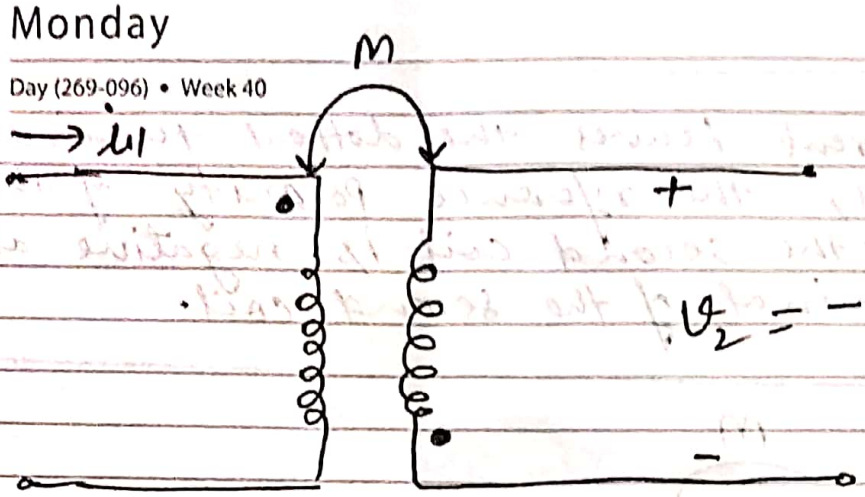
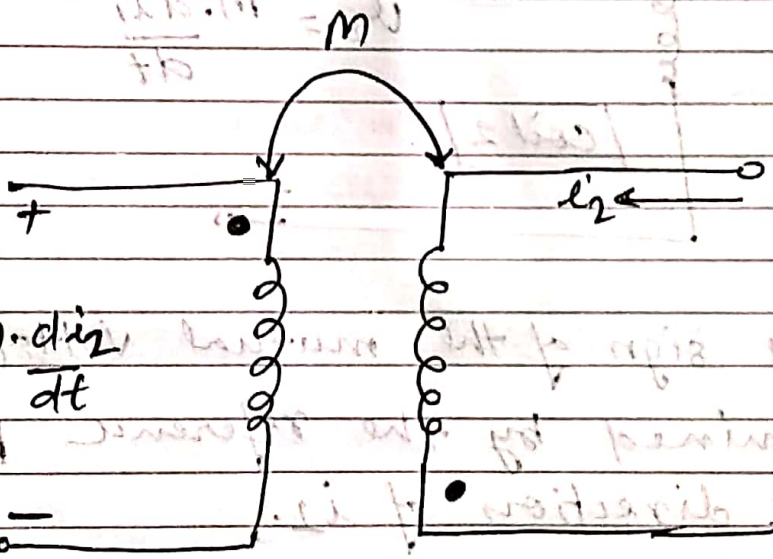
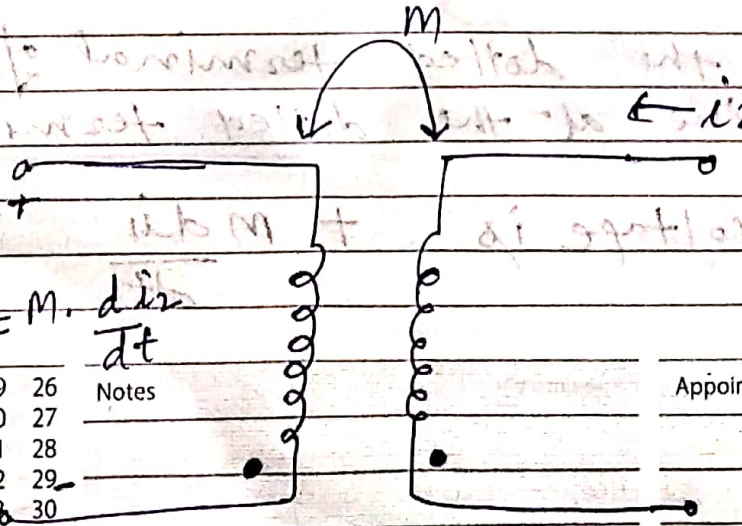


$$v_2 = -M\frac{di_1}{dt}$$



$$v_1 = -M\cdot\frac{di_2}{dt}$$



$$v_1 = M\cdot\frac{di_2}{dt}$$

September'11

Monday		5	12	19	26
Tuesday		6	13	20	27
Wednesday		7	14	21	28
Thursday	1	8	15	22	29
Friday	2	9	16	23	30
Saturday	3	10	17	24	
Sunday	4	11	18	25	

