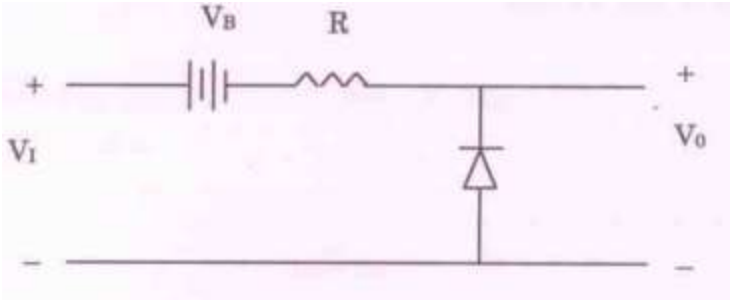
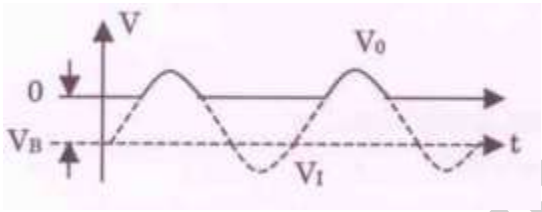
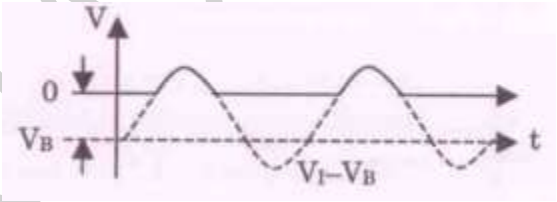
Diode circuits: clipping, clamping and rectifiers

Q1. Output response of the diode clipper circuit shown in the figure below will be



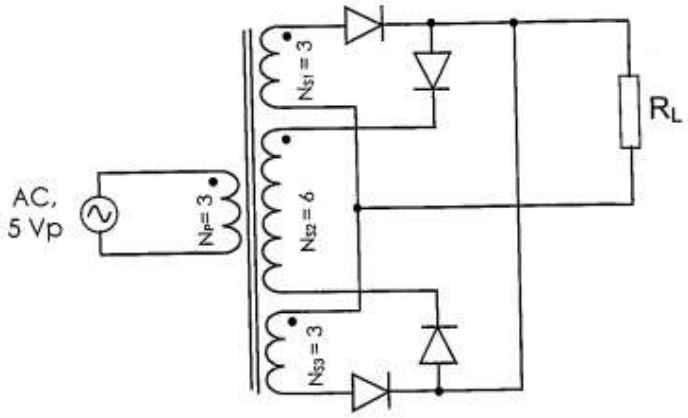
(A) 

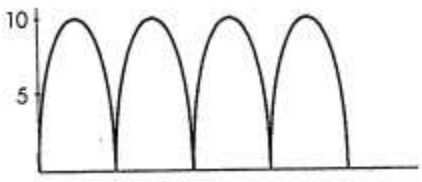
(B) 

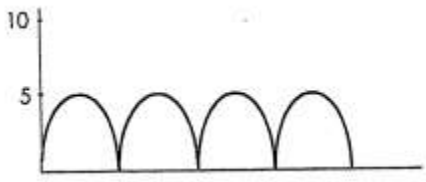
(C) Both A and B (D)None of the above.

(ISRO-2016)

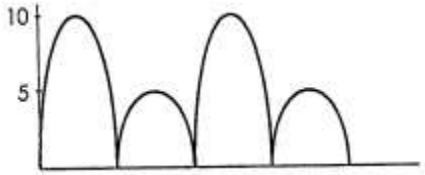
Q2. The diode in the following circuit is ideal. Which is the correct waveform across the R_L?



