Fig.1



Q1. Use superposition theorem to find the current i

Fig.1 (Ans: - i=4/9 A)

+

-

i1

Q2. Use superposition theorem to determine the voltage

 v and power dissipated by the 3 ohm

 resistor of the following network. Fig.2

 (Ans: - v = 15 V, P = 75 W)

Q3. Determine the voltage across the 1/3 ohm resistance

Fig.3

 By Thevenin’s Theorem. Fig.3

 (Ans: - 10/7 V)

Q4. Use Thevenin’s Theorem to find the voltage

Fig.4

I

 across the 3 ohm resistance. Fig.4

 (Ans: - 120/7 V)

Q5. Find the Thevenin’s Equivalent circuit

α

Fig.5

I

 across R4. Fig.5

 (Ans: -  )

Fig.6

1 KΩ

IB

IB

a

b

Q6. Find Thevenin’s equivalent circuit at a-b. Fig.6

 (Ans: - RTh=500 Ohm, VTh=150 V)

a

Fig.7

b

I

Q7. Find Thevenin’s equivalent circuit at a-b. Fig.7

 (Ans: - RTh=3 Ohm, VTh=0 V)

Fig.8

j3 Ω

j8 Ω

-j5 Ω

Q.8 Use Thevenin’s Theorem to find out current in

(6+j8) ohm. Fig.8

(Ans:- VTh=7.73-j1.33, ZTh=1.466-j4.734

IL=0.962 & -33.38o)

Q.9 Repeat Question 3 to 8 for Norton’s Theorem.

Fig.10

Q10. Find current in 3 ohm resistance by

 (i) Thevenin’s Theorem (ii) Norton’s Theorem.

Fig.10

 (Ans: - 5Amp)

Fig.12

j10 Ω

+

V4

-

Q.12 Find the value of Z that will receive

 Maximum power. Also determine this power.

 Fig.12

 (Ans:- Z=1.125-j1.797 Pmax=124.8 W)