Notes

Appointment

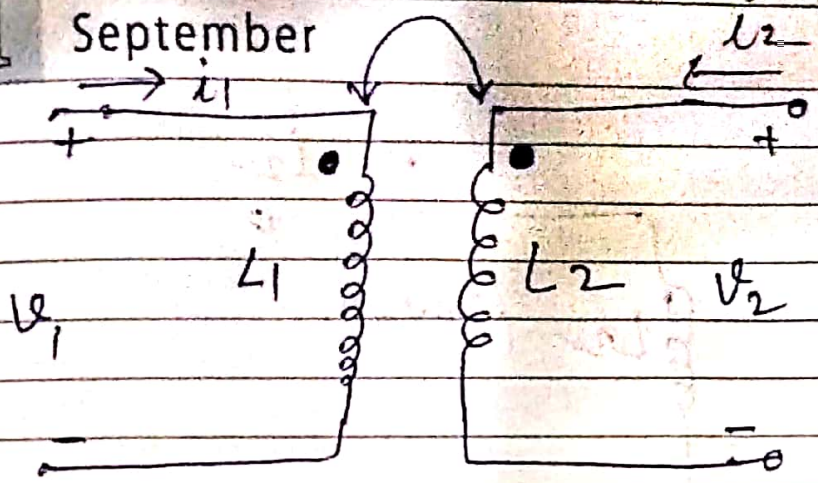
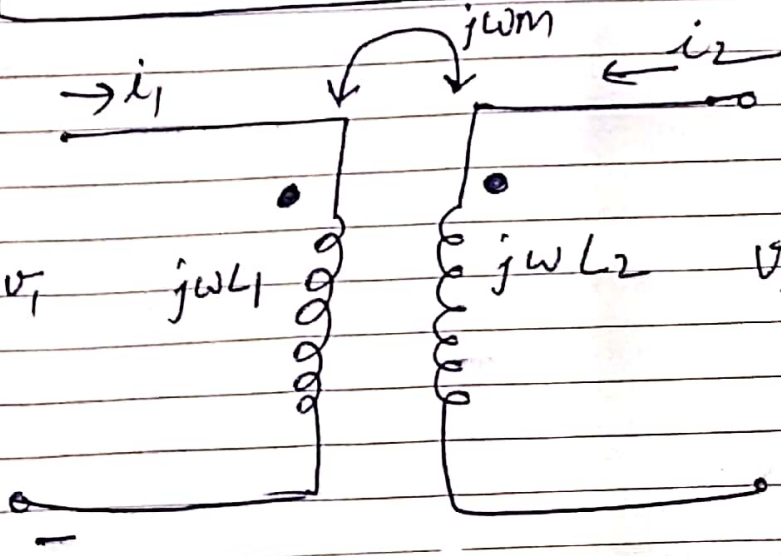


fig: Time domain ckt

$$v_1 = L_1 \frac{di_1}{dt} + M \frac{di_2}{dt}$$
$$v_2 = L_2 \frac{di_2}{dt} + M \frac{di_2}{dt}$$
— (1)

Reversing the dots, Reversing the assumed direction of currents or voltages in either winding, will change the sign of mutual terms in eq (1)



