

SEM. IV, paper- CC10

Two terminal devices and their applications (Specially: Bridge Rectifier)

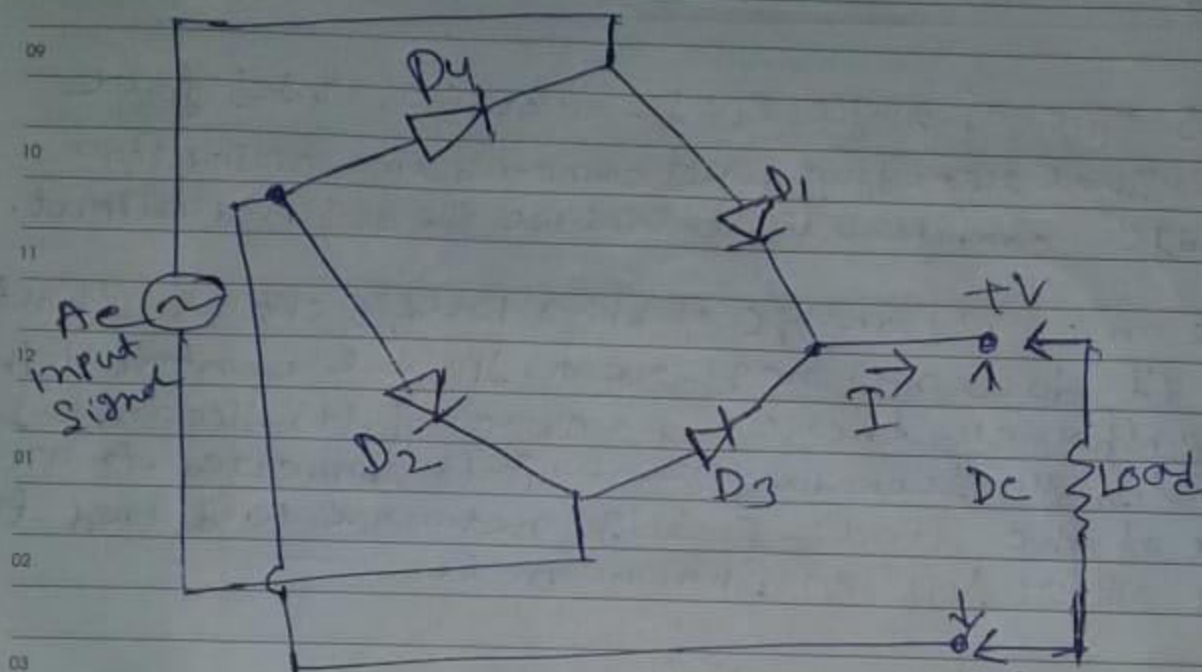
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Lecture-II

08 The Full wave Bridge Rectifier:

09 This type of single phase rectifier uses four
10 individual rectifying diodes connected in a closed loop
"Bridge" configuration to produce the desired output.

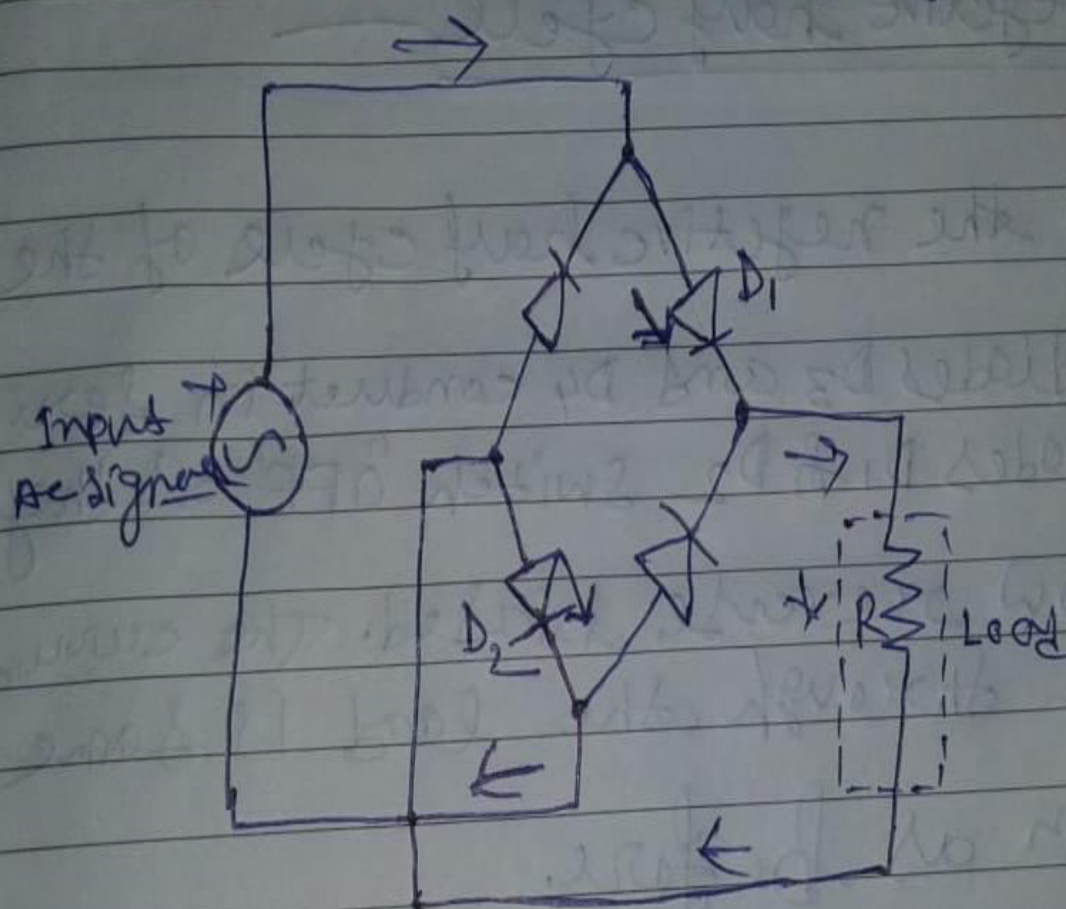
11 The main advantage of this bridge ckt is that
12 ~~it~~ it does not require a special centre tapped transformer, thereby reducing its size and cost.
01 The single secondary winding is connected to one side of the diode bridge network and load to
02 the other side as shown below —



