

AIR BRAKE SYSTEM

1. Which pressure is adjusted by limiting valve
 - a. F-1 pressure
 - b. BP pressure
 - c. FP pressure
 - d. Synchronization pressure
2. When emergency brake application is done through A-9 in flasher light modified loco the condition of loco will be
 - a. Loco comes to idle and nothing else happens
 - b. Loco comes to idle, flasher light is on
 - c. Loco comes to idle, flasher light is on & buzzer blows
 - d. Loco does not come to idle, flasher light is on & buzzer blows
3. Unit of Air Flow Indicator (AFI) is
 - a. Kg/cm²
 - b. Pound / inch
 - c. Wagon reading
 - d. Km/h
4. Function of Air vacuum proportionate valve is in Diesel locos for
 - a. Acceleration
 - b. Loco comes to idle
 - c. For starting of loco
 - d. For synchronization of brake
5. How many position setting of C3 W distributor valve has
 - a. Two position setting
 - b. One position setting
 - c. Three position setting
 - d. No different setting
6. On operating D-1 emergency which pressure drops
 - a. MR
 - b. BP
 - c. HS-4
 - d. No air supply
7. How many braking position of A-9 valve have..
 - a. 05 breaking position
 - b. 04 breaking position
 - c. 03 breaking position
 - d. 01 breaking position
8. How many braking position of SA-9 valve have.
 - a. 03 position
 - b. 02 position
 - c. 05 position
 - d. 01 position
9. Air supply for horn is from..
 - a. MR-1 tank
 - b. MR-2 tank
 - c. 'J' filter
 - d. HS-4
10. Permissible leakage of vacuum in train pipe is
 - a. 0 cm
 - b. Up to 10 cm
 - c. Up to 20 cm
 - d. Up to 30 cm

11. Overcharging (In air brake system) feature is applied by which air brake valve
 - a. C3 W distributor valve
 - b. VA-1B control valve
 - c. C2-W relay valve
 - d. VA-1 release valve
12. Above C2- relay diaphragm air pressure comes from
 - a. A-9 valve
 - b. SA-9 valve
 - c. MR pressure
 - d. Synchronization on pressure
13. Duplex check valve operates when MR pressure reaches at pressure (kg/cm²)
 - a. 5 kg/cm²
 - b. 6kg/cm²
 - c. Always open
 - d. 10 kg/cm²
14. Max. Permissible time for loco brake release in seconds is. The loco fitted with chock in C2 relay valve.
 - a. 50 sec
 - b. 40 sec
 - c. 24 sec
 - d. 30 sec
15. R-6 relay valve is fitted in loco for
 - a. Quick MR charging
 - b. Quick working of AFMV valve
 - c. Quick vacuum building
 - d. By passing AFMV
16. In automatic switching on flasher light modification of locos the TDR (time delay relay) is set at...
 - a. 40 sec
 - b. 15 sec
 - c. 60 sec
 - d. 120 sec
17. The standard Colour of humidity indicator in air dryer is
 - a. Orange
 - b. Purple
 - c. Blue
 - d. White
18. Air dryer starts functioning, when MR pressure reaches to (PSI)
 - a. 100 PSI
 - b. 200 PSI
 - c. 150 PSI
 - d. Immediately as loco start
19. Thread diameter of BP & FP angle cocks (in inch) is...
 - a. 1"
 - b. 3"
 - c. 2"
 - d. 1¼ "
20. MR safety valve is set at pressure (in kg/cm²)
 - a. 10.0 kg/cm²
 - b. 6.0 kg/cm²
 - c. Above 10.5 kg/cm²
 - d. Below 6.0 kg/cm²

