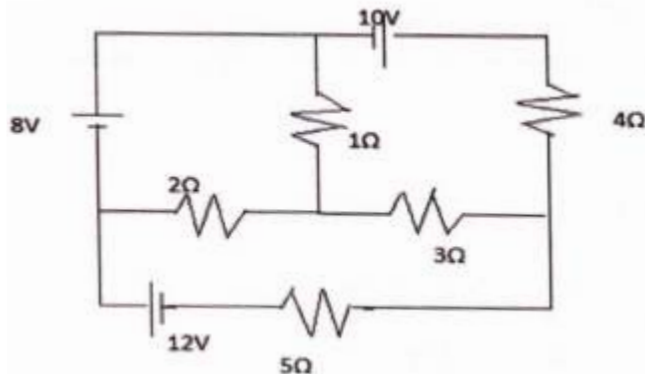


- Q.31 What are the methods of cooling of transformers?
- Q.32 What are the salient features of submersible motors?
- Q.33 Series circuit has  $R=20\Omega$ ,  $L=50\text{mH}$ , and  $C=100\text{mF}$  and is supplied with 220V, 50Hz. Find  
 i) Impedance                      ii) current  
 iii) power                          iv) power factor
- Q.34 How does D.C. motor differ from AC motor generator in construction?
- Q.35 What are the Thyristors?

#### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 A transformer with 40 turns on the high voltage winding is used to step down the voltage from 240V to 120V. Find the number of turns in the low voltage winding.
- Q.37 Describe the working of a PN junction diode with neat diagrams. What are its uses? Also explain its V-I characteristics.
- Q.38 Determine the current through  $5\Omega$  resistor in the network given below



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### 3rd Sem / Aircraft Maintenance Engg. Subject:- Elements of Electrical and Electronics Engineering - I

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 AC effective voltage is named  
 a) RMS Voltage                      b) Average Voltage  
 c) Peak to Peak Voltage        d) Peak Voltage
- Q.2 The AC fitting in a house is done in a  
 a) Serial system                      b) Parallel system  
 c) Circular System                  d) None of the above
- Q.3 What is the reserve capacity of battery?  
 a) Time for which the battery can supply 25 A at 80°F with minimum cell voltage 1.75 V  
 b) The current which the battery can supply continuously for 30 seconds with minimum cell voltage 1.2 V  
 c) Lasting power of a battery on a small load  
 d) Rate of current for 20 minutes with a minimum cell voltage of 1.5 V
- Q.4 Why is ac current transfer more effective than dc current transfer over long distances?  
 a) Due to step up and step down transformer to minimize IR losses  
 b) Inductance in the circuit  
 c) Alternating voltage  
 d) High voltage

(20)

(4)

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(1)

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- Q.5 What is a maintenance-free battery?
- A battery having lead-antimony plate grid
  - A battery having lead-calcium plate grid
  - A battery does not contain acid
  - A battery does not contain water
- Q.6 What is star delta is a type of
- 3 phase transformer
  - Single phase transformer
  - Distribution transformer
  - Meter
- Q.7 What is the effective value of current?
- RMS current
  - Average current
  - Instantaneous current
  - Total current
- Q.8 If a live wire touch ground which equipment comes into action?
- ELCB
  - MCB
  - GCB
  - None of the above
- Q.9 What is a Zener diode
- Heavily doped semiconductor device
  - Operate in the reverse direction
  - Breaks down at a certain voltage
  - All of the above
- Q.10 Relation between power, voltage and conductance
- $V = P^2 \cdot G$
  - $V = P^2 / G$
  - $P = v^2 / G$
  - $P = V^2 G$

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is the instrument used for measuring Voltage?
- Q.12 What is the benefit of inductance in appliances?

- Q.13 Why electrical energy is better than other forms of energy?
- Q.14 How Ammeter is connected in the circuit for measurement?
- Q.15 What does Fleming rule show?
- Q.16 What does isolation transformer do?
- Q.17 What do you mean by CVT?
- Q.18 Where are batteries used in an Aircraft?
- Q.19 What is the voltage between neutral and one of the three phases?
- Q.20 What is NPN?

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 What the various forms of energy? How electricity is better?
- Q.22 Where and why shunt resistance is used?
- Q.23 What is Power factor? How can it be improved used capacitors?
- Q.24 Write in brief about Wiring Systems.
- Q.25 What is the difference between voltage and emf ? How emf is created?
- Q.26 What are the basic differences between Three phase and single-phase supply?
- Q.27 Compare resistance and inductance for power control.
- Q.28 What are different types of semiconductors?
- Q.29 What is the process for changing direction of rotation of a 3 phase induction motor?
- Q.30 What are applications of Zener diodes?