

PRACTICE QUESTION PAPER (2019-20)

Class-X
Science-086

TIME: 3 Hrs.

M.M.: 80

General Instructions:

1. The question paper comprises three sections – A, B and C. Attempt all the sections.
2. All questions are compulsory.
3. Internal choice is given in each section.
4. All questions in Section A are one-mark questions comprising MCQ, VSA type and assertion-reason type questions. They are to be answered in one word or in one sentence.
5. All questions in Section B are three-mark, short-answer type questions. These are to be answered in about 50 - 60 words each.
6. All questions in Section C are five-mark, long-answer type questions. These are to be answered in about 80 – 90 words each.

SECTION A

1. What happens when a metal reacts with an acid?
2. State modern periodic law.

3. Look at the picture and answer the given questions -

The gland shown in the picture is a small butterfly-shaped gland found at the base of the neck. This gland makes a hormone that travels in blood to all parts of our body and regulates carbohydrate, protein and fat metabolism in the body so as to provide the best balance for growth .This hormone also controls body's metabolism in many ways.



- a) Which gland is referred to in the given picture?

- b) What type of a gland is this?
 c) What does this gland secrete?
 d) Name the disease caused due to the deficiency of the hormone secreted by this gland.

4. Based on the paragraph and table given below study these and answer the questions that follows:

Material	Resistivity (Ω m)
Silver	1.60×10^{-8}
Copper	1.62×10^{-8}
Aluminium	2.63×10^{-8}
Tungsten	5.20×10^{-8}
Nickel	6.84×10^{-8}
Iron	10.0×10^{-8}
Chromium	12.9×10^{-8}
Mercury	94.0×10^{-8}
Manganese	1.84×10^{-6}
Constantan (alloy of Cu and Ni)	49×10^{-6}
Manganin (alloy of Cu, Mn and Ni)	44×10^{-6}
Nichrome (alloy of Ni, Cr, Mn and Fe)	100×10^{-6}
Glass	$10^{10} - 10^{14}$
Hard rubber	$10^{13} - 10^{16}$
Ebonite	$10^{15} - 10^{17}$
Diamond	$10^{12} - 10^{13}$
Paper (dry)	10^{12}

The metals and alloys have very low resistivity in the range of $10^{-8} \Omega\text{m}$ to $10^{-6} \Omega\text{m}$. They are good conductor of electricity. Insulators have resistivity of the order of 10^{12} to $10^{17} \Omega\text{m}$. Both the resistance and resistivity of a material vary with temperature.

- 4(a). Material A and B have a resistivity of 2.2×10^{-8} and $10 \times 10^{11} \Omega\text{m}$ respectively. What is the nature of A and B (conductor or Insulator)?
 4(b). What is the resistivity of an alloy of copper and nickel?
 4(c). How the resistivity of a material does changes with change in temperature?
 4(d). Identify the substance having lowest resistivity from the table given above.

5. During extraction of metals, electrolytic refining is used to obtained pure metals. Which material will be used as anode and cathode for refining of silver metal in this process?

A) Anode: impure silver; Cathode: pure silver

- B) Anode: pure silver; Cathode: impure silver
- C) Anode: impure copper; Cathode: pure silver
- D) Anode: impure silver; Cathode: pure copper

6. In human eye the image of an object is formed at its

- A) Cornea
- B) Iris
- C) Pupil
- D) Retina

7. The value of frequency and voltage of the electricity, supplied to homes in India are

- A) 50 Hz and 220 V
- B) 50 Hz and 110 V
- C) 60 Hz and 220 V
- D) 60 Hz and 110 V



The above reaction is an example of-

- A) Combination reaction
- B) Double displacement reaction
- C) Decomposition reaction
- D) Displacement reaction

9. Butanone is a four –carbon compound with a functional group:

- A) carboxylic acid
- B) Aldehyde
- C) Ketone
- D) alcohol

10. The process in which the pollen grains are received by the stigma of the same flower, is called

- A) Syngamy
- B) Self pollination
- C) Fertilization
- D) Cross pollination

11. The correct sequence of rainbow formation is:

- A) Refraction, Dispersion, internal Reflections, Refraction
- B) Dispersion, Refraction, internal Reflections, Refraction
- C) Internal Reflections, Refraction, Dispersion, Refraction
- D) Refraction, internal Reflections, Refraction, Dispersion

12. The correct statement regarding the universal indicator is:

- A) It is an indicator having pH=7
- B) It gives blue color at pH=3
- C) It become colorless at pH=7
- D) It gives orange color at pH=3

Directions for Q.13 and 14.

- A) Both A and R are true and R is correct explanation of the A.
- B) Both A and R are true but R is not the correct explanation of the A.
- C) A is true but R is false.

D) A is false but R is true.

13. Assertion(A): Gas bubbles are observed when dilute hydrochloric acid is added to sodium carbonate.

Reason(R): Carbon dioxide is released in this reaction

14. Assertion(A): Li, Na and K forms a Dobereiner triads because the atomic mass of the middle element is roughly the average of the atomic mass of the other two elements.

Reason(R): Dobereiner arranged elements on the basis of increasing atomic number.

SECTION B

15. Atomic numbers of few elements are given as 10,20,7 and 14.

i. Identify the elements

ii. Identify the group number and period of these elements in the periodic table.

iii. Determine the valency of these elements.

16. Explain the three pathways of breakdown of glucose in living organisms?

OR

16 A) When you see a mouthwatering food being hungry your mouth get filled with saliva. Trace the event that is responsible for this happening.

B).Which part of the Brain control the secretion of Saliva in mouth?

