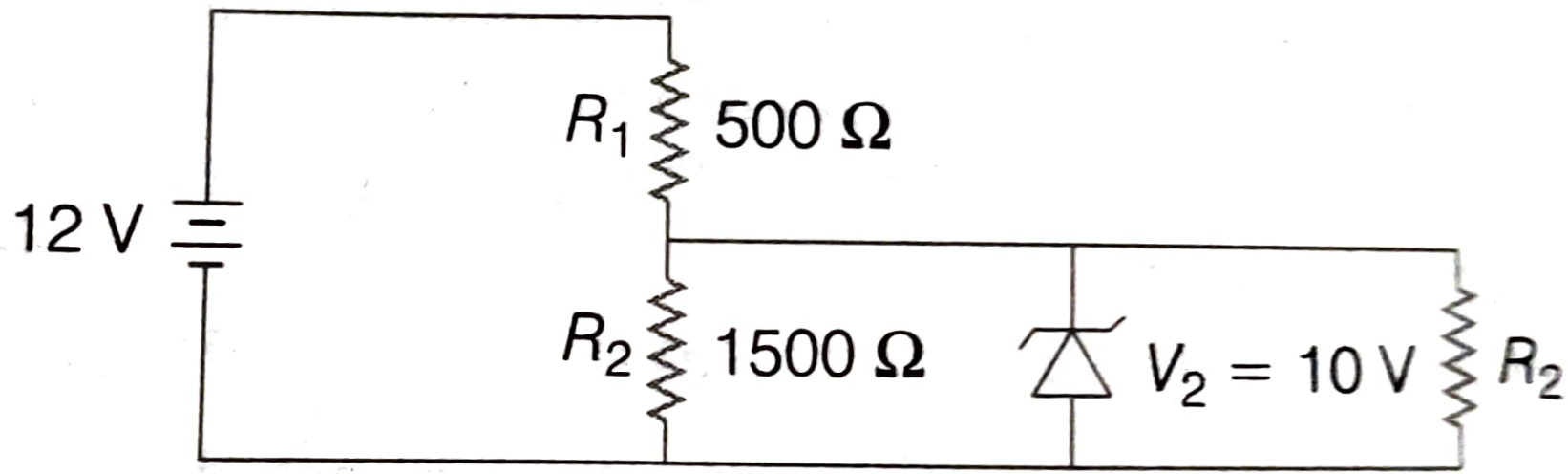
(d) 0.036

12. In the given circuit, the current through zener diode is closed to

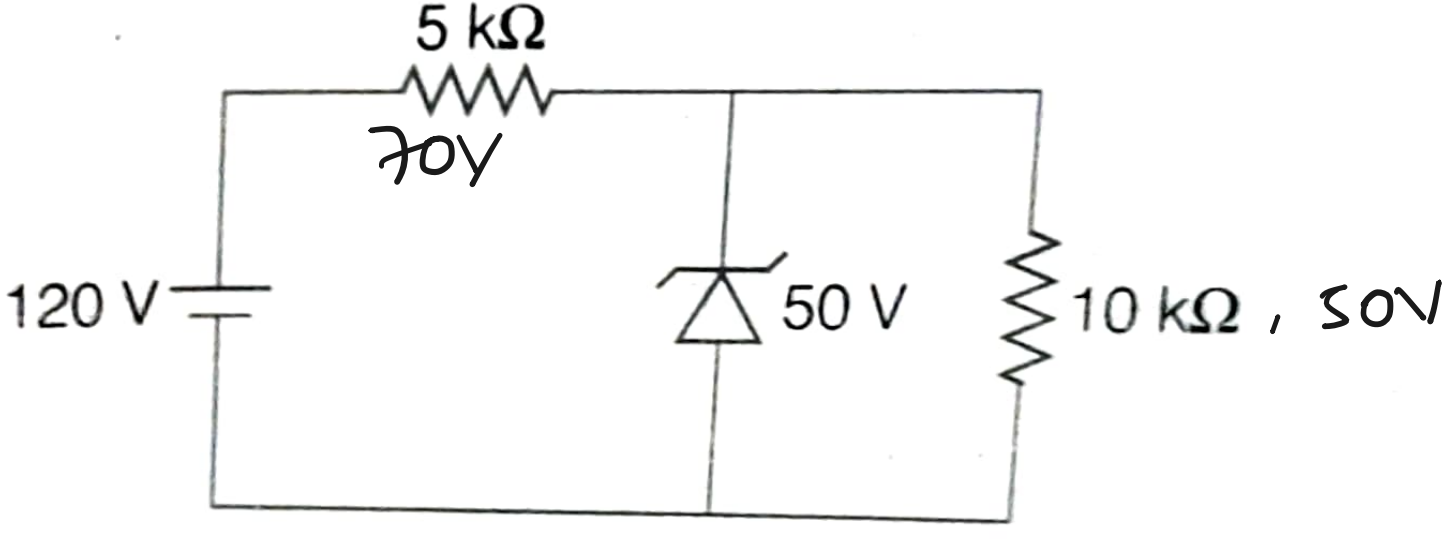
(Main 2019, 11 Jan I)