21. When 7.5-mm dia hole palm end is fitted in BP pipe, the change in BP pressure is
 - a. Should remain same in one minute
 - b. Should fall below 4.0 kg/cm² in one minute
 - c. Should not fall below 4.0 kg/cm² in one minute
 - d. Should come down to 3 cm in one minute
22. In dual brake loco, if combined strainer cock is kept in close position, action will be noticed
 - a. Vacuum will not be shown in gauge
 - b. MR pressure will drop
 - c. Synchronization in loco will be cut off
 - d. BP will drop
23. Auto drain valve blows during
 - a. Loading of compressor
 - b. Unloading of compressor
 - c. When 'MR safety valve blow
 - d. MR pressure is above 10.5 kg/cm²
24. Feed valve is charged from
 - a. MR-1 tank
 - b. MR-2 tank
 - c. 'J' filter
 - d. BP pipe
25. When vacuum is dropping by applying A-9 valve, air enters in train pipe by which valve/filter
 - a. From SA-9 valve
 - b. From SA-9 valve
 - c. From GD-80D filter
 - d. From GD -80 E filter
26. In case of pure air brake loco with load at the time of train parting, which safety valve is operates and brings the loco to idle
 - a. H-5 relay valve
 - b. HB-5 relay valve
 - c. Airflow measuring valve
 - d. F1 selector valve
27. When driver is working from right control stand and A-9 is applied from left control stand in emergency position, what will happen?
 - a. Loco will come to idle
 - b. Loco will not come to idle
 - c. Loco will shutdown
 - d. Only BP will drop and nothing else will happen
28. In minimum reduction position of A-9 brake valve BP should drop upto (PSI)...
 - a. 0 to 3 PSI
 - b. 4 to 7 PSI
 - c. 8 to 11 PSI
 - d. 12 to 15 PSI
29. Additional C-2 relay valve is used in air brake system for
 - a. MR pipe charging
 - b. BP pipe charging
 - c. Vacuum train pipe charging
 - d. Feed pipe charging
30. How many numbers of positions MU2B valve have

- a. One position
 - b. Two positions
 - c. Three positions
 - d. Four positions
31. Calibration of Air Flow measuring valve is adjusted at which at reading
- a. 80 wagon reading
 - b. 90 wagon reading
 - c. 100 wagon reading
 - d. 110 wagon reading
32. MR pressure outlet pipe of air flow measuring valve goes to..
- a. C-2 relay valve
 - b. Add. C-2 relay valve
 - c. A-9 brake valve
 - d. SA-9 brake valve
33. In case BP pressure is fluctuating the possible defect is in which valve
- a. C-2 relay valve defective
 - b. Add C2 relay valve is defective
 - c. SA-9 is defective
 - d. C3W distributor valve is defective
34. Exhaust choke size of C-2 relay valve is (in mm)....
- a. 5.0 mm
 - b. 6.0 mm
 - c. 7.0 mm
 - d. 8.0 mm
35. Exhaust choke size of additional C-2 relay valve is (in mm).....
- a. 5.0 mm
 - b. 5.5 mm
 - c. 6.0 mm
 - d. 6.5 mm
36. In full service position of A-9 auto brake valve pressure reduction is between (PSI).....
- a. 18 to 21 psi
 - b. 23 to 26 psi
 - c. 30 to 33 psi
 - d. 35 to 38 psi
37. In over reduction position of A-9 auto brake valve pressure reduction is.....
- a. 27 to 30 psi
 - b. 34 to 46 psi
 - c. 50 to 62 psi
 - d. 65 to 77 psi
38. When drying capacity of air dryer is reduced the colour of humidity indicator changes to
- a. Pink
 - b. White
 - c. Green
 - d. Black
39. Air supply to power contractor is from
- a. MR-1
 - b. MR-2
 - c. BP pressure
 - d. HS-4 valve
40. Wiper gets the air supply from.....
- a. MR-1
 - b. MR-2

- c. BP pressure
 - d. HS-4 valve
41. In lead position of MU2B valve which ports dose not connect with each other
- a. 3 & 13
 - b. 2 & 20
 - c. 53 & 63
 - d. 13 & 30
42. On applying brake through A-9 valve, which port of F-1 selector valve connect with each other in synchronization braking
- a. 4 & 16
 - b. 12 & 14
 - c. 30 & 15
 - d. 15& 20
43. In which position of A-9 brake valve its vent valve operates
- a. Minimum reduction position
 - b. Full service position
 - c. Over reduction position
 - d. Emergency position
44. The governor of air compressor gets supply from.....
- a. MR-1 pressure
 - b. MR-2 pressure
 - c. BP pressure
 - d. B.C. pressure
45. To operate sander valve the air supply is received from
- a. MR-1 pressure
 - b. MR-2 pressure
 - c. BP pressure
 - d. Brake cylinder pressure

