

Subjective questions on MCT 03

- 1) Describe design features of MEMU coaches.
- 2) Describe design features of EMU coaches
- 3) Write short notes on-
 - (a) Double Decker
 - (b) Tejas
 - (c) Gatimaan
- 4) Write short notes on-
 - (a) Hamsafar express
 - (b) Dindyalu express
- 5) Write short notes on-
 - (a) Project Utkrith
 - (b) Project SWAM
- 6) Describe the design features of ICF coaches.
- 7) Describe the design features of LHB coaches.
- 8) Write note on suspension system of ICF coaches.
- 9) Write note on suspension system of LHB coaches.
- 10) Mention the various types of dampers used in LHB coaches, Also mention their capacity and maintenance procedure of these dampers.
- 11) Describe the maintenance procedure of Axle box dash-pot and side bearers in ICF coaches.
- 12) Describe the procedure of pairing of spring in an ICF coach.
- 13) Describe the maintenance and precautions to be taken for helical springs of ICF coaches.
- 14) Describe the maintenance procedure of Trolley and tests conducted in a C&W workshop.
- 15) Describe procedure of magnaflux test and dye penetration test conducted in a railway workshop.
- 16) Describe the maintenance of brake gear system of ICF coaches.
- 17) Write note on wheel and axle shop in a workshop.
- 18) Write note on wheel defects, new dimension and condemnation dimension.

- 19) Write note on wheel defects of LHB coaches.
- 20) Write note on wheel and axle plants in Indian Railways.
- 21) Write note on axle defects.
- 22) Draw a neat diagram of LHB axle and ICF axle and also label its dimensions.
- 23) Write the procedure of Single ICF coach air brake testing in a sick line.
- 24) Write the procedure of Single ICF coach air brake testing in a workshop.
- 25) Write the procedure of Single LHB coach air brake testing in a sick line.
- 26) Write the procedure of air brake testing of an ICF rake in washing line.
- 27) Write the procedure of air brake testing of a LHB rake in washing line.
- 28) Draw a neat diagram and explain the working of EP braking system.
- 29) Draw a neat diagram and explain the working of braking system of Train set-18 .
- 30) Describe the procedure of air brake continuity test at originating station.
- 31) Draw a neat diagram and explain the working of a twin pipe air brake system of an ICF coach.
- 32) Draw a neat diagram and explain the working of disk brake system of LHB coach.
- 33) Draw a neat diagram of DV and explain its working.
- 34) Differentiate between air brake system of LHB and ICF coach.
- 35) Mention different components of a WSP system and briefly explain its working.
- 36) Write notes on WSP system of LHB coaches.
- 37) Write note on maintenance procedure on Alarm chain pull system.
- 38) Write short notes on (a) Brake accelerator (b) Brake Indicator (c) Isolating cocks of LHB coach.
- 39) Write the factors responsible for self release of a rake.
- 40) Write the name of components of Hand brake system and procedure for its maintenance for a LHB rake

- 41) Write the name of components of Hand brake system and procedure for its maintenance for an ICF rake.
- 42) Mention the components and their working on the Air Brake Panel of a LHB coach.
- 43) Explain the troubleshooting procedure of WSP system.
- 44) Write short notes on (a) Sensitivity test (b) Insensitivity test (c) continuity test.
- 45) Write notes on Air suspension system of a ICF coach.
- 46) Write notes on Air suspension system of a LHB coach.
- 47) Write notes on Air suspension system of DEMU coach.
- 48) Write notes on FIBA device system of LHB coaches.
- 49) Draw a neat diagram of Air suspension system with FIBA device and explain its working procedure.
- 50) How many FIBA device system providers are there in Indian Railways? Explain the procedure to reset them en route.
- 51) Write note on coupling system used in ICF coaches.
- 52) Write notes on coupling system of LHB coaches.
- 53) Write notes on coupling system of DEMU coaches.
- 54) Mention different components and their working of H type of CBC coupler.
- 55) Describe different types of draft gears used for H type CBC coupler.
- 56) Describe the precautions to be taken to ensure proper coupling of a CBC.
- 57) Differentiate between ICF and LHB coach.
- 58) Describe the design features of a LHB coach.
- 59) Describe (a) anti-telescopic feature (b) anti climbing feature of a LHB coach.
- 60) Mention the components and working of Earthing equipment used in LHB coaches.
- 61) What is "wheel shelling"? What steps should be taken to reduce wheel shelling cases.

- 62) Describe various amenity fittings in a coach.
- 63) Describe what is meant by crashworthy feature of a coach.
- 64) What are the various fire safety devices used in LHB coaches.
- 65) Differentiate between LS1 to LS5 trolleys of a LHB coach.
- 66) Describe the procedure of primary maintenance of a LHB rake.
- 67) Describe the procedure of secondary maintenance of a LHB rake.
- 68) Mention the type of bolts and their tightening torque for various components of LHB coach.
- 69) What are main causes of sick marking of a LHB coach? What steps should be taken to minimize its effect.
- 70) Describe the suspension system of DEMU coaches.
- 71) Describe the coupling system of EMU coaches.
- 72) Describe the washing line maintenance of DEMU coaches.
- 73) Describe the features of a DEMU coaches.
- 74) Describe braking system of DEMU coaches.
- 75) Describe the train lighting system of ICF coaches.
- 76) Describe the underframe mounted AC system of ICF coaches.
- 77) Describe the train lighting system of LHB coaches.
- 78) Describe the roof mounted AC system of LHB coaches.
- 79) Describe the roof mounted AC system of ICF coaches.
- 80) Describe the procedure of buffer height adjustment of
 - (a) ICF coaches.
 - (b) LHB coaches.
- 81) Describe the procedure for maintenance of Buffers in ICF coaches.
- 82) Describe the coach shell construction features of ICF coaches.
- 83) Describe the coach shell construction features of LHB coaches.
- 84) Write notes on the type of materials used for construction of

- (a) ICF coach shell.
 - (b) LHB coach shell.
- 85) Compare the air brake system of ICF and LHB coaches.
- 86) Compare in terms of maintenance ICF and LHB coaches.
- 87) Describe the construction details of SHAKU coupler.
- 88) Describe the maintenance procedure of spherical roller bearing of ICF coaches in workshops.
- 89) Describe the maintenance practices and precautions to be taken for spherical roller bearing of ICF coaches.
- 90) Describe the maintenance procedure of CTRB of LHB coaches in workshops.
- 91) Compare between spherical roller bearing and cartridge roller bearing.
- 92) Write note on use of rubber components in LHB coaches.
- 93) Write note on safety features of LHB coaches.
- 94) Describe the design features of Bio-toilet system.
- 95) Describe the working of Vacuum Bio-toilet system.
- 96) Write notes on WRA and plumbing system of IFC and LHB coaches.
- 97) Write notes on maintenance of-
- (a) Battery box
 - (b) RMPU of IFC and LHB coaches.
- 98) Draw the layout of TL and AC equipment in AC/Non AC and Power cars.
- 99) Write short notes on
- (a) SG
 - (b) EOG
 - (c) HOG
- 100) Power generation system.
- 101) Write short notes on
- (a) Inverter
 - (b) RRU
 - (c) IV coupler of a Railway coach.

102) Write notes on CMM and explain its advantages.

103) Write notes on maintenance pattern as per latest RPC IV circular published in June- 2017.

104) Write notes on modifications done in LHB coaches after its induction in Indian Railways.