

### Unit-4

S.No	Questions	BT	CO	PO
Part -A (Short Answer Questions)				
1.	Define electric traction and mention its advantages.	L1	CO4	1
2.	What are the different systems of electric traction?	L1	CO4	1
3.	What is track electrification?	L1	CO4	2
4.	Differentiate between DC traction and AC traction systems.	L1	CO4	3
5.	What is the Kando system of traction?	L1	CO4	1
6.	Define tractive effort and state its significance.	L2	CO4	1
7.	What is a speed–time curve? Why is it important in traction studies?	L2	CO4	1
8.	Define specific energy consumption in electric traction.	L1	CO4	1
9.	What is coefficient of adhesion?	L1	CO4	1
10.	Define braking retardation and adhesive weight	L2	CO4	1

S.No	Questions	BT	CO	PO
Part -B (Long Answer Questions)				
1.	Explain the advantages and disadvantages of electric traction over non-electric traction systems.	L3	CO4	2
2.	Discuss the various systems of electric traction used in railway transportation.	L2	CO4	2
3.	Explain the requirements of an ideal traction system.	L2	CO4	2
4.	Explain the concept of track electrification and discuss its importance.	L2	CO4	
5.	Describe different methods of track electrification used in railway systems.	L2	CO4	2



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6.	Discuss the factors affecting the selection of a traction system.	L2	CO4	2
7.	Explain the DC traction system with a neat diagram.	L2	CO4	2
8.	Discuss the advantages, disadvantages, and applications of DC traction.	L3	CO4	2
9.	Compare DC traction with diesel traction.	L2	CO4	1
10.	Explain the single-phase low-frequency AC traction system	L2	CO4	3