Q.32 What are the salient features of submersible motors?

Q.33 A 240 V, 50 Hz AC supply is applied a coil of 0.08 H inductance and 4Ωresistance connected in series with a capacitor of 8 mF. Calculate

i) Impedance ii) current

iii) power consumed iv) power factor

Q.34 What are various types of batteries?

Q.35 What are the different instruments for measuring electrical parameters?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 A single-phase load is supplied through a 35-kV feeder whose impedance is 95+ j360 Ω and a 35-kV:2400-V transformer whose equivalent impedance is (0.23 + jl.27) Ωreferred to its low-voltage side. The load is 160 kW at 0.89 leading power factor and 2340 V.

Q.37 Describe the working of a thermistor and various protection devices.

Q.38 Three resistors are joined to form a triangle DEF such that DE =1Ω, EF=2Ωand FD=3Ω. A battery of EMF 2 V and internal resistance 1Ωis connected to points FD

a) Find the current flowing in DF and DE side

b) Find the Potential difference at the battery terminals

No. of Printed Pages : 4 187734/147734

Roll No. .....

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 voltage is_____

a) Sinusoidal variation b) Constant

c) a periodic variation d) Null

Q.2 With the increase in voltage the current in the circuit _____

a) Decrease

b) Increase

c) No effect on the current

d) Can't say

Q.3 What is the instrument used for electricity consumption?

a) Watt-hour meter b) Watt meter

c) Ammeter d) Voltmeter

Q.4 Why is ac power transfer more effective than dc power over long distances?

a) AC is high power

b) Safe to transfer

c) Minimum losses due to step up

d) None of the above

Q.5 What is a advantage of electricity as compared to other energies?

a) Cheap energy
b) Easy transfer from point to point
c) Easy production
d) No specific system is required

Q.6 The phase difference is between

a) Voltage and current in DC
b) Voltage and current in AC
c) Both of the above
d) Between AC power and DC power

Q.7 What is the effective value of AC current?

a) RMS current
b) Average current
c) Instantaneous current
d) Total current

Q.8 If a live wire touch ground which equipment comes into action?

a) ELCB b) MCB
c) GCB d) None of the above

Q.9 What is a MCB

a) Miniature circuit barker for high current
b) Miniature circuit barker for high Voltage
c) Miniature circuit barker for current leak
d) All of the above

Q.10 Relation between power, voltage and conductance

a) $V = P^2 . G$ b) $V = P^2/G$
c) $P = V^2/G$ d) $P = V^2 G$

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 the voltmeter is connected in the electrical circuit for measurement?
Q.15 What is a form factor?
Q.16 What does isolation in transformer do?
Q.17 What do you mean by star delta?
Q.18 Where are batteries used in an Aircraft?
Q.19 What is the voltage between two of the three phases of AC?
Q.20 What is a diode?

SECTION-C

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

Q.21 How the domestic power supply is wired?
Q.22 Where and why shunt resistance is used?
Q.23 Explain the use of earth wire?
Q.24 Write in brief the difference between one phase and 3 phase power.
Q.25 Explain the concept of voltage and emf?
Q.26 Compare star and delta transformers.
Q.27 Compare resistance and inductance for power control.
Q.28 What are the different types of semiconductors based electronic basic devices?
Q.29 What is the process for changing direction of rotation of a 3 phase induction motor?
Q.30 How does a Zener diode work?
Q.31 What are the servo and stepper motors and their use?