



दक्षिण मध्य रेलवे
SOUTH CENTRAL RAILWAY

TEST AND UPDATE



YOUR KNOWLEDGE

संरक्षा संगठन
SAFETY ORGANISATION



FOREWORD

I am glad that Headquarters Safety Organisation of this Railway has authored a book on "Test and update your knowledge" bringing out the questionnaire with key on the various subjects of day-to-day working concerned to Traffic, Civil Engineering, Mechanical, S&T & Electrical Departments. This work is something unique since the important field staff such as SMs, LPs, Guards, Controllers, Supervisors and Inspecting Officials of Traffic / Civil Engineering / Mechanical / S&T / Electrical Branches will be updating and upgrading their knowledge in various fields.

It becomes imperative for the field staff including Inspectorial Officials of various Departments be conversant with the procedures to be followed correctly during normal & abnormal conditions and become competent to deal the traffic quickly and safely.

This questionnaire covers the important subjects of G&SR, P. Way Manual, SOD, SEM, Diesel and Electric Traction Manual, Wagon & Coaching Manual, IRCA, various JPOs issued from time to time, WTT instructions, etc., The field staff will certainly be benefited by going through the question bank and assessing their knowledge in their day-to-day working. I am sure this book will be read with interest by every staff related with direct trains working and will contribute for enhancing the safety performance of the Railway.

I convey my good wishes to the team of Headquarters Safety Organisation for bringing out this booklet.

K. Chaturvedi

(Kuldeep Chaturvedi)

GENERAL MANAGER

SOUTH CENTRAL RAILWAY

Date: 23.9.11



PREFACE

My dear Railwaymen

It gives me great sense of pleasure to bring out this booklet on “Test and Update Your Knowledge” by Headquarters Safety Organisation containing question bank pertaining to day-to-day working and inspection by Inspecting Officials of Operating, Civil Engineering, Mechanical Engineering, Electrical Engineering and Signal & Telecom Departments.

Running trains safely and punctually are the prime objectives of this Railway and I hope this booklet gives updated knowledge in the day-to-day working of field staff which will contribute to achieve our goals. Keeping these objectives in the backdrop, every care is taken in compiling the questions and answers in this booklet for the benefit of Railwaymen. Efforts have been made to include questions which are very relevant for the safe working such as; G&SR for Station and Running Staff, Track and Bridges for Civil Engineering staff, C&W maintenance for Mechanical Staff, TRD for OHE traction and S&T aspects for S&T Supervisors and staff.

I hope that field staff will be more confident after testing their knowledge in the functional areas. Knowledge will boost their confidence and also result in adoption of right procedures and adoption of right procedures will improve safety in train operations.

Best wishes for safe train operations.

A handwritten signature in black ink, appearing to be 'Adesh' followed by a stylized surname.

ADESH SHARMA
CHIEF SAFETY OFFICER

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SECTION 'A'

OPERATING STAFF INCLUDING TRAIN CREW

QUESTION BANK ON GENERAL AND
SUBSIDIARY RULES

1. -----is empowered to issue approved special instructions.

() **a) COM**
 b) CSO
 c) CRS
 d) CCRS

2. For measuring wind velocity----- is required and above ----- KMPH winds are considered dangerous.

() **a) Anemometer, 65 KMPH**
 b) Flood Warning Device, 55 KMPH
 c) Thermometer, 65 KMPH
 d) Lactometer, 55 KMPH

3. Block overlap is ----- m in MAS territory and it is measured from -----.

() **a) 120m, FSS of the station**
 b) 180m, Starter signal
 c) Not less than 180m, FSS of the station
 d) Not less than 120m, FSS of the station