(a) 6.0 mA (b) 6.7 mA (c) 0 (d) 4.0 mA

13. For the circuit shown below, the current through the Zener diode is

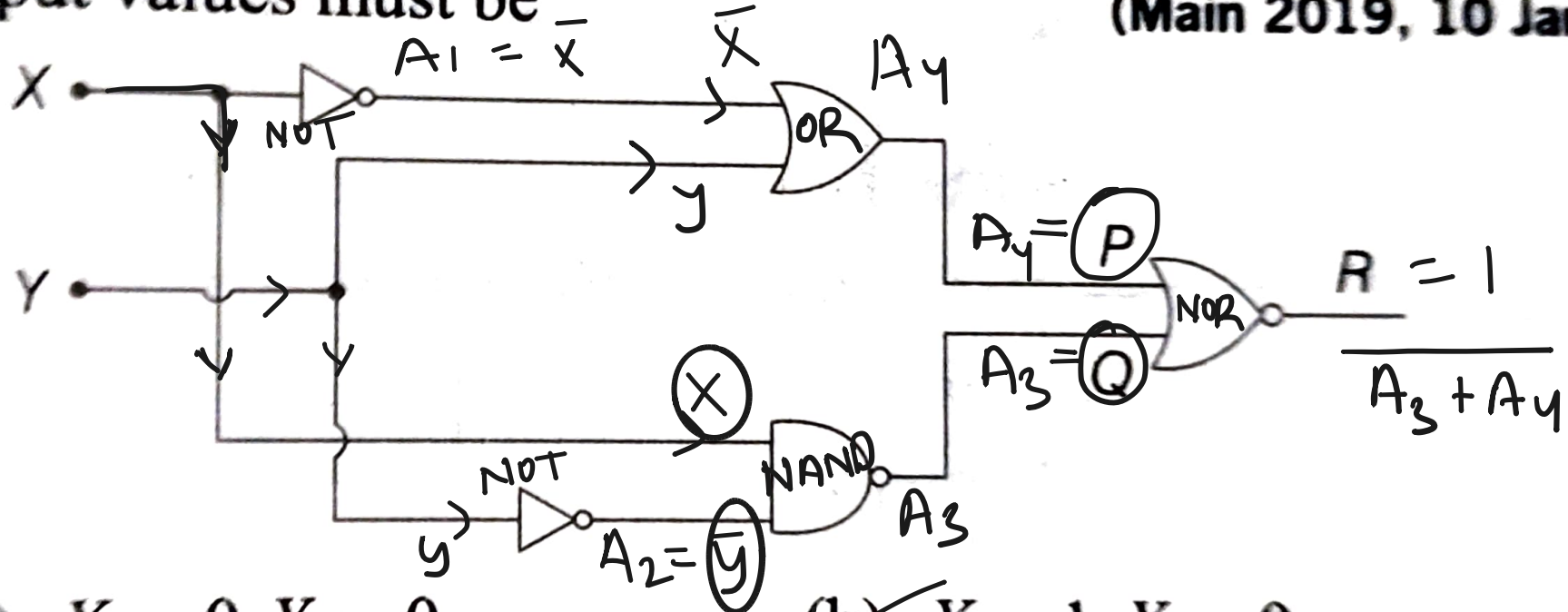
(Main 2019, 10 Jan II)



(a) 14 mA (b) zero (c) 5 mA (d) 9 mA

14. To get output '1' at R, for the given logic gate circuit, the input values must be

(Main 2019, 10 Jan I)



