

## VALUE BASED QUESTIONS ON SEMICONDUCTORS

1. Prakash finds Rakesh connecting his new T V directly to the mains. He advised Rakesh not to connect directly but to connect through a voltage regulator.

- a. What type of diode is used in the voltage regulator And what is its circuit symbol ?
- b. What values in this situation are described by Prakash ?

2. Pradhyumna used solar panels to light up his house and also to heat water.

- a) Describe the typical p-n junction used in the solar panel
- b) What values did he depict in this situation?

3. Jayanth visited his grandparents in his native village. He came to know that the villagers are unaware of use and benefits of internet. He conducted classes to the villagers to bring awareness about internet

- a) What are the applications of internet?
- b) What are the values he showed in this context?

4. Aswin was given three semiconductors with band gaps of 3eV, 2eV, 1eV for use in a photodetector to detect  $\lambda = 1400\text{nm}$ . He found that the photo detector didn't work. His friend Naseem explained the reason for non-functioning of the photodetector

- a) What is the reason for non-functioning?
- b) What values are possessed by Naseem

5. Tanya wondered at the working of remote control. She asked her brother about its working. He learnt the working of remote control from a repairer. He explained to his sister for which she felt happy

- a) What special purpose is used in the remote?
- b) What values are displayed by her brother?