting systems in India. (1)

Section B

3. Write the balanced equation for the thermit reaction. Give a practical application of this reaction. (2)
4. If a woman is using a copper –T, will it help in protecting her from sexually transmitted diseases? Give reason for your answer. (2)
5. Draw the ray diagram of an image formed by a mirror used by a dentist to see a large image of the patient's tooth. (2)

(OR)

The power of a lens is $-5D$. Define its principal focus and calculate its focal length.

Section C

6. What happens when silver bromide is exposed to sunlight? Write the balanced equation for the reaction. Give any one use of this compound. (3)
7. p_H of Copper Sulphate, Aluminium Chloride and Sodium acetate solutions were checked using p_H paper. Which solution will have p_H greater than 7? Why? (3)

(OR)

Name the gases evolved at cathode and anode during chloralkali process? How is the process done? Why is it called so? Write the equation for the reaction.

8. Mendeleev classified the elements and arranged them in the form of a table. Hydrogen which resembles alkali metalsand halogens, was placed along with the alkali metals in the first group. Why? How does it resemble halogens? Why do you think he named it as Periodic Table? (3)

9. a) Name the two main organs of our central nervous system.
b) Which one of them plays a major role in sending command to skeletal muscles to act without involving thinking process?
c) Name the phenomenon involved. (3)

10. a) Name the component of blood that helps in the formation of blood clot in the event of a cut.
b) What is translocation in plants?
c) What is the role of saliva in the digestion of food? (3)

11. A rear view mirror has a radius of curvature 4m. An image of a bus is formed 1.5m behind the mirror. Find the actual distance of the vehicle from the mirror and compare the size of the bus with the image seen in the mirror. (3)

(OR)

The absolute refractive index of kerosene and alcohol are 1.44 and 1.36 respectively.
Find the speed of light in both the medium. Which is optically denser? How is the refractive index related to the speed of the light in the medium?

12. An electric oven consumes $1\,kW$ electric power when operated at 220V. Write the capacity of the fuse suitable for your device. Give reason for your answer. (3)

13. Two metal wires have the resistivity $1.62 \times 10^{-8}\,\Omega\,m \wedge 4.86 \times 10^{-8}\,\Omega\,m$. Compare the resistance of the two wires if A is twice as long as B and half of its diameter. (3)

14. List two ways in which cow dung can be used as a fuel. Which one do you think is better. Justify your answer.(3)

15. Why is sustainable management of natural resources necessary? Suggest any four changes that you would like to incorporate in the life style of students of your age to move towards a sustainable use of available resources. (3)

(OR)

a) What is biological magnification?

b) Which of the following constitute a food chain?

1. Grass, Wheat and Mango
2. Grass, Goat and Human
3. Goat, Cow and Elephant
4. Grass, Fish and Goat

c) What is the function of ozone in the upper atmosphere?

Section D

16. A metal oxide A reacts with dilute hydrochloric acid to give Band C. A reacts with sodium hydroxide to give C and D.

a) Identify A, B, C and D.

b) Why does A react with dilute hydrochloric acid and sodium hydroxide?

c) Write the equations for the reaction of A with dilute hydrochloric acid and sodium hydroxide. (5)

17. Compound A is used as a solvent in cough syrup.

a) Write the equation for the combustion of A.

b) When A is heated with concentrated sulphuric acidwater is removed and gas B is formed. Identify A and B.Write the equation for the reaction.

c) Write the electron dot structure of B.

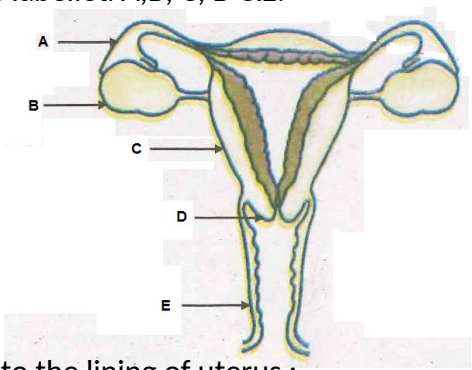
d) Name the type ofreaction B undergoes with hydrogen. (5)

(OR)

a) Carbon cannot form ionic compounds. Why?

b) Write any two physical properties of carbon compounds.

