

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Describe the constructional features and parts of a transformer with the help of neat diagram.
- Q.4 Draw the elementary block diagram of nuclear power plant.
- Q.5 State and explain maximum power transfer theorem.
- Q.6 Explain the concept of current growth, decay and time constant in an inductive (RL) circuit.
- Q.7 Write short notes on any two
- (a) Form factor and peak factor
 - (b) Active and reactive power
 - (c) Capacitive reactance

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3rd Sem.

Subject : Electrical Engineering Fundamentals

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) MMF Stands for _____
 - b) Define current.
 - c) Define Conductance.
 - d) Define power factor.
 - e) Define frequency.
 - f) What is Auto transformer?
 - g) What is open circuit test?
 - h) The polarity of an ac waveform reverses every _____ cycle.
 - i) Eddy current losses in a transformer, may be reduced by _____
 - j) In a three phase transformer, the turns ratio K is given by _____

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- k) The size of the transformer core depends on _____.
- l) What is thermal power station?
- m) A tuned circuit is a resonant circuit. (True/False)
- n) Nuclear reactors generally employ _____
- o) Superposition theorem requires as many circuit to be solved as there are sources. (True/False)
- p) Thevenin's theorem results in an equivalent voltage source only. (True/False)
- q) To neglect a voltage source, the terminals across the source are _____
- r) Unit of admittance is _____

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) State Norton's theorem.
 - ii) Explain the concept of voltage sources.
 - iii) Explain the concept of magneto-motive force (MMF).

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- iv) Explain the concept of magnetic field produced by flow of current.
- v) Differentiate between AC and DC.
- vi) Explain the effect of alternating voltage applied to a pure capacitance.
- vii) Explain the concept of r.m.s value and average value.
- viii) What is series resonance?
- ix) Explain the concept of inductive reactance.
- x) Explain What is short circuit test?
- xi) What are the different types of three phase transformer?
- xii) Explain the working principle of transformer.
- xiii) Explain What is the purpose of nuclear power station.
- xiv) Explain the principle of power generation in hydro power station.
- xv) Write a short note on maintenance of transformer.

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