(a) $X = 0, Y = 0$

~~(b)~~ $X = 1, Y = 0$

(c) $X = 1, Y = 1$

(d) $X = 0, Y = 1$

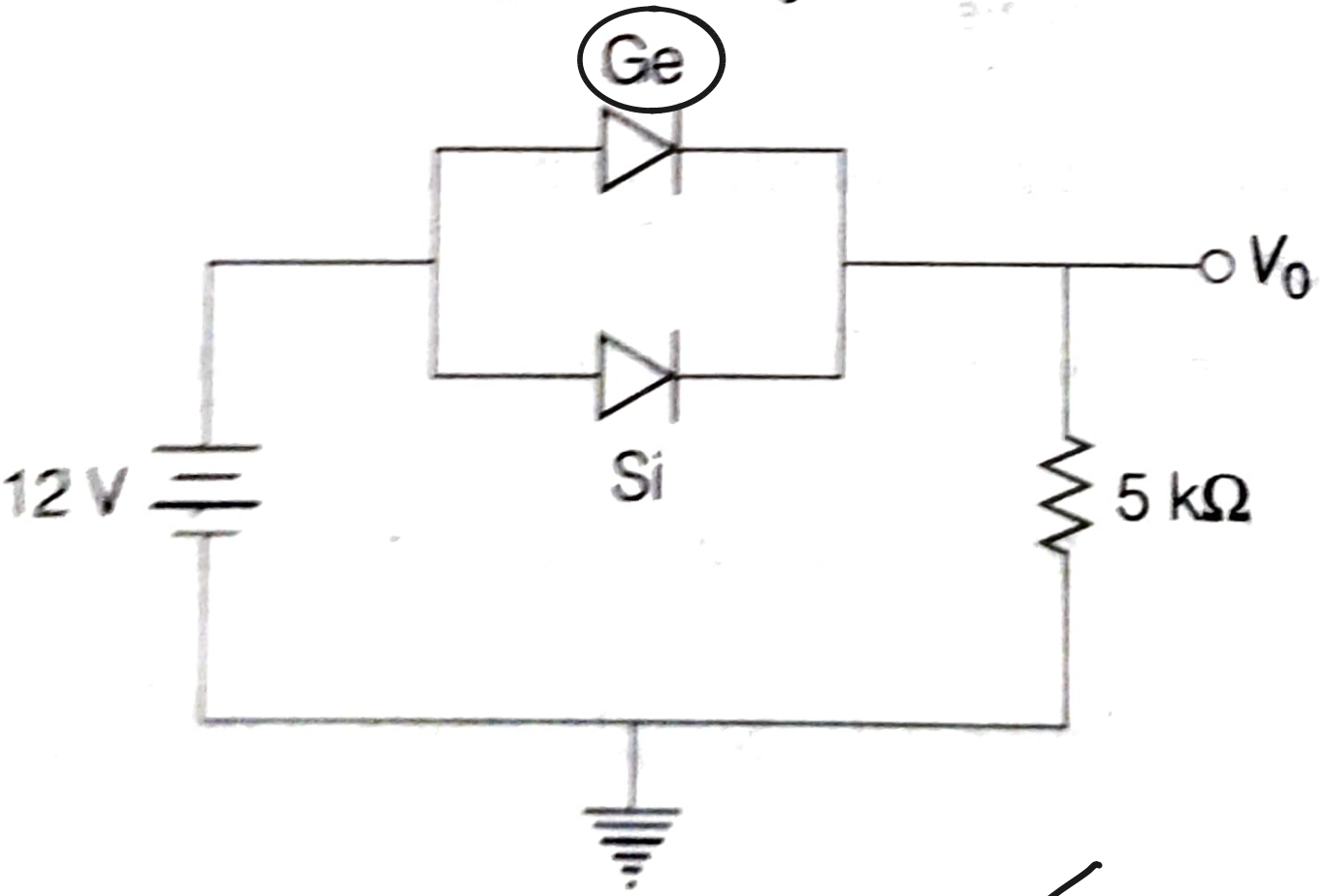
$A_1 = \bar{x}$, $A_2 = \bar{y}$ $A_4 = \bar{x} + y$

$A_3 = \overline{x\bar{y}}$

$Z = \overline{\overline{x\bar{y}} + \bar{x} + y}$

X	Y	$\bar{x}$	$x\bar{y}$	$\overline{x\bar{y}}$	$\overline{\overline{x\bar{y}} + \bar{x} + y}$
0	0	1	0	1	$\overline{1+1+0} = 0$
0	1	1	0	1	$\overline{1+1+1} = 0$
1	0	0	1	0	$\overline{0+0+0} = 1$
1	1				