ENGINE (POWER PACK)

1. During which stroke inlets valves opens
 - A. Suction
 - B. Compression
 - C. Power
 - D. Exhaust
2. During which stroke both valves closed
 - A. Suction
 - B. Compression
 - C. Power
 - D. Exhaust
3. In WDM-2c locomotive, how many crank pins are on crankshaft?
 - A. 6 Nos.
 - B. 7 Nos.
 - C. 8 Nos.
 - D. 9 Nos.
4. The size of Engine Crank Pin is (in inch)
 - A. 5"
 - B. 8.5"
 - C. 6.0"
 - D. 7.5"
5. Clearance between crankshaft journal & bearing is (in inch).....
 - A. .001" to .005"
 - B. .005" to .010"
 - C. .002" to .006"
 - D. .004" to .008"
6. How many cam segments are fitted in WDM-2c loco
 - A. 6 Nos
 - B. 7 Nos
 - C. 8 Nos
 - D. 10 Nos
7. Size of Main Bearing journals is (in inch).....
 - A 6"
 - B 8.5"
 - C 10.0"
 - D 9.0"
8. How many cam shaft bushes are fitted in one 16 cylinder block
 - B. 14
 - C. 16
 - D. 18
 - E. 20
9. What is minimum dia clearance between cam shaft & cam bush
 - A. .002"
 - B. .004"
 - C. .005"
 - D. .010"
10. How many teeth are in split gear
 - A. 28
 - B. 30
 - C. 34
 - D. 36

11. During setting of cam gear timing which piston is kept at TDC
- R-1
 - L-1
 - R-8
 - L-8
12. In WDM-2c loco, how many counter weights are on one crankshaft?
- 2 Nos
 - 3 Nos
 - 8 Nos
 - 4 Nos
9. Main crankshaft vibration damper is fitted near which main bearings (in WDM-2) locos
- No-5
 - No-7
 - No-9
 - No-1
20. Crankshaft vibration damper is fitted with crankshaft with the help of
- Key
 - Dowel
 - Nuts & Bolts
 - None of these
21. How many cam lobes are in one cam segment
- 3
 - 4
 - 6
 - 9
22. What is the condemning size of liner?
- 228.68 mm
 - 220.70 mm`
 - 230.72 mm
 - 231.74 mm
23. In Alco loco, single exhaust manifolds have following no. of pieces
- 6
 - 7
 - 8
 - 5
25. What should be minimum run out of extension shaft?
- .005"
 - .003"
 - .001"
 - .0000"
26. Water pump is driven from.....
- Split gear
 - Cam gear
 - Extension shaft gear
 - Main generator gear
27. Lube oil pump is driven from.....
- Split gear
 - Cam gear
 - Extension shaft
 - Main generator gear

29. What is the BHP of WDM-2 loco?
A. 2300
B. 2400
C. 2600
D. 3100
31. What is the IHP of WDM-2C loco?
A. 2750
B. 3100
C. 2600
D. 2800
32. What is the BHP of WDP-2 loco?
A. 2750
B. 3100
C. 2600
D. 3300
33. In WDM-2C loco thrust bearing is fitted at location
A. No.1 Upper
B. No.4 Upper
C. No.5 Lower
D. No.9 Upper
34. Honey combing is related with
- A. Cylinder Head
B. Piston
C. Liner
D. Connecting rod
35. What is the maximum allowed deflection of main generator
A. $\pm .0005$ "
B. $\pm .001$ "
C. $\pm .015$ "
D. $\pm .0008$ "
36. In ALCO TSC, Rotor side, what is the material of oil seal
A. Aluminum
B. Rubber Seal
C. Brass Seal
D. Carbon Seal
37. Universal shaft is used to drive radiator fan because
A. It is rigid
B. It is strong
C. It is self align
D. It is weak
38. GE Governor is operated.....
- A. Mechanically
B. Hydraulically
C. Pneumatically
D. None of these
40. Hammering sound is coming from engine is due to.....
- A. Exhaust valve bend
B. Fuel cam worn out
C. X-head roller worn out
D. Any of the above
41. Smoke is coming from 'SMOKE' hole of cylinder Head indicates.....
- A. Injector seal is not proper
B. Over torquing
C. Injector crack
D. Injector not fitted

