

DAV BORL PUBLIC SCHOOL, BINA
PRACTICE PAPER ,HALF YEARLY (2018-19)

Class: X

Subject: SCIENCE

Time Allowed: 3 hrs.

Maximum Marks: 80

General Instructions :

1. The question paper comprises of **two Sections, A and B**. You are to attempt both the sections.
2. **All** questions are **compulsory**
3. Question numbers **1 to 2** in **Section-A** are **one mark** questions. These are to be answered in **one word** or in **one sentence**
4. Question numbers **3 to 5** in **Section-A** are **two marks** questions. These are to be answered in about **30 words** each.
5. Question numbers **6 to 15** in **Section-A** are **three marks** questions. These are to be answered in about **50 words** each
6. Question numbers **16 to 21** in **Section-A** are **five marks** questions. These are to be answered in about **70 words** each.
7. Question numbers **22 to 27** in **Section-B** are questions based on practical skills are two **marks** questions.

SECTION-A

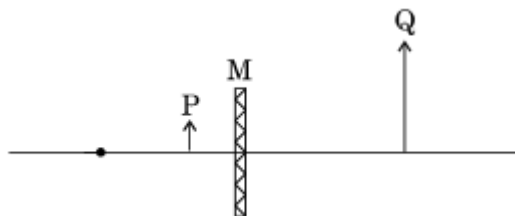
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|---|---|---|
| 1 | What happens when $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is heated | 1 |
| 2 | State the reason of balancing a chemical equation. | 1 |
| 3 | Write the relationship between absolute refractive index of a medium and the speed of light in vacuum. If the speed of light in vacuum is 3×10^8 m/s, find the absolute refractive index of the medium in which light travels with a speed of 1.4×10^8 m/s. | 2 |
| 4 | What is photolysis? Explain with example. | 2 |
| 5 | A white salt upon heating decomposes to give brown fumes and a residue is left behind.
(a) Name the salt
(b) Write the equations for the decomposition reaction. | 2 |
| 6 | Draw ray diagram for the given condition for a mirror. | 3 |

- a) Magnification is equal to -1
- b) Image (real) is greater than object
- c) Image (virtual) is greater than object
- 7 A student wants to focus the image of a candle flame placed at a distance of 80 cm from the optical centre of a lens on a screen placed at a distance of 40 cm from its optical centre. 3
- (a) What type of lens should he use? Answer stating reason.
- (b) Find (i) the distance between the object and its image and (ii) the magnification of the image.
- (c) Draw a ray diagram to show the formation of image in this case.
- 8 What is myopia? List its two causes. Draw a ray diagram to explain its correction using an appropriate lens 3
- 9 Describe an activity that demonstrates the scattering of light. 3
- 10 Depict the breakdown of glucose by various pathways with the help of a flow chart only. 3
- 11 (a) Why an aqueous solution of acid does conduct electricity? 3
- (b) What do you observe on adding HCL solution to
- (i) sodium carbonate placed in a test tube
- (ii) zinc metal in a test tube.
- 12 What is redox reaction? Identify the species oxidized and the species reduced in the following reactions: 3
- (i) $\text{Zn} + \text{FeSO}_4 \rightleftharpoons \text{ZnSO}_4 + \text{Fe}$
- (ii) $\text{CuO} + \text{H}_2 \longrightarrow \text{Cu} + \text{H}_2\text{O}$
- 13 a) What is an indicator? 3
- b) Name the common indicators used to test acid, bases and salts?
- 14 Dry ammonia has no action on litmus paper but a solution of ammonia in water turns red litmus blue. Why is it so? Write chemical equation also. 3
- 15 What is "cud"? List down any three types of heterotrophic nutrition with one example for each. 3
- 16 (a) Explain with the help of diagrams the following terms in the 5

context of spherical mirrors :

(i) Pole (ii) Centre of curvature (iii) Principal axis

(b) Consider the following diagram. In this M is a mirror, P is an object and Q is the image of the object formed by the mirror :



(i) State the type of mirror M.

(ii) If the numeric value of focal length of the mirror is 15 cm, what must be the range of distance of the object from the mirror ?

(iii) Draw a ray diagram to show the formation of image in this case.

17 Draw a ray diagram to explain the dispersion of white light. With the help of a labelled ray diagram, show how a spectrum of white light may be recombined. 5

18 Write down the name of any five endocrine glands present in your body and discuss its one role in detail. 5

19 What will you observe when: 5

- (i) Red litmus paper is introduced into the solution of sodium carbonate.
- (ii) A methyl orange drop is added to dilute hydrochloric acid.
- (iii) A drop of phenolphthalein is added to the solution of lime water.
- (iv) Blue litmus is added to a solution of ferric chloride.
- (v) Electricity is passed through brine.

OR

What is bleaching powder chemically called? Give a reaction for its preparation. State its two uses.

20 Draw a well labeled diagram of a human brain or a reflex arc 5

OR

Differentiate between Nastic and tropic movement and give one example of each.

b) What is the scientific name of touch me not plant?

21 Explain the steps of experiment that was taken to prove that sunlight is necessary for photosynthesis. 5

SECTION - B

22 Trace the path of a ray of light incident at an angle of 45° on a rectangular glass slab. Write the measure of the angle of refraction, the Angle of emergence and the lateral displacement suffered by the ray as it passes through the slab. 2

23 A student determined the focal length of a convex lens as 20 cm. The image formed was inverted, equal in size and real. 2

(i) Where did he Place the object in front of convex lens?

(ii) What will be the position of image formed?

24 What is soap? Which parts of soap called as hydrophobic and hydrophilic end? 2

25 What happens when sodium bicarbonate is added to acetic acid and sodium hydroxide solution 2

26 Which chemical was used to absorb carbon di oxide in an experiment to prove CO₂ is necessary for photosynthesis? 2

What precautions were taken during this above stated experiment? (Any two)

27 Why does the lime water turns milky when exhaled air was blown into the lime CaO water ? What is the conclusion of experiment? 2

~~~~~ **END** ~~~~~