$X_m = \omega M$

$X_{L_2} = \omega L_2$

fig: frequency-domain circuit

Notes

Appointment

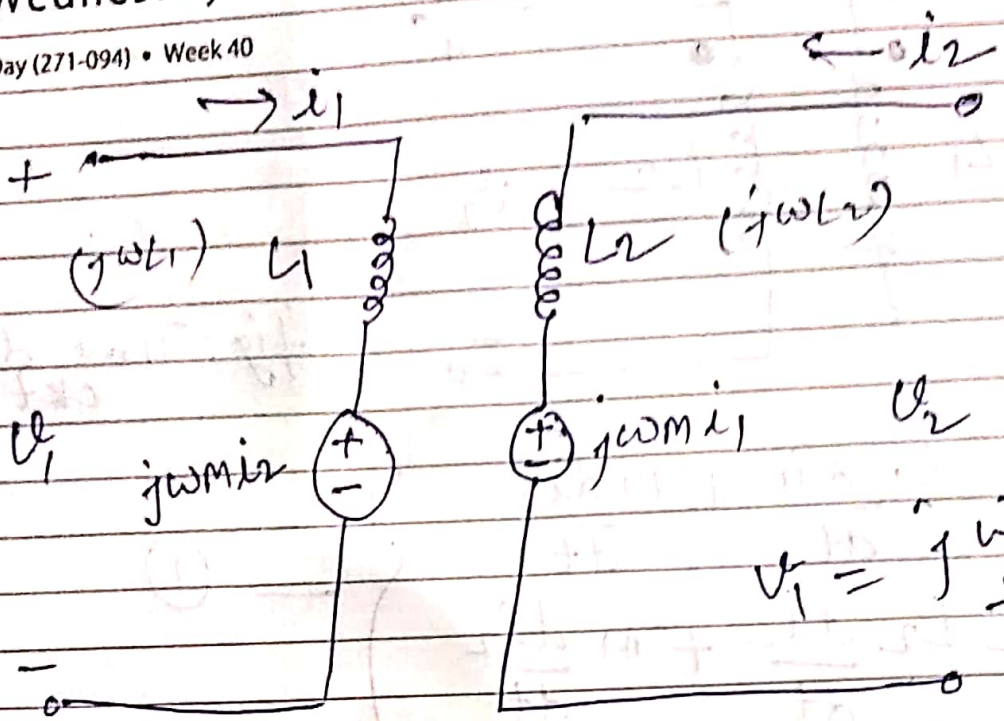


Fig. Mutual inductance as voltage generator.

Two coils ARE IN SERIES

$$v = L_1 \frac{di}{dt} + M\frac{di}{dt} + L_2\frac{di}{dt} + M\frac{di}{dt}$$

$$\therefore v = (L_1 + L_2 + 2M)\frac{di}{dt} \quad \text{---(2)}$$

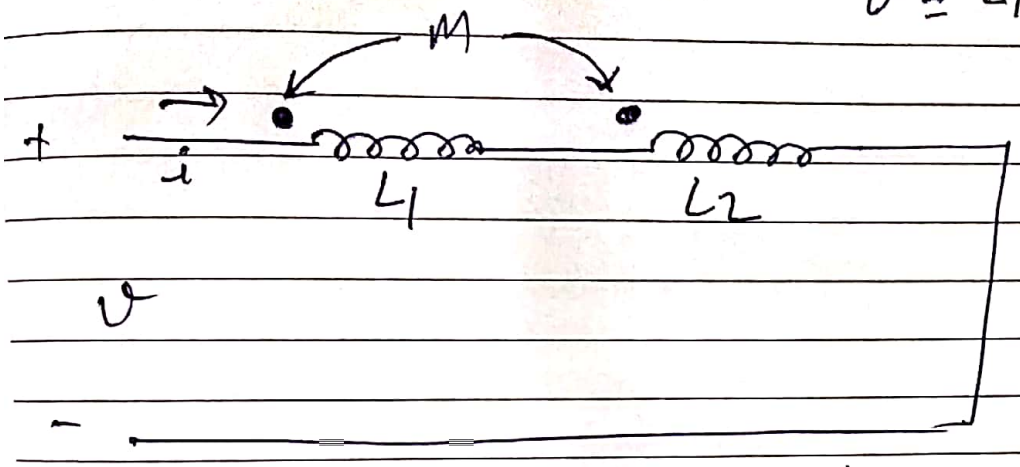


fig: Time domain ckt.