42. Engine air inlet elbow bolt torquing is done at
- A. 150 ft. lbs
 - B. 40 ft. lbs
 - C. 30 ft. lbs
 - D. 75 ft. lbs
43. Expresser foundation bolts is torqued at value (ft. lbs.)
- A. 300 ft. lbs
 - B. 450 ft. lbs
 - C. 800 ft. lbs
 - D. 750 ft. lbs
44. TSP treatment is done for.....
- A. To remove scaling
 - B. To decrease the cooling efficiency
 - C. To avoid any chemical reaction
 - D. To improve chloride value
45. When hot engine alarm is operated, the condition of loco comes to
- A. Idle
 - B. Run on same speed
 - C. Shut down
 - D. None of above
46. What is the unit of S.F.C. (Specific Fuel consumption)
- A. gm/hp/hr.
 - B. Liters/Kwhr/minutes
 - C. Kg/Newton/hr
 - D. None
47. In yearly loco, pre priming break in filters are used.....
- A. To arrest the foreign material
 - B. To increase the pressure
 - C. To maintain the pressure
 - D. To avoid water contamination
48. The temperature difference between the two consecutive main bearings should not exceed by
- A. 5°C
 - B. 2°C
 - C. 10°C
 - D. 20°C
49. CCE motor giving thick black smoke is due to
- A. Increase liner wear
 - B. Valve guide clearance more
 - C. TSC rotor defective
 - D. Fuel motor defective
50. Fuel test cock pressure is used for checking
- A. Lube oil pressure dropping
 - B. Booster pressure dropping
 - C. Fuel pressure dropping
 - D. Air pressure dropping
53. Which item is increases the copper content in lube oil
- A. Piston wear
 - B. Liner wear
 - C. X-head floating bush wear
 - D. Silicon
57. Engine crank case vacuum is not building up due to
- A. Linear chrome plating worn out
 - B. Fuel motor not working
 - C. Dust blower not working

D. Engine RPM less

58. Which of the following is the reason of hot engine
- A. ETS setting defective
 - B. Radiator fan not working
 - C. Radiator fins chocked
 - D. Any of above
59. Engine giving blueish smoke indicates.....
- A. Water mix in fuel oil
 - B. Injector hole chocked partially
 - C. Cylinder head valve guide clearance more
 - D. FIP delivery less
60. White smoke given by engine is due to
- A. FIP not responding
 - B. Tappet phasing disturbs
 - C. Cylinder head crack internally
 - D. X-head having abnormal sound
61. For the same HP and bore size, which engine will be heavier
- A. Petrol engine
 - B. Diesel engine
 - C. Jet engine
 - D. None of the above
62. What is compression ratio of WDM2
- A. 12.0:1
 - B. 11.5: 1
 - C. 12.5:1
 - D. 13.0: 1
63. Minimum RPM of engine with low idle feature is
- A. 390
 - B. 410
 - C. 350
 - D. 370
64. Which of the following is not the safety item of locomotive
- A. OST
 - B. LWS
 - C. Governor
 - D. ACP
65. BAP is not building up due to
- A. TSC rotor jam
 - B. Gov. defective
 - C. Air Intel gasket burst
 - D. Any one of above
66. Which of the following is not the reason of low BAP
- A. Unmodified FIP
 - B. Unmodified after cooler
 - C. Radiators fins chocked
 - D. None of these
67. Which of the following is not item of fuel efficient loco
- A. Steel cap piston
 - B. Modified FIP
 - C. ALCO TSC
 - D. Large After Cooler

