

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
- RAIGAD -402 103

Mid Semester Examination – Summer - 2018

Group: A

Sem.:- II

Subject with Subject Code:- Basic Electrical Engg. (EE 204)

Marks: 20

Date:- 15-03-2018

Time:- 1 Hr.

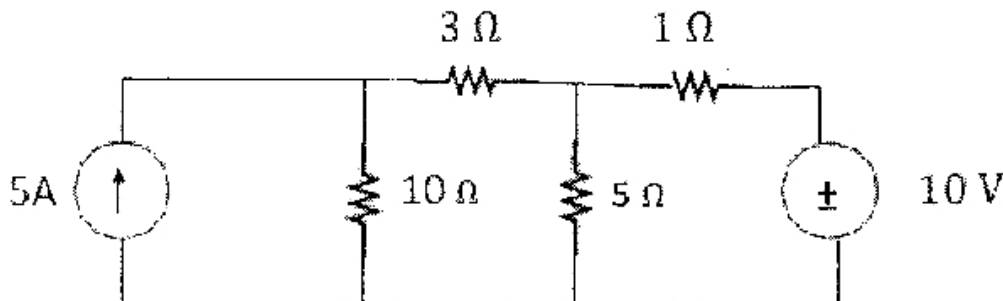
Q. 1 Select the correct alternative option for the following questions (1mark for each question)

- The substances which have a large number of free electrons and offer a low resistance are called
(a) insulators (b) inductors (c) semi-conductors (d) conductors
- No current flows between two charged bodies if they have same
a) capacity b) potential c) charge d) none
- Three identical resistors are first connected in parallel and then in series.
The resultant resistance of the first combination to the second will be
(a) 9 times (b) 1/9 times (c) 1/3 times (d) 3 times
- The resistor values in Delta network that is equivalent to a Star containing three 120Ω resistors is
a) 360Ω each b) 240Ω each c) 180Ω each d) 120Ω each
- The phase angle difference between current and voltage is 90° , the power will be
a) Minimum b) Maximum c) Zero d) VI
- The superposition theorem is applicable to
(a) linear, non-linear and time variant responses
(b) linear and non-linear resistors only
(c) linear responses only
(d) none of the above

Q 2. Solve any one from the following.

6 marks

1. For the network given below, find the current through 3 Ohm resistor using Nodal analysis.



2. Find the resultant of the following:

$$e_1 = 25 \sin \omega t,$$

$$e_2 = 10 \sin(\omega t + \pi/6),$$

$$e_3 = 30 \sin \omega t,$$

$$e_4 = 10 \sin(\omega t - \pi/4).$$

Draw all phasors.

Q3. Solve any TWO from the following.

2 X 4 Marks

1. Explain circuit for three resistances connected in parallel with necessary voltage and current relations.
2. State and Explain Maximum power transfer theorem.
3. Explain AC circuit with pure Resistance.