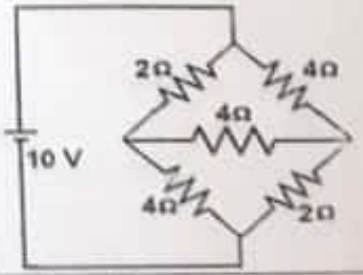
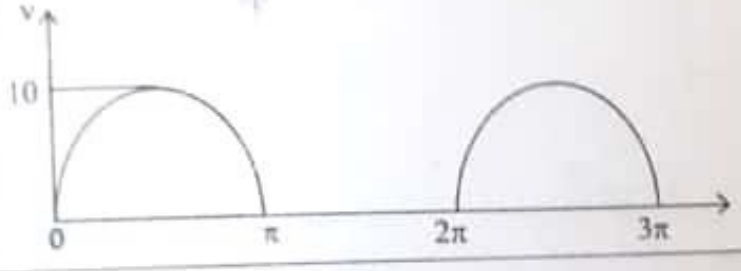
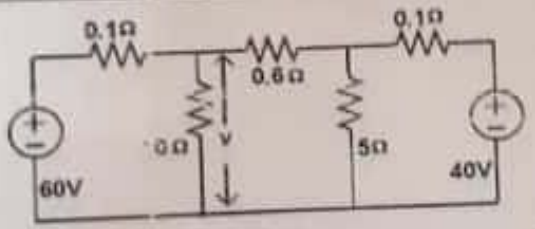
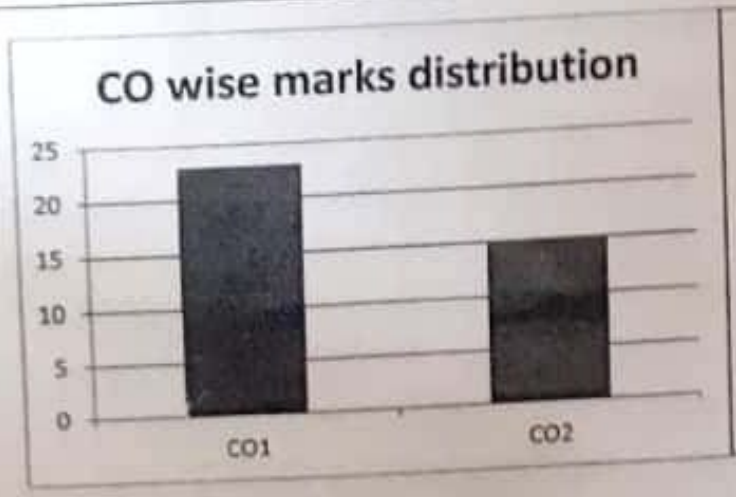
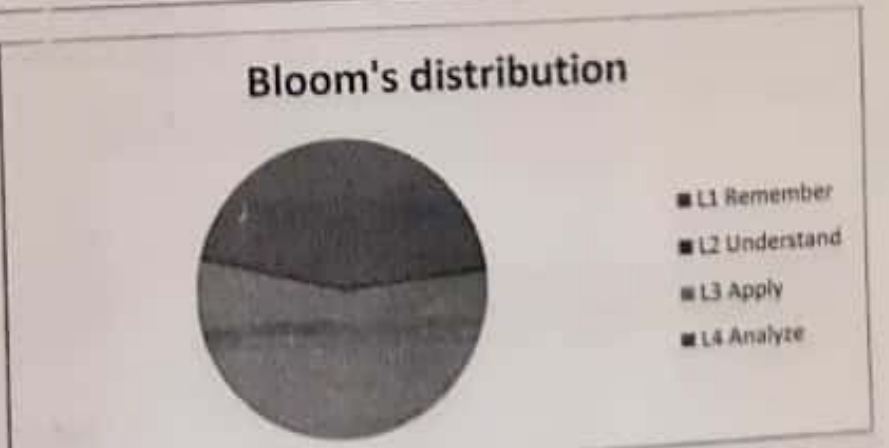
7	**Calculate** the current delivered by battery in the given circuit using Star-Delta Transform 	[5]	1	L3
8	**Calculate** the average and r.m.s value of following voltage wave form 	[5]	2	L3
9	**Solve** for V in the given circuit with the help of Superposition theorem 	[5]	1	L3



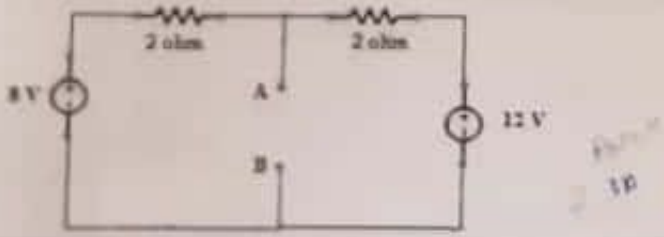


UNITED COLLEGE OF ENGINEERING & RESEARCH		Department of Electrical Engineering	
1st SESSIONAL EXAM	SEMESTER: 1st	SECTION : H I J K L M	Jan- 2021
TIME: 2Hrs	SUBJECT: BASIC ELECTRICAL ENGG.	Paper code: KEE 101	MM. 30
READ ALL INSTRUCTIONS AND QUESTIONS VERY CAREFULLY			

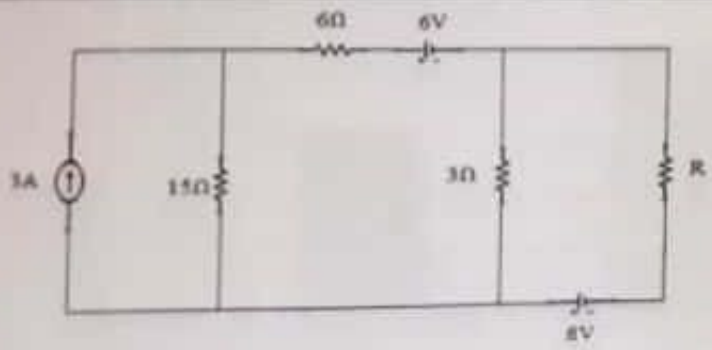
SECTION A (Attempt ALL questions) Short answer [6]

				CO	Bloom's Level
1	a	Is 'L' a linear element? **Explain** the answer	[1]	1	L2
1	b	**Define** Ideal Voltage and Current source	[1]	1	L1
1	c	**Define** Bilateral & Unilateral Elements with example	[1]	1	L1
1	d	**Identify** what is the reciprocal of inductive reactance and its unit?	[1]	2	L1
1	e	**Enlist** the limitations of Ohm's law.	[1]	1	L1
1	f	**State** Thevenin's and Norton's Theorem.	[1]	1	L1

SECTION B (Attempt ANY THREE questions) Medium answer [9]

2	**Demonstrate** that in a purely resistive circuit consumed power is always positive.	[3]	2	L3
3	**Compare** the circuit with the Norton's equivalent at terminal AB. Determine the current through 4 ohm resistor across AB. 	[3]	1	L4
4	**Explain** Active, Reactive and Apparent powers with proper explanation and units. Also discuss power factor in AC circuits.	[3]	2	L2
5	A 100V, 80W lamp is to be operated on 230V, 50Hz AC supply. **Calculate** the inductance to be connected in series with the lamp for the above operation. Lamp can be taken as pure resistance.	[3]	2	L3

SECTION C (Attempt ANY THREE question) Long answer [15]

6	**Compare** the given circuit with the equivalent Thevenin's network across resistance R, and obtain current if R is given as 5Ω. 	[5]	1	L4