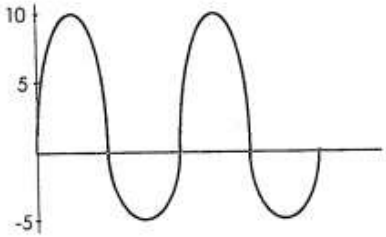
(A) 

(B) 

(C)



(D)



(ISRO-2014)

Q3. In full wave rectifier with center tap transformer, If the voltage between one end of secondary winding and center tap is 300V peak. Then PIV (Peak inverse voltage) is

(A300V (B)150V (C)600V (D)900V (ISRO-2012)

Q4. A P-N junction is in series with a 100ohm resistor is forward bias so that the current of 100mA flows If the voltage across the combination is increased instantaneously reversed to 10V at time t = 0 the reverse current that flow through the junction at t= 0 is approximately given by

(A)0mA (B)200mA (C)50mA (D)100mA

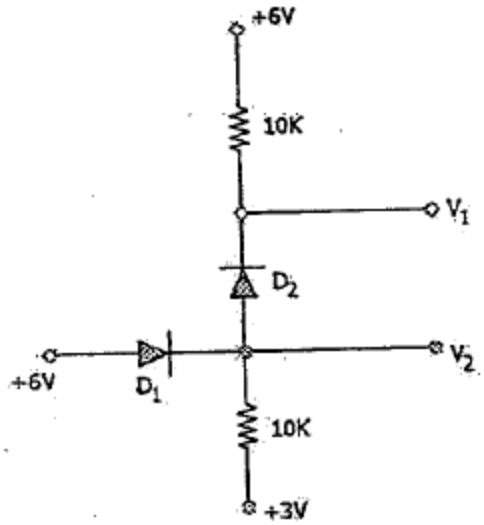
(ISRO-2011)

Q5. Ripple factor of half wave rectifier is

(A)1.65 (B)1.45 (C)1 (D)1.21 (ISRO-2011)

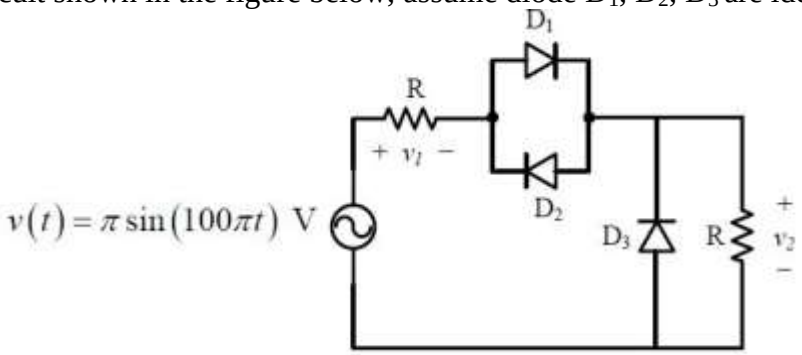
Q6. . The voltages at V1 and V2 of the arrangement shown in the figure is (Assume diode drop of 0.6V in forward nias)

(A)6V and 5.4V (B)5.4V and 6V
(C)3V and 5.4V (D)6V and 3V



(ISRO-2007)

Q7. . For the circuit shown in the figure below, assume diode D_1, D_2, D_3 are ideal



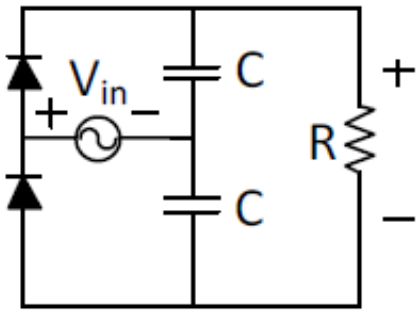
Dc component of voltage V_1 and V_2 respectively are

(A)0V and 1V (B) -0.5V and 0.5V

(B)1V and 0.5V (D)1V and 1V (GATE-EE-2017-2)

Q8. In the following circuit, the input voltage V_{in} is 100 $\sin(100\pi t)$. For $100\pi RC=50$, the average voltage across R (in Volts) under steady-state is nearest to

(A) 100 (B) 31.8 (C) 200 (D) 63.6



(GATE-EE-2015-2)

Q9. Assuming the diodes to be ideal in the figure, for the output to be clipped, the input voltage v_i must be outside the range