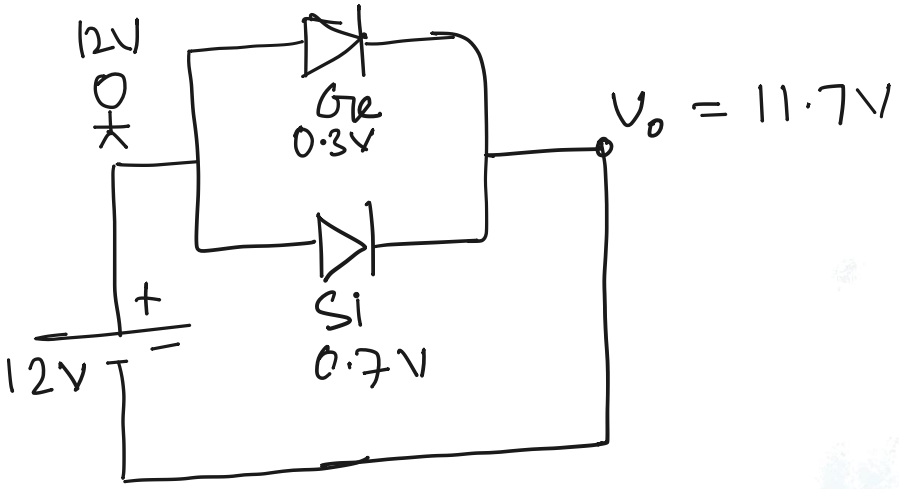
15. At 0.3V and 0.7 V, the diodes Ge and Si become conductor respectively. In given figure, if ends of diode Ge overturned, the change in potential V_0 will be **(Main 2019, 9 Jan II)**



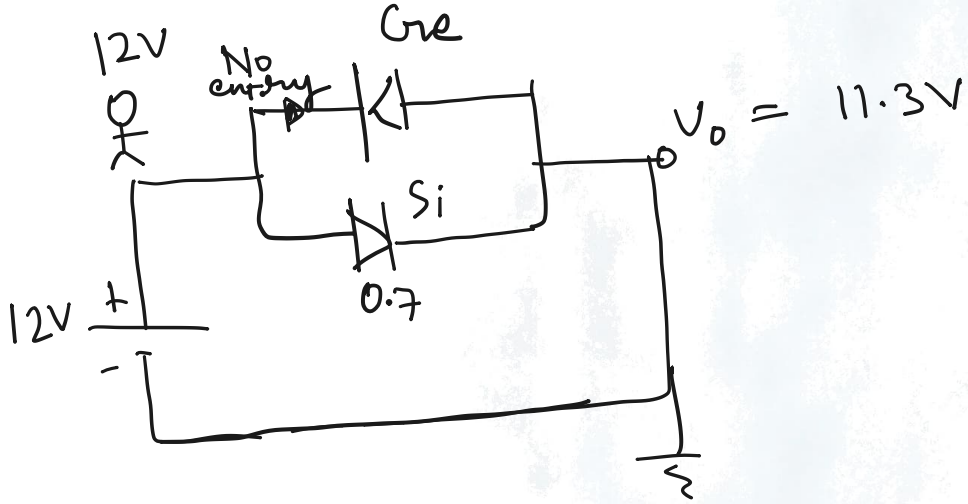
(a) 0.2 V (b) 0.6V (c) 0.4 V (d) 0.8V

Case-1

initial out put.

