

| SUBJECTS    | KNOWLEDGE BASE   | UNDERSTANDING BASE   | APPLICATION BASE  |
|-------------|--|--|---|
| Physics     | <p>Q. Describe the factors on which the accuracy of a measurement depends?</p> <p>Q. Write three advantages and disadvantages of friction. (Definition of friction is not required)</p>                                    | <p>Q. State the reason, why does a bimetallic strip bend on heating and/or cooling?</p> <p>Q. When a person takes a bucket to some distance, work done by him is zero, why?</p>  | <p>Q. At what altitude the value of 'g' would become one fourth (1/4) of the surface of the earth.</p> <p>Q. Speed of a train increases from 36km/h to 72km/h in 10 minutes. Find distance covered by the train during the time.</p>  |
| Chemistry   | <p>Q. a. Give notations for sub-shells of M-shell.</p> <p>b. Arrange the sub-shells of M-shell in order of increasing energy.</p> <p>Q. Write three different units of pressure? Give their relation with one another.</p> | <p>Q. The elements present in a group of periodic table have similar chemical properties. Give reason and a suitable example.</p> <p>Q. How does temperature affect the vapour pressure of a liquid?</p>                     | <p>Q. Give the help of a suitable diagram show the conductance of electricity through molten NaCl. Also write the reactions at Anode and Cathode.</p> <p>Q. Oxidizing power of Fluorine is the highest among other halogens. Write any two chemical reactions to show this property of Fluorine.</p>  |
| Biology     | <p>Q. State the principles of Cell Theory.</p> <p>Q. Define Apoptosis. Enlist the major steps of Apoptosis.</p>  | <p>Q. Differentiate between Skeletal and Cardiac muscles.</p> <p>Q. How does a cell work as an open system?</p>  | <p>Q. Each organ carries out its specific function, which collectively appears as the function of an organ system. Justify the statement.</p> <p>Q. Prove the hypothesis "<i>Plasmodium</i> is the cause of malaria."</p>   |
| Mathematics | <p>Q. Factorize <math>(x-1)(x-2)(x+3)(x+4)+6</math></p> <p>Q. Use logarithm to find the value of <math>\sqrt[5]{25.47x^5\sqrt{342.2}}</math></p>   | <p>Q. Any point on the bisector of an angle is equidistant from its arms. Prove it.</p> <p>Q. Prove that in a scalene triangle, the angle opposite to the largest side is of measure greater than <math>60^\circ</math>.</p> | <p>Q. Use the distance formula to check whether or not the points (1,-1), (-2,-8) and (4,10) lie on a straight line.</p> <p>Q. If <math>x+2y=5</math> and <math>3x-y=1</math></p> <p>a. Draw the graph of above equations on the same plane.</p> <p>b. Do the lines intersect?</p> <p>c. What is the solution of given lines?</p> <p><b>Note:</b> Candidates can make their own grid on the answer sheet.</p> |