

**OSMANIA UNIVERSITY**  
**FACULTY OF ENGINEERING**  
**UNIVERSITY COLLEGE OF ENGINEERING (AUTONOMOUS)**  
**B.E. (ECE, BME, CSE, AI&ML) I-Semester (Main) Examinations April 2022**

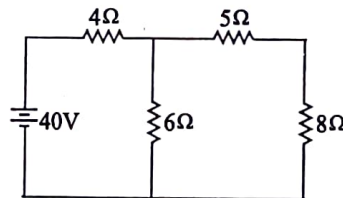
**BASIC ELECTRICAL ENGINEERING**

**Time : 3 hours**

**Max. Marks : 70**

- Note :**
- i) Each question carries 14 Marks.
  - ii) **First Question** is compulsory and answer all sub questions. Answer any four questions from remaining six questions (Q.2 - Q.7).
  - iii) Answers to each question must be written at one place only and in the same order as they occur in the Question Paper.
  - iv) Missing data, if any, may suitably be assumed.

	Marks	BT	CO
1. a) State Superposition Theorem.	2	1	1
b) Define power factor.	2	1	2
c) Differentiate between an ideal transformer and a practical transformer.	2	4	3
d) A 6 pole lap-wound d.c. generator has 600 conductors on its armature. The flux per pole is 0.02 Wb. Calculate the speed at which the generator must be run to generate 300 V.	2	3	4
e) Why is earthing required in an electrical system?	2	2	5
f) Draw the phasor diagram of R-L series circuit.	2	3	2
g) What is statically induced e.m.f?	2	2	3
2. a) Using Norton's Theorem, find the current in $8\Omega$ resistor for figure shown below.	8	5	1



- |  |   |   |   |
|--|---|---|---|
| b) Discuss about KCL and KVL.  | 6 | 3 | 1 |
| 3. a) Describe about the RLC series circuit. Mention all the possible cases. | 7 | 4 | 2 |
| b) With a neat sketch, discuss the representation of sinusoidal waveform.    | 7 | 3 | 2 |