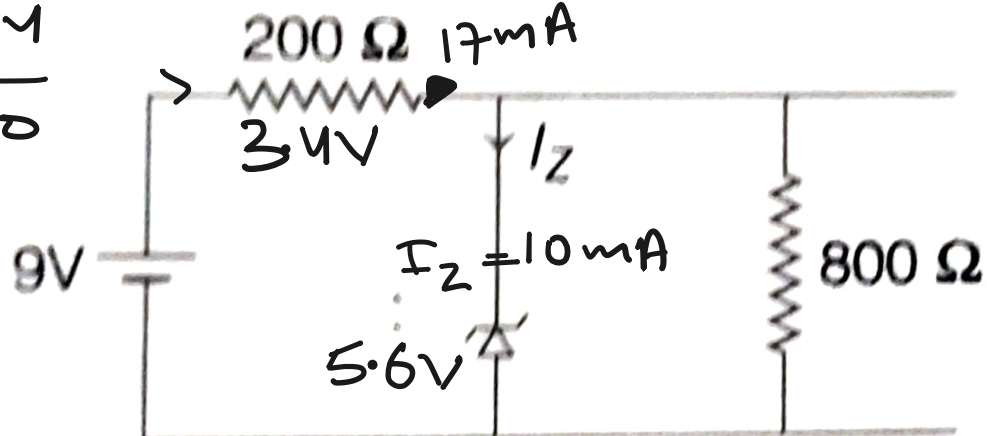


Case-2



16 The reverse breakdown voltage of a Zener diode is 5.6 V in the given circuit.

NEET



$17\,mA = \frac{3.4}{200}$

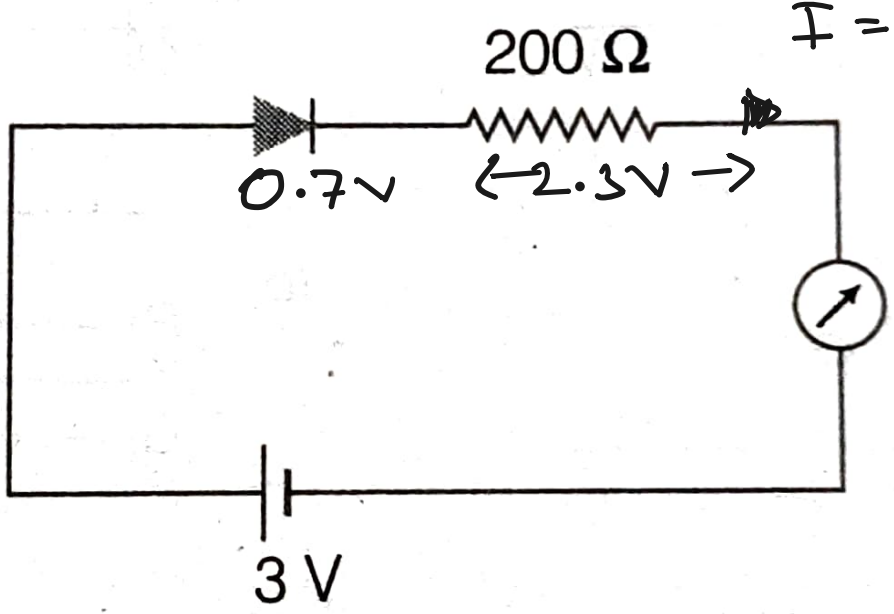
The current I_z through the Zener is **(2019 Main 8 April I)**

(a) 10 mA (b) 17 mA (c) 15 mA (d) 7 mA

17. The reading of the ammeter for a silicon diode in the given circuit is **(2018 Main)**

NEET

$I = \frac{2.3}{200} = 11.5\ mA$

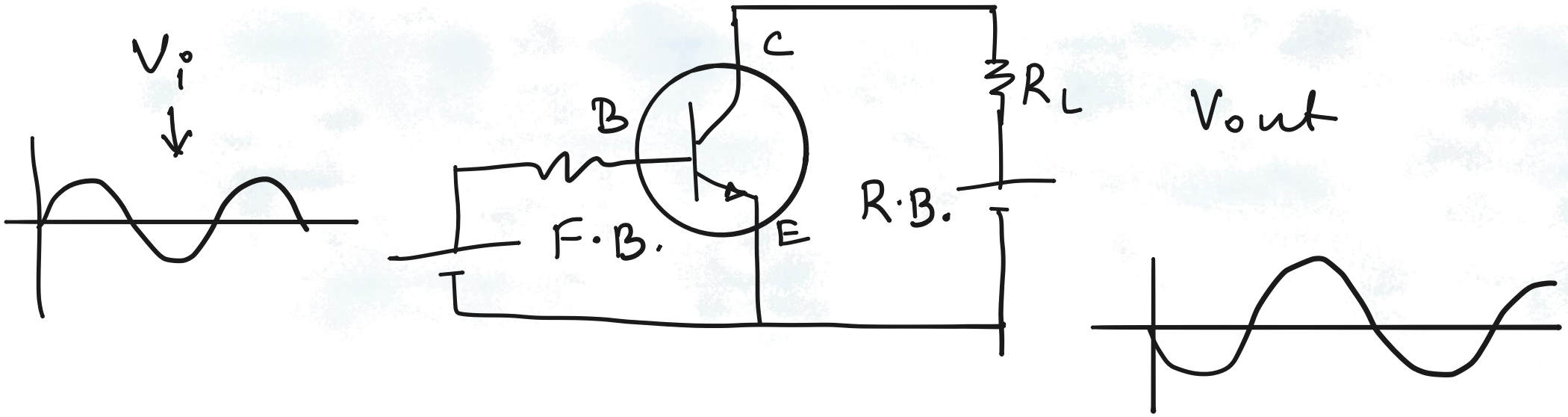


(a) 13.5 mA (b) 0 (c) 15 mA (d) 11.5 mA

DIET

18. In a common emitter amplifier circuit using an *n-p-n* transistor, the phase difference between the input and the output voltages will be **(2017 Main)**