4. Signal overlap is ----- m in MAS territory and it is measured from ----- on single line and from ----- on double line sections.
- () **a)** Not less than 180m, from trailing points on single line and from Starter on double line
 b) Not less than 120m, from Starter signal on single line and from trailing points on double line
 c) Not less than 80m, from trailing points on single line and from Starter on double line
 d) Not less than 120m, from trailing points on single line and from Starter signal on double line
5. The minimum distance from Home signal to facing points in MAS territory on a SL section is -----m .
- () **a)** 300m
 b) 280m
 c) 240m
 d) 350m
6. ----- is the best positive method of isolation.
- () **a)** Trap point
 b) Derailing switch
 c) Sand hump
 d) Scotch block

7. Station section is provided only at ----- station .
- () **a)**Class 'A'
 b) Class 'B'
 C) Class 'C'
 d) All
8. Block forward and Block back is permitted only in ----- system.
- () **a)** Absolute Block
 b) Automatic Block
 c) Both
 d) None of the two
9. A train which has started under an authority to proceed and not completed its journey is called ----.
- () **a)** Train
 b) Running train
 c) Formation
 d) None
10. Isolation is mandatory when the permitted speeds are more than ----- KMPH for a run through train at a station.
- () **a)** 50
 b) 100

- c) 75**
- d) 110**

11. Location of Signal Warning Board is ----- m in rear of a stop signal in both electrified / non-electrified sections.

- ()
- a) 1200**
 - b) 1000**
 - c) 1799**
 - d) 1400**

12. Signal Warning Board is not required at those sections where ----- provision is available.

- ()
- a) Warner signal**
 - b) Distant signal**
 - c) Double Distant**
 - d) Electrification**

13. In the 'ON' position ----- light is displayed for a Calling-on Signal and also for a Shunt signal provided below a Stop signal.

- ()
- a) No**
 - b) White**
 - c) Yellow**
 - d) Blue**

14. Calling-on signal shall not be provided below ----- stop signal and Shunt signal shall not be placed below ----- signal.
- () **a)** FSS, LSS
 b) Outer, Home
 c) Shunt, Calling-on
 d) LSS, FSS
15. ----- is the normal aspect of Distant Signal in double Distant signaling territory.
- () **a)** Attention
 b) Caution
 c) Proceed
 d) Stop
16. A Semi-Automatic signal is identified by -----.
- () **a)** 'A' marker board
 b) Illuminated 'A' marker
 c) 'S' marker
 d) 'C' marker board
17. Fog Signal Post is located at 270m rear of ----- signal in MAS territory.
- () **a)** FSS
 b) Starter
 c) Outermost

d) Distant

18. FSP is not necessary at ----- territories.

- () **a) Single line**
 b) Double line
 c) Double Distant
 d) TAS

19. FSP is painted ----- in colour.

- () **a) Black and white**
 b) Yellow and black alternatively
 c) Yellow and white
 d) Yellow

20. VTP is located at ---- m from SM Office and is painted with ----- colour.

- () **a) 180, Yellow**
 b) 180, yellow and black
 c) 280m, yellow and black
 d) 270m, yellow and white

21. Distant signal location in double Distant area is ----
----- m before the stop signal.

- () **a) 1000**
 b) 2000
 c) 2500

d) 1400

22. Starter signal protects ----- .

- () **a) Points only**
 b) Fouling mark only
 c) Both
 d) None

23. Advanced Starter's 'OFF' position is interlocked with -----.

- () **a) Home signal**
 b) IBS
 c) Block / Axle Counter / Track Circuit
 d) Power supply

24. To take 'OFF' Calling-on signal, the train must be in the ----- and it takes ----- seconds to clear the signal, and finally on arrival of the train in to the station, it takes ----- seconds to cancel the Calling-on signal.