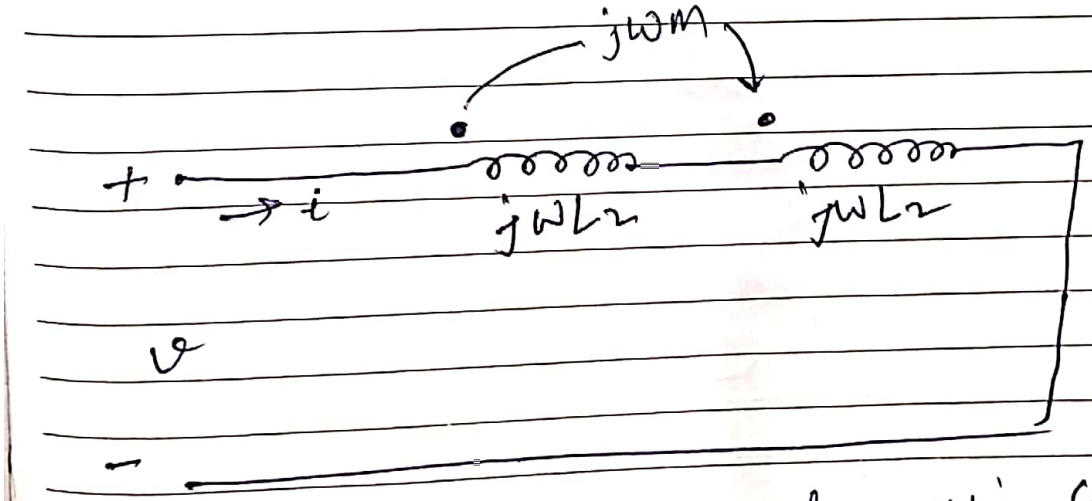


fig frequency domain ckt.

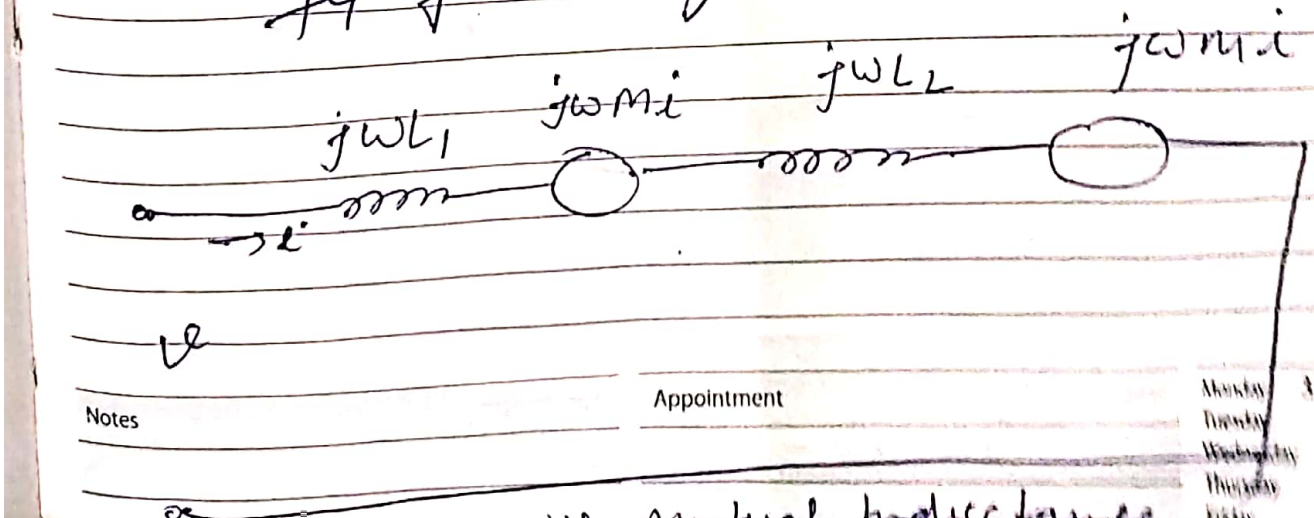


fig ckt with Mutual inductance voltage generator

Notes

Appointment