(a) 90° (b) 135° (c) 180° (d) 45°


V_i
C
R_L
B
R.B.
F.B.
E
Vout

19. The temperature dependence of resistances of Cu and undoped Si in the temperature range 300-400 K, is best described by **(2016 Main)**

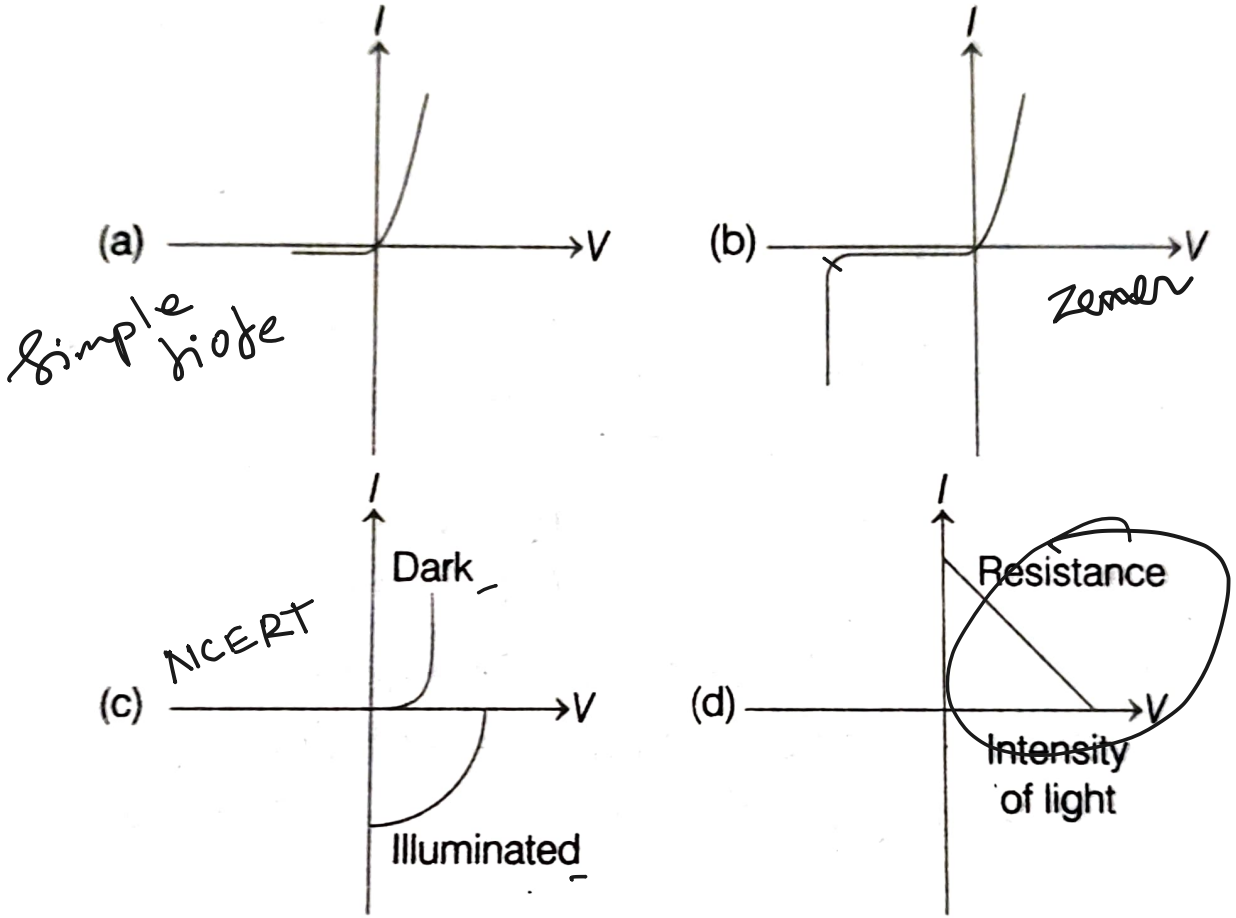
(a) linear increase for Cu, linear increase for Si

(b) linear increase for Cu, exponential increase for Si

(c) linear increase for Cu, exponential decrease for Si

(d) linear decrease for Cu, linear decrease for Si

20. Identify the semiconductor devices whose characteristics are as given below, in the order (a),(b),(c),(d). **(2016 Main)**