- () **a) Calling 'on' zone, 120 seconds, 240 seconds**
 b) Ahead of calling-on board, 240 seconds, 120 seconds
 c) Electrified section, 200 seconds, 120 seconds
 d) Calling-on zone, 150 seconds, 200 seconds

25. Route indicators are of ----- types.
- () **a)** 2
 b) 3
 c) 4
 d) 5
26. The minimum signals at a class 'A' station are
....., and
- () **a)** Warner, Outer and Home
 b) Warner, Home and Starter
 c) Outer, Home and Starter
 d) Distant, Home and Starter
27. When Home signal is defective and the train is
being admitted on T. 369 (3b), what shall be the
position of the Home signal knob on the Podanur /
Domino panel?
- () **a)** Normal
 b) Reverse
 c) Neither of the two
 d) both
28. Immediately on arrival of the stopping train, the
SM/Cabin Mastershall alter the points in -----
----- on single line and ----- points on
double line stations.

- () **a)**Rear, rear and front
 b)Rear and front, rear
 c)All the points, rear
 d)Rear, rear.
29. Immediately on arrival of the stopping train onto a common loop on double line section shall set points against the occupied line.
- () **a)**Points in rear & front treating it as single line
 b)Points in rear only treating it as double line
 c)Points in front only
 d)None of these
30. What are the signals prohibited to be used for shunting operations?
- () **a)** Outer, Home & Starter
 b) Home, Starter & Advanced Starter
 c) Outer, Home, LSS
 d) Outer, Home & Routing Home.
31. Catch siding is intended to protect section and Slip siding is intended to protect section.
- () **a)** Station section, block section
 b)Block section, station section
 c)Station, siding

d) None of these

32. Catch and Slip sidings shall not be used for and purposes.

- () **a) Shunting, stabling**
b) Reception, departure
c) None of these
d) Both a & b

33. A green flag by day and a white light by night moved vertically as high and as low as possible indicate

- () **a) Proceed slowly**
b) train parted
c) Proceed
d) Foul

34. When pre-warning is given about foggy weather by SM in rear, the caution order contains the speed restriction of KMPH which shall be observed after passing

- () **a) 8, Home**
b) 20, Outer
c) 10, Distant
d) 10, FSS

35. Whenever block instrument is defective, failure entry shall be made in the by the SMs at •

() **a)** Signal Failure Register, either end of the block section

b) TSR, the station where failure took place

c) Neither 'a' nor 'b'

d) Block instrument failure register, either side Notice stations.

36. What are the conditions to be complied for increasing the speed of the train to 15 KMPH on 1 in 8 ½ turn outs?

() **a)** 60 kg rail, straight switch and wooden layout

b) 52/60 kg rails, curved switch and PSC layout

c) 52 kg rail, straight switch, PSC layout

d) Either 'a' or 'c'

37. What action to be taken when a signal is newly erected or when signal is resited?

() **a)** Signal Sighting Committee shall inspect, caution order to be given for a period of 10 days, notify the same in the crew lobby through an SOB

- b)** Caution order to be given for a fortnight, signal sighting committee need not inspect and committee of officers shall inspect.
 - c)** Caution order for a period of one month, warning board at the site and sighting committee to submit a report
 - d)** None of the above
38. What is the authority to pass the defective Home signal of class 'C' station on double line/single line sections?
- () **a)** T.369 (3b)
 - b)** T/A 602
 - c)** T/B 602
 - d)** PLCT
39. LP of a passenger carrying train shall strictly follow the scheduled halts as per even though the departure signals are taken 'off' in advance.
- () **a)** PTT
 - b)** SWR
 - c)** WTT
 - d)** Time table sheet
40. Reception signals once taken 'off' for a train can be put back to 'on' position before its arrival only to

- () **a)**Avert an accident
 b)Change in the planning
 c) To facilitate passengers
 d) Facilitate shunting
41. What precautions to be taken before putting back the departure signals taken ‘off’ for a train?
- () **a)** Advise the crew
 b) Serve a written memo
 c) Collect back the token / PLCT given
 d) All the three
42. On what occasions the IB Signalling shall be suspended?
- () **a)** LSS is defective
 b) Block instrument is defective
 c) Axle Counter is defective
 d) IBS is defective
 e)All the above.
43. What is the role of the LP when the IBS is at ‘ON’?
- () **a)** Stop and contact SM in rear through IB telephone
 b)Need not stop
 c) Contact SM after 5 minutes
 d) Contact SM in rear on CUG mobile