The Bridge Rectifier circuit

The four diodes labelled D_1 to D_4 are arranged in "series pairs" with only two diodes conducting current during each half cycle.

During positive half ~~cycle~~ of cycle of the supply, diodes D_1 & D_2 conduct in series while diodes D_3 & D_4 are reverse biased and the current flows through load as shown below



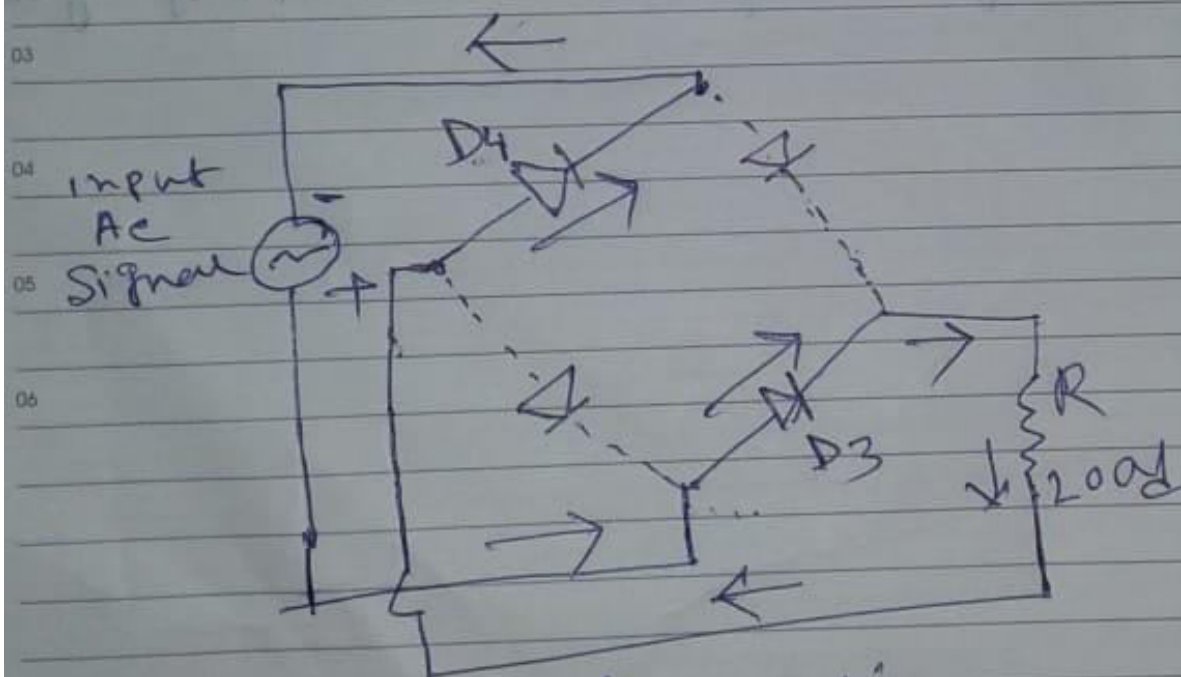
circuit diagram for positive half cycle

THURSDAY January 9

3rd Week - 016-350

The negative half cycle

During the negative half cycle of the supply, diodes D_3 and D_4 conduct in series but diodes D_1 & D_2 switch OFF as they are now reverse biased. The current flowing through the load is same direction as before.



The CRT diagram for negative half cycle.

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Wk	M	T	W	T	F	S	S
1			1	2	3	4	5
2	6	7	8	9	10	11	12
3	13	14	15	16	17	18	19
4	20	21	22	23	24	25	26