(a) Simple diode, Zener diode, Solar cell, Light dependent resistance

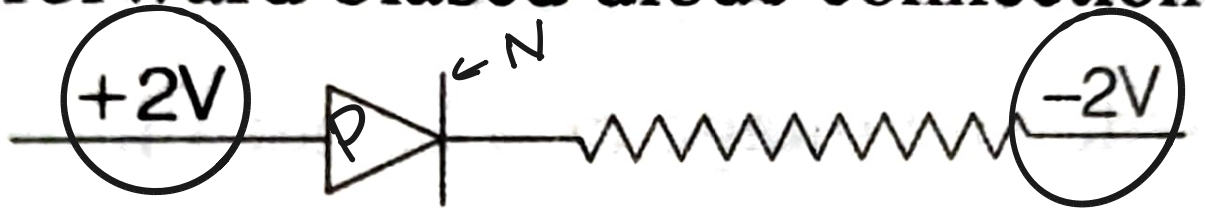
(b) Zener diode, Simple diode, Light dependent resistance, Solar cell

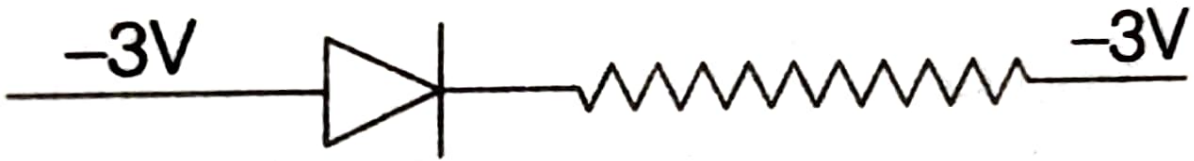
(c) Solar cell, Light dependent resistance, Zener diode, Simple diode

(d) Zener diode, Solar cell, Simple diode, Light dependent resistance

21. The forward biased diode connection is

NEET

(a) 

(b) 

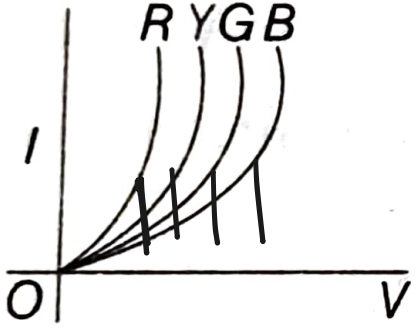
(c)

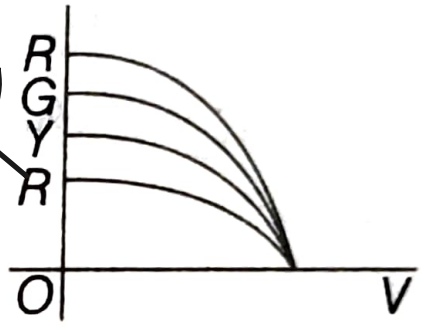
(d)

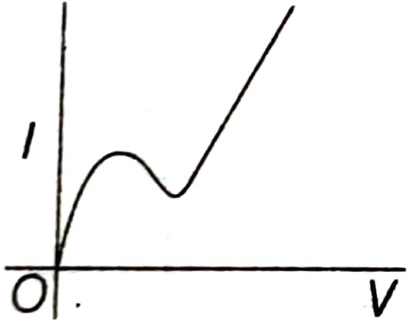
For forward bias P shall be at higher potential.

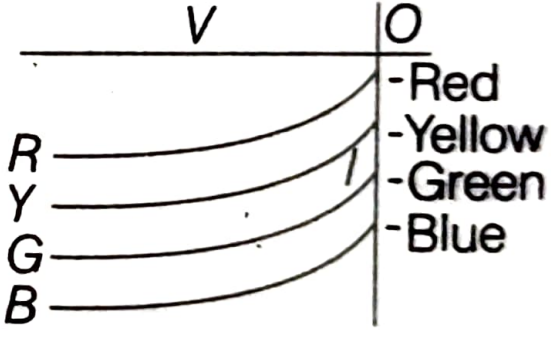
P NEET

22. The *I-V* characteristic of an LED is **(2013 Main)**

(a) 

(b) 

(c) 

(d) 

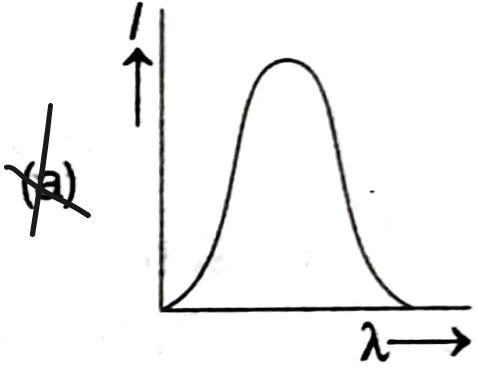
We use L.E.D. in f.B.

