Set-03

Unit Test I

Symbol of Secularism & National Integration

ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: ELECTRICAL AND ELECTRONICS MEASUREMENT **Date:** 9 Sept. 13
Marks: 20 **Duration: 1 Hr/s**
Class: SE ELECTRICAL (Sem III) **Branch:ELECTRICAL** (2013-14)

Instructions: All questions(Q1 andQ2) are compulsory.

Q1) Solve any two out of three

A) Discuss synchroscope with neat diagram. [4 MARKS]

B) Write short note on instrument transformer. [4 MARKS]

C) Differentiate between Kelvin double bridge and wheat stone bridge. [4 MARKS]

Q2) Solve any two out of three

A) Describe megger in detail [6 MARKS]

B) What is galvanometer? Give types and discuss one in detail. [6 MARKS]

C) Describe power factor meter in details [6 MARKS]

Symbol of Secularism & National Integration

ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Electrical Network (EN) Unit Test I — Date: 06/09/2013
Marks: 20 — Duration: 1-Hr/s
Class: SE (Sem III) — Branch: Electrical Engineering (2013-14)

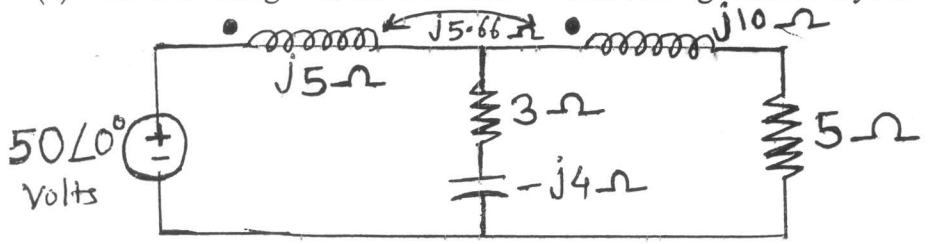
Instructions: 1) Assume the **data** if it is **necessary.**
2) **Figures** to the **right** indicate **full** marks.

Q .1) Solve any two out of three. (04-Marks each) 08 M

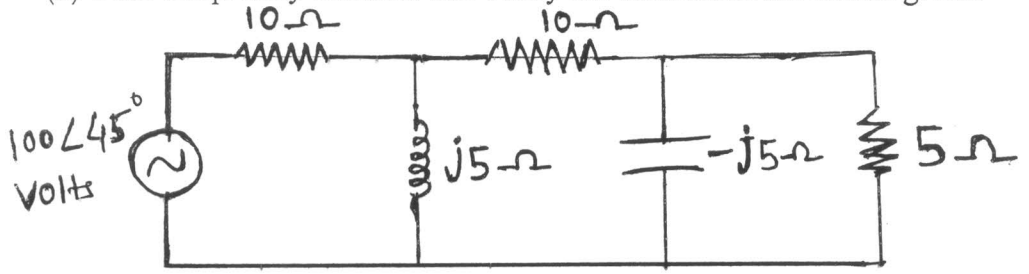
(a) Explain types of Dependent sources.
(b) Derive the condition for maximum power transfer.
(c) Explain Millman's theorem in AC Network.

Q .2) Solve any two out of three. (06-Marks each) 12 M

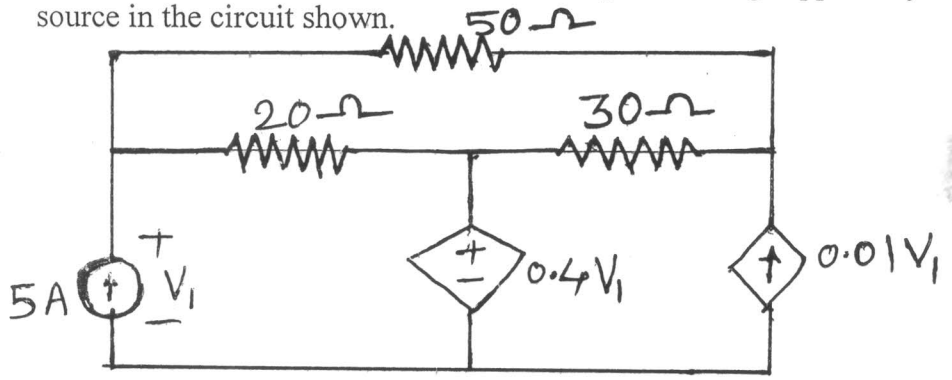
(a) Find the voltage across the 5-Ohm resistor using mesh analysis.



(b) State reciprocity theorem and verify the theorem in the circuit given.



(c) Use nodal analysis to determine V_1 and the power being supplied by the dependent current source in the circuit shown.



(4)

ANJUMAN-I-ISLAM'S
AIKTC KALSEKAR TECHNICAL CAMPUS
INNOVATIVE TEACHING EXUBERANT LEARNING

Unit Test I Date – /9/2013

Branch –EXTC /ELECT Sem-III

Sub- Applied Maths III

Q. 1 Attempt any 2 questions out of 3. (8)

A) If F (z) and $\overline{F(z)}$ are both Analytic functions, prove that F (z) is a Constant function .

B) Find Laplace Transform of F(t).

$F(t) = \int_0^t e^{-t}\ t \sin 2t\ dt$

C) Evaluate the Integral using Laplace Transforms.

$$\int_0^\infty e^{-4t} \left\{ \frac{\cos 2t - \cos 3t}{t} \right\} dt$$

Q.2 Attempt any 2 questions out of 3. (12)

A) Find Bilinear Transformation which maps the points 1, i , -1 of Z plane to points $0, 1, \infty$ of W plane. Also prove that under this transformation the unit circle in W plane is mapped onto Y axis in Z plane.

B) Find the Analytic function F (z) = u + iv if

$$u + v = \frac{2 \sin 2x}{e^{2y} + e^{-2y} - 2 \cos 2x} .$$

C) Find Inverse Laplace Transform using partial fractions.

$$\frac{5s^2 + 8s - 1}{(s+3)(s^2+1)}$$