



TARGET : NEET (UG) 2024

Course : SARANSH (Youtube Live CRASH COURSE)

PHYSICS

DPP

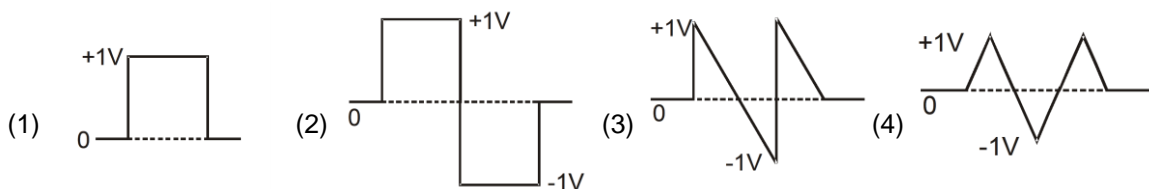
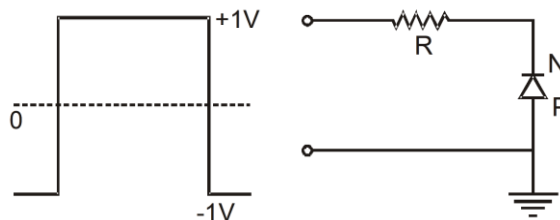
DAILY PRACTICE PROBLEMS

DPP NO. 1

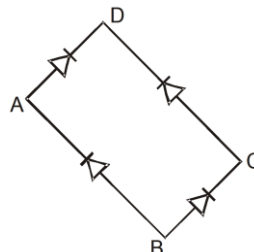
PHYSICS: SOLID AND SEMICONDUCTOR

DPP No. : 1

- The depletion region of a P-N diode, under open circuit condition contains-
 - (1) Electrons
 - (2) Holes
 - (3) Unmasked immobile impurity ions
 - (4) Impurity atoms
- The contact potential at the junction site in a P-N junction is-
 - (1) positive on P side and negative on N side
 - (2) negative on P side and positive on N side
 - (3) zero
 - (4) infinite
- A square wave (-1 V to $+1\text{ V}$) is applied to a P-N junction diode as shown. Draw the output wave form across the diode which is assumed to be ideal-

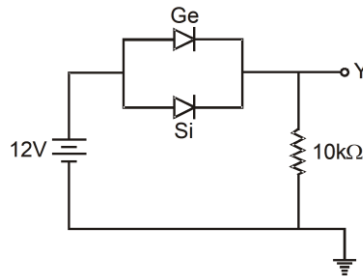


- In the figure, input is applied across A and C and output is taken across B and D, then the output is-



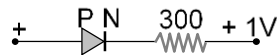
- (1) Zero
- (2) Same as input
- (3) Full wave rectified
- (4) Half wave rectified

5. Two junction diodes one of germanium (Ge) and other of silicon (Si) are connected as shown in figure to a battery of emf 12 V and a load resistance 10 k Ω . The germanium diode conducts at 0.3 V and silicon diode at 0.7 V. When a current flows in the circuit, the potential of terminal Y will be-



- (1) 12 V (2) 11 V (3) 11.3 V (4) 11.7 V
6. When P-N junction diode is forward biased, then-
- (1) the depletion region is reduced and barrier height is increased.
 (2) the depletion region is widened and barrier height is reduced.
 (3) both the depletion region and barrier height are reduced.
 (4) both the depletion region and barrier height are increased.

7. In the circuit given below, the value of the current is



- (1) 0 amp (2) 10^{-2} amp (3) 10^2 amp (4) 10^{-3} amp
8. Which one is reverse-biased
- (1) (2) (3) (4)

9. In a P-N junction photo cell, the value of the photo-electromotive force produced by monochromatic light is proportional to-

- (1) the barrier voltage at the P-N junction
 (2) the intensity of the light falling on the cell
 (3) the frequency of the light falling on the cell
 (4) the voltage applied at the P-N junction
10. The mobility of free electron is greater than that of free holes because
- (1) They carry negative charge
 (2) They are light
 (3) They mutually collide less
 (4) They require low energy to continue their motion