44. When IB Signal at 'ON' and LP could not contact the SM in rear, he shall wait for 5 minutes and proceed with a speed of KMPH upto the ----- ?
- () **a)** 15/8, FSS of the next station
b) 25/10, FSS of next station
c) 10/8, next stop signal
d) 20/10, Gate stop signal
45. What procedure is to be adopted to reset the Analog axle counter in IBS working area?
- () **a)** Ensure the axle counter section is free of trains
b) Cross check the TSR entries with adjacent station
c) Operate PB2 with the co-operation of PB3 from SM of adjacent station
d) All the above
46. At those stations where BPAC is available and in working condition, what is the procedure to ensure the complete arrival of a stopping train?
- () **a)** By exchanging signals with Guard
b) By speaking to Guard on walkie-talkie and exchanging PN
c) By observing the green indication on the panel
d) By speaking on CUG mobile

47. At those stations where BPAC is NOT available / not in working condition, what is the procedure to ensure the complete arrival of a stopping train?
- () **a)**By exchanging signals with Guard
b) By exchanging PN with the Guard on walkie-talkie
c)By sending the Pointsman
d)By observing the tail lamp / LV board personally
48. To ensure the complete arrival of a Goods train running without BV or without Guard, what is the procedure?
- () **a)**By sending Pointsman who will go to the rear and exchange PN with SM after observing tail lamp / LV board
b) SM shall personally ensure the availability of tail lamp / board
c)Cross checking the LV No. from adjacent station SM
d) None of the above
49. Whenever a train trails through a wrongly set points, the LP shall -----
- () **a)** Immediately stop the train

- b) Consult the Guard and SM**
- c) Then proceed onwards if considered safe**
- d) Never back the train**
- e) All the above**

50. ----- No. of LR trips will be given to the LP if he has not operated on a section for over 3 months to 6 months, 6 months to 2 years and over 2 years

- () **a) One, Two and Three respectively**
 b) Two, One and Three respectively
 c) Three, Two and One respectively
 d) Two, Three and One respectively

51. Max. speed of the train moving ahead on Calling-ON signal when taken 'OFF' shall be ----- KMPH

- () **a) 50**
 b) 30
 c) 10
 d) 25

52. All Signal defects and Track defects noticed / experienced by the LP shall record the same in -----

- () **a) Rough Journal Book**
 b) CTR
 c) The separate register kept at the sign 'off' location (crew lobbies).

- d) All the above**
53. All the defects remarked by the LP in the Signal / Track defects Register shall be by the crew booking in-charge
- () **a) Ignored**
b) Sent by dak to the concerned Department
c) Intimated to the TPC / PCOR under exchange of PNs
d) Informed to the concerned SSE/SE-Signals or SSE/SE-Engineering
54. The TPC / PCOR on receipt of the observations (noticed by the LP and written in the Signal / Track defects Register) from the Crew Booking in-charge shall convey the same to respective counterparts of the concerned Departments. Follow-up action should be recorded in the register within ----- hours and monitored by the Divisional Officers including DSO.
- () **a) 48 hours**
b) 12 hours
c) 24 hours
d) 20 hours
55. When the Signal / Track defects which are noticed by the LP and the same are intimated by the crew booking in-charge to the concerned Department

counterparts under acknowledgement; and the same defect is surfaced within ---- hours, disciplinary action shall be initiated against the concerned Supervisors.