17. A mother often blames her daughter-in –law for having only daughter and no son. How will you explain her that her daughter-in-law has no role in giving birth to girls or boys?

OR

A. Why did the tailless mice not produce a tailless mice progeny?

B. What is the major source of in built tendency of variation during reproduction?

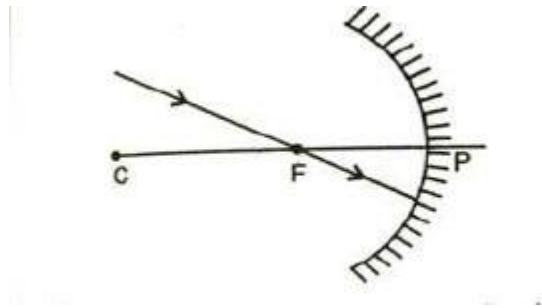
18. A. Rahul had been collecting copper coins and silver coins. One day he observed a green coating on copper coins and a black coating on silver coins.

a) State the chemical phenomenon responsible for these coatings.

b) Write the chemical names of each coating with its equation.

19. A. The rays parallel to the Principal axis of a spherical mirror, actually meet at a point 15 cm distant from its pole. Identify the mirror and write its focal length.

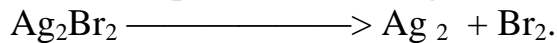
B. The following diagram shows a ray incident on a concave mirror. Draw the path of the ray after the reflection.



OR

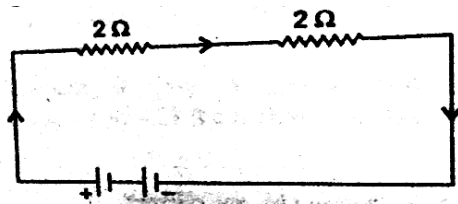
Rohan uses a convex lens to form a real and inverted image of a candle at a distance of 50 cm. Where the candle be placed in front of the convex lens if the image is equal to the size of the object? Also find the power of the lens.

20. A student writes the balanced chemical equation for the reaction of Silver bromide in the presence of sunlight as follows:



- What is wrong in this equation?
- Write the correct balanced equation.
- Write the physical states of both reactants and product.

21. Calculate the current flowing in the given circuit having a battery of 6V.



22. A man can read the number of a distant bus clearly but he finds difficulty in reading a book. From which defect of eye he is suffering from? How this defect be corrected, explain with a suitable diagram?

23. Draw a diagram showing magnetic field lines around a current carrying Solenoid. On what factors the strength of magnetic field depends in a solenoid.

OR

Explain the working of electric motor with help of suitable diagram.

24. A) What are Decomposers? What will be the consequence of their absence in an ecosystem?

B) What are the advantages of cloth bags over plastic bags (any 2 points)?

SECTION C

25. (a) What are hydrocarbons? Give examples.

(b). Which among the following hydrocarbons will give substitution reaction?

C_3H_6 ; C_5H_{10} ; C_4H_{10} ; C_6H_{14} ; C_2H_2

(c) Identify the functional group in C_3H_7OH ; C_4H_9CHO hydrocarbons and write the formula of next member of the homologous series of which they belong.

(d) what happens when coal is get burn in presence of oxygen? Write its chemical equation.

26. a) i. What is Excretion? Draw a well labeled diagram.

ii. Name the functional unit of Kidney.

b) How do Plants excrete their waste?

27. a) A Student project the image of a candle flame on a screen kept at 48 cm in front of a mirror by keeping the flame at a distance of 12 cm from its pole

i. Suggest the type of mirror he should use.

ii. Find the magnification of the image produced

iii. How far is the image form from its object? Draw a ray diagram to show the image formation in this case.

b) The absolute Refractive Index of water is $\frac{3}{2}$ respectively. If the speed of light in vacuum is $3 \times 10^8 \text{ms}^{-1}$. Calculate the speed of light in water.

OR

Draw ray diagrams showing the image formation by a convex lens when an object is placed :-

a) Between optical centre and focus of the lens

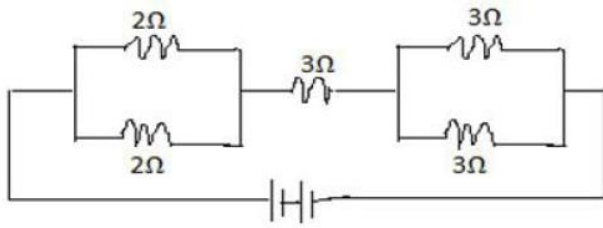
b) Between focus and twice the focal length of the lens

c) At twice the focal length of the lens

d) At infinity

e) At the focus of the lens

28. a). Find the equivalent Resistance in the following circuit:



b) State Ohm's law. How do the resistance of a conductor changes when its :
i. Length gets half;
ii. Radius of wire is doubled.

OR

a). Derive the relation of commercial unit of electric energy with S.I. Unit of energy.
b). .An electric bulb is rated as 100 W, 220V. It is used for 5 hours daily Calculate
i) It's resistance while glowing
ii) Energy consumed in kWh per day

29. a) Give two uses each of the products obtained by the electrolysis of sodium chloride.

b) Define neutralization reaction and give two examples.

c) Write an equation to show the reaction between plaster of Paris and water.

30. a). In tobacco plant, the Male gametes have 24 chromosomes. What is the number of chromosomes in the female gamete and Zygote both?

b). Draw a labelled diagram of Human female reproductive System and explain it.

OR

a) Explain any two methods of asexual reproduction with diagram.

b) Draw a labelled diagram of the longitudinal section of a flower.