Q.29 What are edge current losses?

Q.30 How does dynamically induced emf work?

Q.31 Explain the phasor representation of alternating voltage and current.

Q.32 What are the advantages of three phase system over single phase system?

Q.33 Where and how do thermos-couples work?

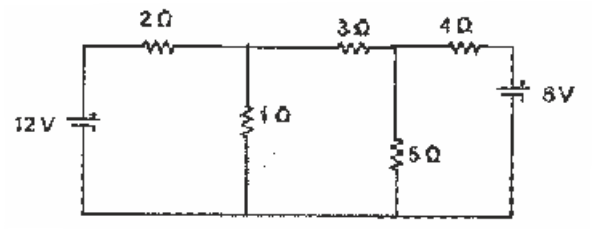
Q.34 How is energy stored in a capacitor?

Q.35 Explain the working of a photo cell.

SECTION-D

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

Q.36 Use nodal analysis to find current in the different branches of the circuit show below.



Q.37 Derive the solution of simple Parallel A-C Circuit by Phasor Diagram method.

Q.38 Derive the force on a current carrying conductor played in a magnetic field.

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Roll No. .....

4th Sem.

Branch : Aircraft Maintenance

Sub. Elements of Electrical & Electronics Engineering-II

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (10x1=10)

Q.1 If either the inductance or the rate of change of current is doubled, the induced e.m.f.?

a) Remains constant b) Become zero

c) Doubles d) Becomes half

Q.2 IN a single excited linear magnetic circuit, the co-energy density can be expressed in terms of the flux density and field intensity by which of the following expressions?

a) $\frac{1}{2}HB^2$ b) HB

c) $\frac{1}{2}HB^2$ d) $\frac{1}{2}HB$

Q.3 Do magnetic flux lines intersect?

a) Yes b) No

c) Depends on the situation d) Cannot be determined

Q.4 What is the current found by finding the current in an equidistant region and dividing by n?

a) RMS current b) Average current

c) Instantaneous current d) Total current

Q.5 Average value of current over a half cycl is?

a) 0.671 m b) 0.331 m

c) 6.71 m d) 3.31 m

Q.6 Capacitor preferred when there is high frequency in the circuits is _____.

a) Electrolyte capacitor b) Mica capacitor

c) Air capacitor d) Glass capacitor

Q.7 A power factor of a circuit can be improved by placing which, among the following in a circuit?

a) Inductor b) Capacitor

c) Resistor d) Switch

Q.8 The working voltage of the paper capacitors in around_____.

a) 200 to 600v b) 100 to 220 V

c) 250 V d) 10 to 100V

Q.9 More the number of magnetic flux lines _____ is the force of the magnet.

a) Greater b) Lesser

c) Either greater of lesser d) Neither greater nor lesser

Q.10 If the current changes from 5A to 3A in 2 seconds and the inductance is 10H, calculate the emf.

a) 5V b) 10V

c) 15V d) 20V

SECTION-B

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

Q.11 Calculate the capacitance of a capacitor that stores 40mC of charge and has a voltage of 2V.

Q.12 What is self-induced emf?

Q.13 When will a capacitor be fully charged?

Q.14 What is the role of inductance in electrical circuits?

Q.15 What do you mean by mutual inductance?

Q.16 How does R-C circuit work?

Q.17 What are the advantages of ultra-capacitors?

Q.18 What is Magnetic flux?

Q.19 Explain Superposition theorem.

Q.20 What is resistivity?

SECTION-C

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

Q.21 What are the applications of Kirchoff's Law.

Q.22 What is the relationship between electrical and thermal unit of work?

Q.23 Explain the analogy between electric and magnetic circuits.

Q.24 Explain magnetic hysteresis.

Q.25 How is energy stored in magnetic circuit? Explain with diagram.

Q.26 Describe the materials used for different electronic components.

Q.27 Explain Faraday's law of electromagnetic induction.

Q.28 Find the value of I through 24 resistance.