NEW STANDARD ACADEMY

Semri Kothi Super Market, Raebareli
CLASS 10 (Academy) 28-04-2025

PHYSICS

1. A 2 cm high object is placed at a distance of 20 cm from a concave mirror. A real image is formed at 40 cm from the mirror. Calculate the focal length of the mirror.
2. The distance between the centre of curvature and the pole of a concave mirror is 20 cm. Calculate the focal length of the mirror.
3. A shaving mirror has a radius of curvature of 30 cm. A man sees his image 26 times the size of his face. How far is the mirror from his face ?
4. An object 5 cm tall was placed in front of a spherical mirror at 20 cm distance from the mirror. If a virtual image of 10 cm tall was formed behind the mirror, find the focal length of the mirror and the position of the image. Name the type of mirror used.
5. Find the position of an object which when placed in front of a concave mirror of focal length 10 cm virtual image which is twice the size of the object.

CHEMISTRY

1. Why do we apply paint on iron articles ?
2. Oil and fat containing food items are flushed with nitrogen. Why?
3. Explain the following terms with one example each:
   (a) Corrosion (b) Rancidity
4. In the refining of silver, the recovery of silver from silver nitrate solution involved displacement by copper Q metal. Write down the reaction involved.
5. What do you mean by a precipitation reaction? Explain by giving examples.

BIOLOGY

1. Name the following
   (a) The process in plants that links light energy with chemical energy
   (b) Organisms that can prepare their own food
   (c) The cell organelle where photosynthesis occurs
   (d) Cells that surround a stomatal pore
   (e) Organisms that cannot prepare their own food
   (f) An enzyme secreted from gastric glands in stomach that acts on proteins.
2. "All plants give out oxygen during day and carbon dioxide during night". Do you agree with this statement? Give reason.
3. How do the guard cells regulate opening and closing of stomatal pores?
4. Two green plants are kept separately in oxygen free containers, one in the dark and the other in continuous light. Which one will live longer? Give reasons.
5. If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring? Justify your answer.

MATH

1. 2 tables and 3 chairs together cost 2000 and 2 chairs and 3 tables together cost 2500. Find the cost of 1 chair and 3 tables together.
2. A man earns 600 per month more than his wife. One-tenth of man's salary and one-sixth of wife's salary amount to 1500, which is saved every month. Find their salaries.
3. Two years ago, Salim was thrice as old as his daughter and six years later, he will be four years older than twice his daughter's age. How old are they now?
4. Two numbers are in the ratio 5: 6. If 7 is subtracted from each of the numbers, the ratio becomes 4: 5. Find the numbers.
5. Students of a class are made to stand in (complete) rows. If 4 students are extra in a row, there would be two rows less. If four students are less in a row, there would be four more rows. Find the number of students in the class.