- () **a)** 48 hours
- b)** 24 hours
- c)** 36 hours
- d)** 72 hours

56. The speed restriction to be followed by the LP of the train during foggy weather in Absolute Block System is ----- KMPH

- () **a)** 30
- b)** Max. 60
- c)** 40
- d)** 25/8

57. The speed restriction to be followed by the LP of the train during foggy weather in Automatic Block System while passing Automatic Stop Signal at 'Green' is ----- KMPH

- () **a)** 60
- b)** 30
- c)** 15
- d)** 10/8

58. The speed restriction to be followed by the LP of the train during foggy weather in Automatic Block System while passing Automatic Stop Signal at 'double yellow' is ----- KMPH
- () **a)** Max. 30
 b) 40
 c) 50
 d) 60
59. The no. of persons permitted to travel in the BV of a Goods train in addition to the Guard shall not exceed -----.
- () **a)** 6
 b) 4
 c) 5
 d) 3
60. How many passenger coaches are permitted to be attached in rear of rear SLR of an express train?
- () **a)** 4
 b) 3
 c) 2
 d) None of the above

61. In an emergency when a Goods train is permitted to run without Guard,----- vehicle shall be the last vehicle?
- () **a)** BV
 b) Damaged vehicle
 c) Piped vehicle
 d) IC
62. In an emergency when a Goods train is permitted to run without Guard, rearmost ----- pistons shall be operative.
- () **a)** 5
 b) 3
 c) 4
 d) 2
63. The SM receiving advice of a hot axle in the train shall ordinarily receive that train on Line.
- () **a)** Common loop
 b) Goods loop
 c) Mainline
 d) Siding
64. ----- is responsible to ensure that the coupling and hose pipe connection between the engine and the formation is properly coupled up.

- () **a)** ALP
 b) Guard
 c) TXR
 d) LP
65. Whenever train stops on a gradient for any reason like accident, loco failure, OHE failure, etc., brakes are applied by the LP.
- () **a)** A9
 b) SA9
 c) A9 + SA9
 d) None of these
66. ----- is the engine whistle code to be used while approaching a level crossing.
- () **a)**One long
 b) Continuous long
 c) Intermittent long
 d) Two long
67. ----- is the whistle code while passing a Stop signal on proper authority.
- () **a)**Two short
 b) One long, one short
 c) Three long
 d) One short, one long and one short

68. When front fouling is not cleared, ----- is the engine whistle code.
- () **a)** Three long
 b) One long and one short
 c) Two long
 d) Continuous long
69. ----- is the engine whistle code for train parting.
- () **a)** Short, long, short
 b) One long one short, one long one short
 c) Four short
 d) Two long, one short
70. BPC of a Material train is valid for ----- days.
- () **a)** One Week
 b) 30 days subject to the examination of the rake once in a week at the site.
 c) One fortnight
 d) One week, subject to the condition that the rake will be examined in the Base Depot once in a week
71. SWR should be issued afresh once ----- years or after issue of ----- amendment slips whichever is earlier.

- () **a)** Five, five
 b) Three, three
 c) Five, three
 d) Three, Five
72. Fresh declaration for SWR shall be obtained from the staff concerned whenever -----
- () **a)** Whenever a new member joins the station
 b) When any change is made to the SWR
 c) When any staff resumes duties after a continuous gap of 15 days or more
 d) All the above three occasions
73. ----- is the authority to be issued for receiving a train on to an obstructed line at a station where there is no Calling-ON signal.
- () **a)** T. 369 (3b)
 b) T. 511
 c) T. 509
 d) On Walkie talkie by giving a PN
74. Shunting operations can be controlled by -----
- () **a)** Fixed signals
 b) Hand signals
 c) Verbal instructions
 d) All the above

75. When shunting is required to be performed in a passenger carrying train, the Train engine / Shunting Engine / Banker engine shall come to a halt at ----- m before the train formation.
- () **a)** 20
 b) 10
 c) 30
 d) 100
76. When a roller-bearing stock is stabled on a running line, hand brakes of ----- no. of wagons shall be applied.
- () **a)** 6 from loco
 b) 6 from BV
 c) 12 from either end
 d) 6 on either side including BV
77. ----- is the authority for trains during TSL working in Absolute Block System.
- () **a)** T/A 602
 b) T/D 602
 c) T/B 602
 d) T/C 602

