

- Q.26 What are the basic differences between Three phase and single-phase supply?
- Q.27 What are the applications of stepper motors in process control?
- Q.28 What are the different types of semi conductors?
- Q.29 What is the process for changing direction of rotation of a 3 phase induction motors?
- Q.30 How is cooling transformers done? What is its importance?
- Q.31 What are the advantages of electrical energy over other types of energy?
- Q.32 RLC circuit has $R=10\Omega$, $L=50\text{mH}$, and $C=100\mu\text{F}$ and is supplied with 200V, 50Hz. Find (i) Impedance (ii) Current (iii) Power (iv) Power factor
- Q.33 How does D.C. motor differ from D.C. generator in construction?
- Q.34 What are Zener diodes? What are their applications?
- Q.35 What are the Fleming's rules?

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. Also explain its V-I characteristics.
- Q.38 Define i) Charge ii) Electric Current
iii) Power iv) Network & v) Circuit

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Roll No.

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 What is the current found by finding the current in an equidistant region and dividing by n?
- RMS current
 - Average Current
 - Instantaneous current
 - Total current
- Q.2 While designing the distribution to locality of one lac population with medium dense load requirement, we can employ _____
- Radial System
 - Parallel System
 - Ring Main System
 - Any of the mentioned
- Q.3 What is the reserve capacity of battery?
- Time for which the battery can supply 25 A at 80 with minimum cell voltage 1.75 V
 - The current which the battery can supply continuously for 30 seconds with minimum cell voltage 1.2 V
 - Lasting power of a battery on a small load

- d) Rate of current for 20 minutes with a minimum cell voltage of 1.5V
- Q.4 The opposing capacity of materials against the current flow is
- a) Conductance b) Inductance
c) Susceptance d) Resistance
- Q.5 What is a maintenance -free battery?
- a) A battery having lead-antimony plate grid
b) A battery having lead-calcium plate grid
c) A battery does not contain acid
d) A battery does not contain water
- Q.6 While designing the distribution sub stations by the designer, it is required to use the _____ for the discrete power tapping.
- a) Distributor
b) Power Transformer
c) Distribution Transformer
d) Feeder
- Q.7 What is the effective value of current?
- a) RMS Current
b) Average Current
c) Instantaneous Current
d) Total Current
- Q.8 Which of the following can be used for braking purposes in electric trains?
- a) Induction generator
b) Induction motor
c) Dc Series Motor
d) Dc differentially compounded generator
- Q.9 The most widely used application of ac series motor is _____

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- a) Electric Traction upto 1600KW
b) Paper Mills
c) Welding
d) None of the mentioned
- Q.10 Relation between power, voltage and conductance
- a) $V=P^2G$ b) $V=P^2/G$
c) $P=v^2/G$ d) $P=V^2G$

SECTION-B

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

- Q.11 What is the instrument used for measuring Current?
- Q.12 What is the use of flame proof motors?
- Q.13 What is the motor use for driving pumps?
- Q.14 Where are servo motors used?
- Q.15 Where are single phase motors used?
- Q.16 Where are delta connections used?
- Q.17 What do you mean by CVT?
- Q.18 Where are batteries used in an aircraft?
- Q.19 Mention one application of MCB.
- Q.20 What is the motor used for driving compressors?

SECTION-C

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

- Q.21 What is balanced voltage? How is it used?
- Q.22 How is the connection of various measuring instruments in an electrical circuit done?
- Q.23 What is Power factor? How can it be improved used capacitors?
- Q.24 Write in brief about Wiring System.
- Q.25 What are various parts of a domestic electrical installation?

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