68. Which of the following statement is not true
- A. Comp. Ratio in diesel engine is more then Petrol engine.
 - B. For high HP diesel engine are used.
 - C. Ignition in diesel engines takes place by comp. of air.
 - D. For the same HP diesel Engine are lighter as compare to Petrol engine.
69. What are the possible causes of injector not responding
- A. Injector nozzle hole chocked
 - B. Phasing on up position
 - C. Fuel cam lob damage
 - D. Any of the above
70. What is the delivery of unmodified FIP on test bench at full rack position
- A. 400 CC
 - B. 350 CC
 - C. 425CC
 - D. 500 CC
71. What is the delivery of modified FIP on test bench at full rack position
- A. 400 CC
 - B. 350 CC
 - C. 425CC
 - D. 450 CC
72. Which of the following is prime mover in DC-DC loco.
- A. Engine
 - B. Traction Generator
 - C. Traction Motor
 - D. None of the above
73. High viscosity indicates
- A. Mixing of water in lube oil
 - B. Mixing of fuel in lube oil
 - C. Mixing of carbon contents
 - D. None of these
74. What is the cause of increase silicon in lube oil
- (A) Linear wear
 - (B) X-head wear
 - (C) Dust
 - (D) Water leakage
75. Cyl. Head hydraulic testing is done at
- A. 5.0 kg/cm²
 - B. 10.0 kg/cm²
 - C. Kg/cm²
 - D. 2.5
76. Extension shaft clearance limit is
- A. .006"
 - B. .020"
 - C. .015"
 - D. .060"
77. In scavenging period burnt gases are pushed out by
- A. Fresh air
 - B. By burnt gases
 - C. By TSC
 - D. Nothing of these
78. During over lapping period inlet and exhaust valve remain in
- A. Closed position
 - B. Open position
 - C. Open & close position

- D. Nothing of these
79. Engine hunting is due to
- Rake movement not free
 - Excess fuel pressure
 - Low fuel pressure
 - Nothing of these
81. Engine given thick black smoke due to
- Low BAP
 - Less fuel oil level
 - Defective CCE motor
 - Defective manifold
82. Crank pin condemning limit is
- 152.40 mm
 - 152.60 mm
 - 152.30 mm
 - 152.34 mm
84. Crank shaft is supported at journal nos.
- 2 & 7
 - 9 & 1
 - 4 & 8
 - 3 & 6
85. Crankshaft is lifted from crank pin nos. (In WDM₂)
- 8 & 4
 - 2 & 7
 - 9 & 1
 - 3 & 7
86. Backlash of cum gear is
- .006" to .012"
 - .030" to .040"
 - .034" to .045"
 - .020" to .039"
87. The torquing value of foundation bolt of engine block is
- 1400 ft. labs.
 - 1000 ft. labs.
 - 850 ft.lbs
 - 950 ft. lbs.
88. Cam shaft thrust is
- .006" to .012"
 - .030" to .040"
 - .050" to .060"
 - .025" to .045"
89. Crank shaft thrust is
- .010" to .017"
 - .040" to .050"
 - .035" to .040"
 - .060" to .070"
90. In fuel injection pump (FIP) meaning of "No Fuel Position " is
- Helix of plunger is to be in front of spill port
 - Helix of plunger is to be separated from split port
 - Either or above
 - None of these
91. Torquing of injector is done at
- 50 ft. lbs.
 - 80 ft. lbs.
 - 30 ft.lbs

- D. 60 ft. lbs.
- 92. At what degree the spray hole in injector nozzle is made
 - A. 60°
 - B. 40°
 - C. 50°
 - D. 30°
- 93. Operation of which safety device brings engine to idle
 - A. OST
 - B. LWS
 - C. ACP
 - D. Low lube oil indication
- 93. Which item increases the sodium (Na) contains in lube oil
 - A. Mixing of fuel oil in lube oil
 - B. Mixing of Water in lube oil
 - C. Mixing of Lube oil in fuel oil
 - D. None of these

