

Basic Electrical and Electronics Engineering Lab (BEEE102P)

EXPERIMENT 3

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BEEE102P
Basic Electrical and Electronics Engineering Lab
List of Experiments

Cycle-1 Software Experiments

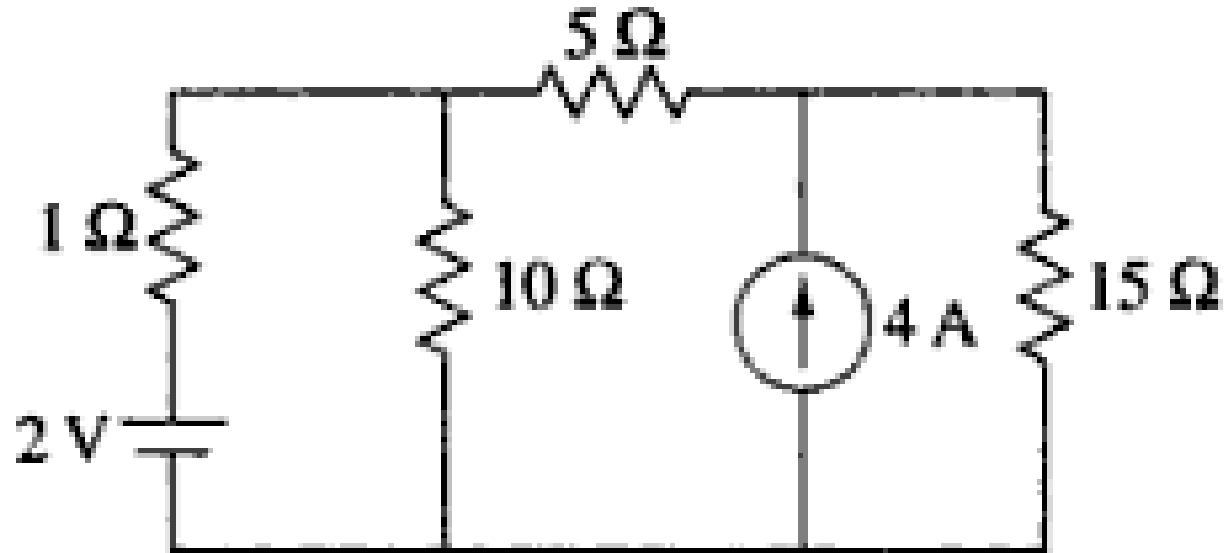
S.No	Experiment Title
1	Verification of Mesh current analysis and node voltage analysis using ORCAD/Capture CIS
2	Verification of Thevenin's theorem using ORCAD/Capture CIS
3	Verification of Maximum power transfer theorem using ORCAD/Capture CIS
4	Verification of Resonance phenomenon in a series RLC circuit using ORCAD/Capture CIS using AC Parametric Sweep Analysis
5	Design of single-phase half-wave and full wave rectifier
Cycle-II Hardware Experiments	
6	Verification of Kirchhoff's current law
7	Wiring circuit for Single lamp and Fan with regulator/ Staircase wiring circuit layout of multi storage building
8	Design of half adder circuit using logic gates
9	Measurement of energy using single phase energy meter
10	Design of regulated power supply using Zener diode

Verification of Maximum Power Transfer theorem

EXPERIMENT 3

**Verification of Maximum power transfer theorem
using ORCAD/Capture CIS**

Maximum Power Transfer Theorem circuit diagram



$$R_{TH} = 15.909 \text{ OHMS}$$

$$V_{TH} = 58.1818 \text{ V}$$

$$P_{MAX} = \frac{V_{TH}^2}{4R_{TH}} = 53.195 \text{ WATTS}$$

PROCEDURE

1. DRAW CIRCUIT
2. ADD PARAM IN TO CIRCUIT
3. EDIT PARAM AND ADD NEW ROW AS
 - a) NAME=RLOAD
 - b) VALUE=5
 - c) DISPLAY \longrightarrow NAME AND VALUE BOTH
4. CHANGE THE LOAD RESISTANCE VALUE TO **{RLOAD}**
5. SIMULATION SETTING-
 - a) ANALYSIS TYPE= DC SWEEP
 - b) SWEEP VARIABLE= GLOBAL PARAMETER
 - c) PARAMETER NAME=RLOAD
 - d) SWEEP TYPE=LINEAR
 - e) START VALUE=1
 - f) END VALUE=100
 - g) INCREMENT=2
 - h) OK
6. RUN
7. LOOK FOR POWER CONSUMED BY LOAD

