

BE Semester-VIII (Electrical Engineering) Question Bank

(Electrical Power Utilization & Traction)

All questions carry equal marks(10 marks)

Q.1	Explain "Railway track electrification."
Q.2	Explain eddy current heating and its applications.
Q.3	Explain with diagram direct core type and coreless type induction furnace.
Q.4	Explain design procedure of heating element with necessary expressions.
Q.5	Explain clearly speed time curves for urban and sub-urban services.
Q.6	What are the advantages of regenerative braking? Explain how regenerative braking can be obtained in DC locomotive?
Q.7	Describe various types of resistance welding processes, All in detail.
Q.8	What do you understand by Tractive effort? Derive the expression for the same.
Q.9	Explain laws of illumination.
Q.10	Define various lighting schemes with figure.
Q.11	Explain working Fluorescent Tube light.
Q.12	What is electrolysis? Explain the basic laws of it, in detail.
Q.13	Classify the Electric Heating. Explain each one with neat figure.
Q.14	Classify the Electric Welding. Explain each in detail.
Q.15	Explain electro-deposition & factors affecting it.
Q.16	Explain working of Filament lamp.
Q.17	List the factors responsible for Designing the lighting scheme.
Q.18	Explain the advantages of electric heating.
Q.19	Explain principle of Induction heating.
Q.20	Explain the direct core type & vertical core type induction furnaces.
Q.21	Write a note on indirect core type induction furnace.
Q.22	Explain core less type induction furnace with advantages and disadvantages.
Q.23	Explain Arc-furnace, its principle and working.
Q.24	Explain the power supply and control for furnace.
Q.25	Classify resistance welding. Explain any one.
Q.26	Dielectric heating: principles, advantages and disadvantages.
Q.27	Explain the applications of dielectric heating, resistance welding.
Q.28	Derive the equation of the tractive force for the electric traction system.
Q.29	Explain the energy output from driving axles.
Q.30	Explain the energy output using simplified speed-time curves.
Q.31	Explain the selection of Traction motors.
Q.32	Explain speed control of D.C series and shunt motors.

Q.33	Describe various methods of starting and speed control of A.C series and 3-phase induction motors.
Q.34	Classify Braking of traction motors and mechanical considerations.
Q.35	Various conservation approach to be considered for Braking System.