18. a) Name the parts labelled A,B, C, D &E.



b) What happens to the lining of uterus :

i) before release of fertilized egg.

ii) If no fertilization occurs. (5)

19. a) What are homologous organs? Give two examples.

b) How many pairs of chromosomes are present in human being?

c) Out of these how many are sex chromosomes?

d) "The sex of a new born child is a matter of chance and none of the parents may be considered responsible for it". Draw a flow chart showing determination of sex of a new born to justify the statement. (5)

(OR)

A blue coloured flower denoted by BB is cross bred with that of white coloured flower plant denoted by bb.

a) State the colour of flower you would expect in their F_1 generation plants.

b) What must be the percentage of white flower plants in F_2 generation if flowers of F_1 plants are self – pollinated?

c) State the expected ratio of the genotypes BB and Bb in the F_2progeny.

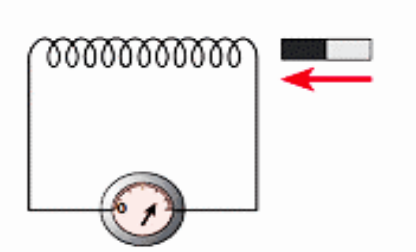
d) Why are traits acquired during the life time of an individual not inherited?

e) Define fossil.

20. a) Explain the formation of rainbow with the help of a diagram.

b) Why does the sun appear red early in the morning? (5)

21.



What do you observe when we move a magnet towards the coil? Why?
Name the phenomenon. Explain the working of a device that works on this phenomenon. (5)

(OR)

a) What is short circuiting? How does a fuse protect the circuit?

b) Why we should earth electric appliances? Explain.

Section E

22. Calcium oxide is added to water taken in a beaker. Write your observation. Identify the type of reaction and write the equation for the reaction involved. (2)

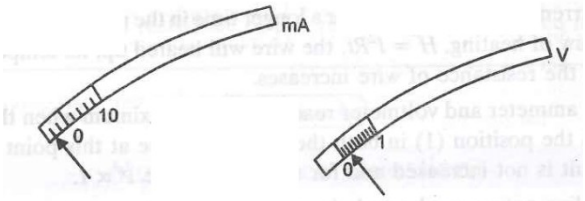
(OR)

A pinch of sodium bicarbonate is added to acetic acid. Write the observation and equation for the reaction.

23. A student heated zinc granules with sodium hydroxide solution in a test tube. What does he observe? Name the products formed. Write the equation for the reaction. (2)

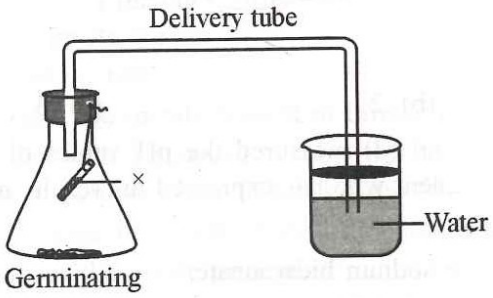
24. A student focusses the image of a candle flame on a screen using a convex lens. If he gets a point sized image on a screen, what is the distance between the lens and screen equal to?
Then he keeps the flame double this distance from the lens.To which direction should he move the screen to get a sharp image? Draw the ray diagram for the image formation. (2)

25. The rest positions of the needle in a milliammeter and voltmeter when not being used in a circuit are as shown below:



What should be the least count and zero error of the milliammeter and voltmeter? (2)

26.



In the experiment shown in the figure, name the chemical taken in the small test tube hanging in the conical flask marked as X. What is the role of X in this experiment? (2)

(OR)

Draw a well labelled diagram of the embryo of a dicot seed. Also write the role of cotyledons.

27. Why should the students put the leaf peel in the water twice during the whole experiment? (2)

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