UNDER TRUCK

1. Which type of bogie is used in WDM₂ loco
 - A. Bi-mount
 - B. Tri mount
 - C. Uni mount
 - D. None of above
2. Centre pivot of bogie of WDM2 is located between
 - A. Leading axles and middle axles
 - B. Trailing axles and middle axles
 - C. On the middle axle
 - D. On the trailing axle
3. How much percentage of load does center pivot of WDM2 bogie carries
 - A. 40%
 - B. 50%
 - C. 60%
 - D. 70%
4. Which type of suspension in WDM2 loco bogie has
 - A. Single stage
 - B. Double stage
 - C. Multi stage
 - D. None of the above
6. The device used to transmit loco speed from wheels to the speedometer is called
 - A. Techogenerator
 - B. Auxiliary generator
 - C. Axle generator
 - D. Main Generator
7. Traction motor load of is transferred on bogie frame through
 - A. Main journal
 - B. Suspension nose
 - C. Axle box
 - D. Helical coil spring

8. Height of side buffer should be maintained between
- A. 1105 mm to 1030 mm
 - B. 1150 mm to 1000 mm
 - C. 1150 mm to 900 mm
 - D. 1105 mm to 800 mm
9. Buffer height can be adjusted by
- A. Adding shims to load pads & side bearers
 - B. Adding shims to spring seat
 - C. Both 'A' & 'B'
 - D. None of the above
12. Minimum distance between brake block & wheel in release position should be
- A. 5 mm
 - B. 10 mm
 - C. 15 mm
 - D. 20 mm
13. Brake piston travel adjustment in WDM₂ is recommended between
- A. 20mm to 30mm
 - B. 10mm to 15 mm
 - C. 67 to 100 mm
 - D. 50mm to 200 mm
14. Gear case bolts of WDM₂ bogies is torque at
- A. 600-700 ft. lbs.
 - B. 1000-1200 ft. lbs.
 - C. 1400-1600 ft.lbs
 - D. 350-500 ft. lbs.
15. The wheel dia variation of WDM₂ loco on same bogie, after turning is permitted upto
- A. 2 mm
 - B. 4 mm
 - C. 6 mm
 - D. 8 mm
16. The wheel dia variation of WDM₂ on same axle is permitted upto
- A. 2 mm
 - B. 3 mm
 - C. 4 mm
 - D. 0.5 mm

17. The wheel dia variation of WDM₂ on some loco is permitted upto
- A. 10 mm
 - B. 15 mm
 - C. 20 mm
 - D. 25 mm
18. Service limit of wheel dia. of diesel locomotive (In goods service) is
- A. 1010 mm
 - B. 1040 mm
 - C. 1030 mm
 - D. 1020 mm
19. Torquing of axle cap bolt is done at
- A. 40 m-kg
 - B. 50 m-kg
 - C. 60 m-kg
 - D. 75 m-kg
20. Gauge width of broad gauge loco should be
- A. 1596+- 0.5 mm
 - B. 1596+- 0.7 mm
 - C. 1596+- 0.8 mm
 - D. 1596+- 0.9 mm
22. In Co- Co bogie, traction motor cap bolts is torque at
- A. 700-800 ft. lbs.
 - B. 750-800 ft. lbs.
 - C. 759-810 ft. lbs.
 - D. 775-825 ft. lbs.
24. Cracks in the axle are detected by
- A. Magna flux test
 - B. Ultrasonic test
 - C. Zyglo test
 - D. Chemical test
25. Nos. of pinion teeth in GE- 752 TM is
- A. 15
 - B. 16
 - C. 17
 - D. 18
26. Nos. of teeth of bull gear of WDM₂ bogie is
- A. 62

- B. 65
- C. 68
- D. 70

27. Free height of outer coil spring of WDM₂ loco is

- A. 450+-8 mm
- B. 451+- 8 mm
- C. 452 +- 8 mm
- D. 455+- 8 mm

49. Bogie of WDP₂ loco is designated as

- A. Flexi-coil Mk-2
- B. Flexi-coil Mk-5
- C. Flexi-coil Mk-7
- D. Flexi-coil Mk-10

59. Expanded form of TBU is

- A. Truck brake unit
- B. Tread brake unit
- C. Terminal brake unit
- D. Thread brake unit

74. If flat spot on wheel exceeds 50 mm, then

- A. Wheel set to be sent for re dishing
- B. Wheel set should be connected
- C. Dressing is done before turning
- D. None of the above