Col. of LED when we increase voltage

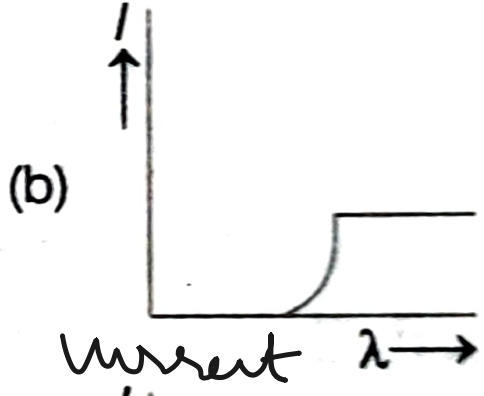
23. The anode voltage of a photocell is kept fixed. The wavelength λ of the light falling on the cathode is gradually changed. The plate current I of photocell varies as follows

(2013 Main)

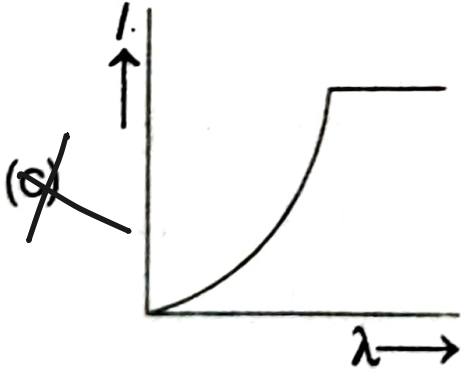
(a)



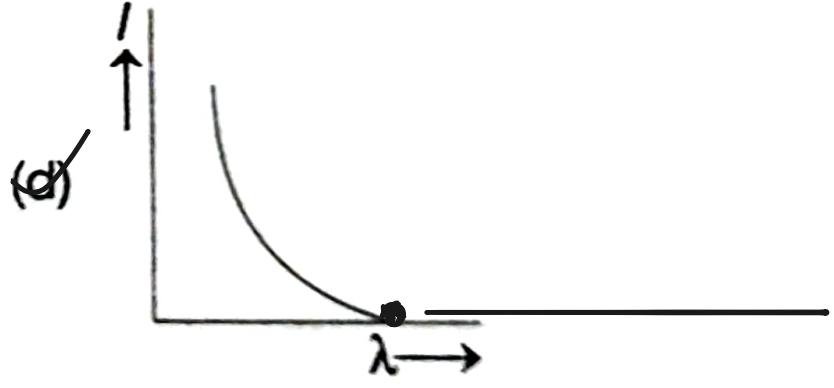
(b)



(c)



(d)



$\lambda \uparrow \quad E \downarrow = \frac{hc}{\lambda \uparrow}$

24. A diode detector is used to detect an amplitude modulated wave of 60% modulation by using a condenser of capacity 250 pF in parallel with a load resistance 100 kΩ. Find the maximum modulated frequency which could be detected by it. **(2013 Main)**

(a) 10.62 MHz
(b) 10.62 kHz
(c) 5.31 MHz
(d) 5.31 kHz

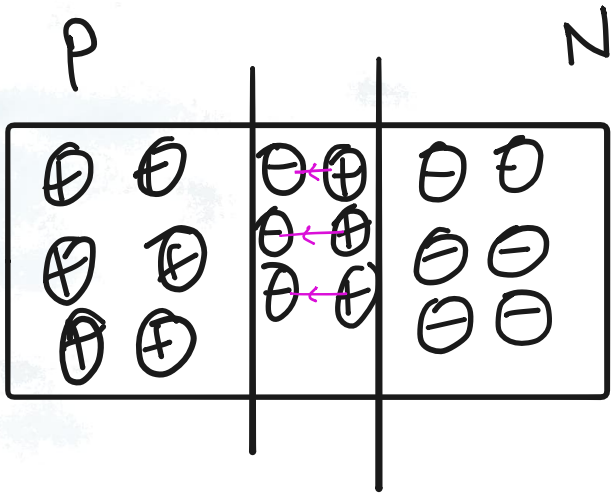
25. In a *p*-*n* junction diode not connected to any circuit

(a) the potential is the same everywhere. **(1998, 2M)**

(b) the *p*-type side is at a higher potential than the *n*-type side.

(c) there is an electric field at the junction directed from the *n*-side to the *p*-type side.

(d) there is an electric field at the junction directed from the *p*-type side to the *n*-type side.


P
N

25. In a *p-n* junction diode not connected to any circuit

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(c) there is an electric field at the junction directed from the *n*-side to the *p*-type side.

(d) there is an electric field at the junction directed from the *p*-type side to the *n*-type side.