

Subjective questions on MDT-01

1. What do you understand by supercharging, what is its various method and benefits describe in detail.
2. Explain construction and working of a turbo supercharger with neat diagram.
3. What is the overhauling procedure of a turbo supercharger? What are the common defects by which a TSC gets failed during service?
4. Compare advantages of air brake system over vacuum brake system in railways.
5. Which are the various valves fitted in IRAB1 brake system of Alco locomotives.
6. What is independent brake and what is automatic brake valve of loco, explain working of independent brake valve in Alco locomotive.
7. What are the common defects of Air brake system fitted on Alco locomotives?
8. Explain construction and working of fuel oil system of Alco locomotives.
9. What are the various defects of fuel oil system components for Alco locomotives, explain in detail.
10. What is orifice test for fuel system of loco? What is the reason for injector failure?
11. What is the testing procedure of an Injector after overhauling?
12. What are the various defects of fuel oil system components for Alco locomotives, explain in detail.
13. Explain construction and working of lube oil system of Alco locomotives.
14. What are the reasons of locomotive failures during working on line related to lube oil system for Alco locomotives?
15. Explain overhauling and testing procedure of a lube oil pump provided in Alco locomotives.
16. Explain construction and working of water cooling system of Alco locomotives.
17. What are the defects of water cooling system of Alco locomotives?
18. Explain overhauling procedure of water pump fitted on Alco locomotives.
19. Why a transmission system is required in locomotive, what are the features of ideal transmission system?
20. Describe working of AC-AC transmission system fitted on locomotives.
21. What are the various major equipments of transmission system fitted on Alco locomotives?
22. What is DPCS, what are its advantages? Briefly explain working of DPCS system.
23. Explain working of DPC in DEMU with block diagram.

24. What do you understand by distributed power control system, what are its advantages? In Indian railways in what type of rolling stock it is used.
25. Explain the various features of High horsepower EMU rake. How power is transferred from overhead cables to the traction motor.
26. Explain about the power distribution circuit of Mainline Electric Multiple Unit. How power is distributed for traction system and train lighting system and auxiliary equipments.
27. What are the various indications provided on MEMU rack in driver cable? Explain the various combination of EMU basic unit. What are the advantages of MEMU over conventional locomotive hauled train?
28. What do you understand by Distributed power control system? What is the various rolling stock operational in Indian Railways which work on concept of distributed power? What are the advantages of distributed power over conventional method of hauling a train?
29. What is vigilance control device? Why it is provided in rolling stock explain the reset procedure of vigilance control device provided in locomotive.
30. What are the features of Train-18 which are effective during the movement of Train-18 at higher speed?
31. What is insulation resistance how it is measured? What is its importance in electrical circuit of locomotive? what are the steps taken to improve the insulation resistance
32. What are the advantages of microprocessor based control system? What are the various sub-systems which are controlled by a microprocessor in a locomotive?
33. What are the electrical items which are to be checked before conducting load box test? What are the main electrical parameters which are being recorded during load box test?
34. What is a commutator? What precautions should be taken to avoid electrical flashover on commutator surface during operation of locomotive?
35. What is a low water switch how it works? Explain the working method of water level sensor and Indicator which is provided in place of low water switch.
36. What is ground relay, in which condition it operates? What precautions to be taken to avoid operation of ground relay.