78. The speed of the first train proceeding on TSL working is restricted to ----- KMPH

- () **a)** 15
- b)** 20
- c)** 25
- d)** 10

79. The LP shall switch on ----- light while proceeding on wrong line during TSL working.

- () **a)** Flasher
- b)** Head light
- c)** Marker lights
- d)** Cab

80. ----- is the authority to be issued to the LP of the train during Total Interruption of Communications on double line in Absolute Block System.

- () **a)** T/B 602
- b)** T/A 602
- c)** T/C 602
- d)** T/D 602

81. ----- is the authority to be issued to the LP of light engine on single line during total interruption of communications to establish the direction of traffic.

- () **a)** T/A 602

- b) T/B 602**
- c) T/C 602**
- d) T/D 602**

82. ----- KMPH is the speed authorised for the light engine which is proceeding to establish the direction of traffic on single line during total interruption of communications.

- () **a) 15/8**
 b) 10/8
 c) 25/8
 d) 20/10

83. ----- is the authority issued to the LP of the Goods train to proceed to the station ahead with the first portion by the Guard of a Goods train during divided train working.

- () **a) T/509**
 b) T/609
 c) T/912
 d) T/720

84. What is the first duty of the train crew in case of a fire accident in a passenger carrying train?

- () **a) Stop and put off the fire**
 b) Stop and isolate the coach

- c) Save the lives of the passengers
- d) Increase the speed to reach the station early

85. ----- shall be the speed of the train when an Automatic Stop signal is passed at 'on'.

- ()
- a) 15 KMPH
 - b) 8 KMPH
 - c) 20 KMPH
 - d) 10 KMPH

86. ----- is the authority given to the LP of the train on double line Automatic Block system to pass LSS at 'on'.

- ()
- a) T.369 (3b) + T.806 to proceed at 10 KMPH
 - b) T/A 912
 - c) T/B 912
 - d) T. 369 (3b) + T.806 to proceed at 25 KMPH

87. ----- is the authority given to the LP of the relief engine going into the block section in Absolute Block System.

- ()
- a) T/A 602
 - b) T/C 602
 - c) T/D 602
 - d) T/B 602

88. ----- is the authority for performing shunting on single line tokenless section to go upto the opposite direction FSS.
- () **a)** Shunt key
 b) T.806
 c) T.806without PN.
 d) By taking 'off' LSS
89. ----- is the authority for performing shunting on double line to go beyond LSS.
- () **a)** Block forward and give T.806 with PN
 b) Shunt key
 c) T.806 without PN
 d) LSS key
90. ----- is the authority to perform shunting on double line section to go beyond FSS / BSLB / first facing point.
- () **a)** T.806 without PN
 b) Block back and give T.806 without PN
 c) Block back and give T.806 with PN
 d) Oral instructions
91. ----- is the authority for motor trolley to follow a train.
- () **a)** T/A 1525

- b) Caution Order**
- c) T.1525**
- d) PLCT**

92. ----- is the authority for despatching a motor trolley on single line tokenless, double line and Automatic Block system.

- () **a) T/A 1525**
 b) T.1525
 c) PLCT
 d) T.806 with PN

93. ----- is the authority for Material train to work in the block section and to return back to the same station.

- () **a) T/462**
 b) ATP under the system of working + T.806
 c) T/A 465
 d) T/A 462

94. ----- is the authority for Material train to work in the block section and to proceed to the block station ahead on completion of the work.

- () **a) T/462**
 b) ATP under the system of working + T.806
 c) T/A 465

d) T/A 462

95. ----- is the authority for TTM to work in the block section and to return back to the same station.

- () **a) T/465**
 b) ATP under the system of working + T.806
 c) T/A 465
 d) T/A 462

96. ----- is the authority for TTM to work in the block section and proceed to the block station ahead on completion of the work.

