

DPS RUBY PARK KOLKATA

**PHYSICS HOTS QUESTIONS**

**Class VII – Final term 2017-2018**

- Q1 Draw a circuit diagram containing two bulbs, two switches, connecting wires and a 4 cell battery. The circuit should be working even for one bulb.
- Q2 Anshuman was making a circuit and fell short of connecting wires. He knew that graphite is a conductor. So he used the lead of a pencil to connect the last parts of the circuit. The circuit worked but the bulb was glowing weakly. How can he increase the glow of the bulb?
- Q3 Tungsten is a metal and is a fairly good conductor. Yet it is used to make the filament of incandescent bulbs. The filament is supposed to offer high resistance. How is this feat achieved?
- Q4 Light passes through a lens and bends towards the principal axis of the lens. What can you conclusively say about the lens?
- Q5 A beam of yellow colored light falls on a red color glass. What color of light will you obtain on the white screen placed on the other side of the glass?
- Q6 Draw the ray diagram to show the formation of a virtual image by a concave mirror.
- Q7 Even if we paint our walls with a high gloss paint we can not see our image on the walls. Explain why? (High gloss paint reflects nearly all the light falling on the painted surface, almost like a mirror).
- Q8 Standing near a window and using no special instruments, how can you prove that light travels in a straight line?
- Q9 calculate the temperature in celsius scale that will have a corresponding figure, exactly double in the Fahrenheit scale. Can we have a reverse situation (i.e. the Celsius scale reading is double of the corresponding fahrenheit scale)?
- Q10 In cold weather conditions the houses have few windows. These windows are small and are kept closed mostly. The rooms, however, invariably has at least one small hole near the ceiling. How does this small hole help the inhabitants?