J.C.BOSE UNIVERSITY OF SCIENE AND TECHNOLOGY ,YMCA,FARIDABAD

Sessional 1

Basic Electrical Technology (B.Tech ECE II sem, E&C II sem)

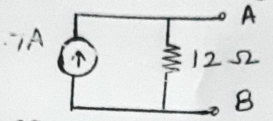
Time:90 min. Max.marks:15

PART A

Write short answers for the following questions

(a).Differentiate between Unilateral and Bilateral circuits. (1)

(b) Convert the given current source into voltage source. (1)



(c) Write the statement of Superposition theorem (1)

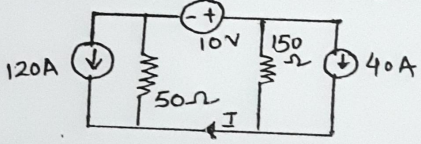
(d) Write the limitations of Ohm's law. (1)

(e) What do you understand by Dependent and Independent sources? (1)

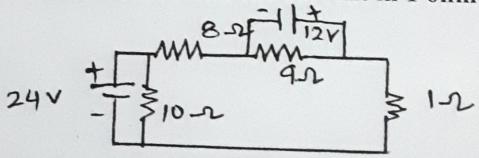
PART B

Attempt any 2 questions

Q.2 (a) Find the current I in the given circuit using Superposition Theorem.(fig.1) (2.5)

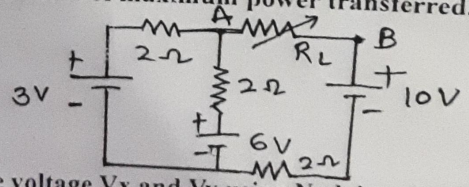


(b) Use Thevenin Theorem to find the current in 1 ohm resistance for the circuit shown(fig.2) (2.5)

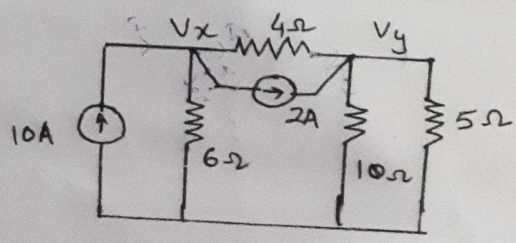


Q.3 (a) Give the statement of Nortons's theorem. Explain it using an example. (2.5)

(b) Find the value of load resistance ,so that maximum power is dissipated through it. Find the value of maximum power transferred. (fig.3) (2.5)



Q.4(a)Find the voltage Vx and Vy using Nodal analysis(fig.4) (2.5)



(b) Using Mesh current analysis find the value of current in galvanometer G. Internal resistance of galvanometer is 50 ohms.(fig.5) (2.5)