- () **a) T/465**
 b) ATP under the system of working + T.806
 c) T/A 465
 d) T/A 462

97. ----- is the bell code to be given by the LP of EMU/MEMU/DHMU train and acknowledged by the Guard while passing an Automatic Stop signal at 'ON'

- () **a) 00 pause 00**
 b) 0 pause 0
 c) 000
 d) 000 pause 000

98. When electric headlight becomes defective on run -
----- shall be the speed of the train.
- () **a) 30 KMPH**
 b) 40 KMPH or severest SR of less than 40 KMPH
 c) 40 / 50 KMPH on BG/MG
 d) 10% reduction in the booked speed
99. When the Night Monsoon Patrolman does not turn up even after the schedule time, the SM shall wait for additional 15 minutes and issue caution order to all trains to observe an SR of ----- KMPH.
- () **a) 15**
 b) 20
 c) 30
 d) 40
100. Speed of the train while negotiating the neutral section shall not be less than ----- KMPH.
- () **a) 30**
 b) 20
 c) 25
 d) 10
101. ----- KMPH is the speed permitted for TTM on points and crossings.

- () **a)** 20
 b) 10
 c) 25
 d) 15

102. ----- KMPH is the speed limit permitted for the light engine going into the block section to pick up the second portion during divided train working.

- () **a)** 25
 b) 40
 c) 15
 d) 20

103. When S&T Disconnection Notice (T.351) is presented by the S&T Official for the schedule maintenance of the block instrument, SM of the station shall -----.

- () **a)** Not accept
 b) Accept it even though there is a train in the block section.
 c) Accept it duly passing a remark that there is 'no train in the block section'
 d) Consult his TI or SCOR before accepting it

104. In electric loco when the leading cab is defective and the train is driven from the trailing cab by the ALP, ----- KMPH shall be the max. speed.

- () **a)** 25
 b) 30
 c) 40
 d) 20

105. In electric loco when the leading cab is defective and the train is driven from the trailing cab by the LP, ----- KMPH shall be the max. speed.

- () **a)** 25
 b) 15
 c) 40
 d) 20

106. When engine flasher light is flashing, the LP of opposite direction / adjacent line train shall restrict his train speed to ----- KMPH.

- () **a)** 10/20
 b) 20/40
 c) 20/10
 d) 40/25

107. When engine head light is defective, action to be taken is -----.

- () **a)** Run at 40 KMPH
 b) Run at 25 KMPH
 c) Run at 50 KMPH

d) Suspend the loco

108. While clearing a stabled load, GDR shall prepare the GDR check memo in -----

- () **a) Duplicate**
 b) Quadruplicate
 c) Triplicate
 d) Six copies

109. Whenever a signal is newly erected or re-sited, caution order shall be issued to the loco crew for a period of ----- days in addition to issuing an SOB at the crew lobbies concerned.

- () **a) 15**
 b) 25
 c) 10
 d) 30

110. Emergency telephone socket is located at every --
---- m in Electrified / Non-electrified section.

- () **a) 1400/1700** **b) 1000**
 b) 1500 **d) 800**

111. ----- is the authority for the Tower Car to proceed into the advance block section and return back to the same station.

- () **a) T/1708** **b) T/A 1708**

c) T/465 d) T/A 465

112. ----- is the authority for the Tower Car to proceed into the advance block section and clear into station ahead.

- () a) T/1708 b) T/A 1708
 c) T/465 d) T/A 465

113. Tower Car shall be inspected once in ----- by -----

- a) A week, Tower Car Operator
b) A month, Tower Car in-charge
c) A month, nominated TXR (C&W/RE)
d) No need of inspection

114. Turning out time for Tower Car during day / night (0600 to 1800 and 1800 – 0600 hours) is --- ----- minutes.

- () a) 45/30 b) 30/60
 c) 45/60 d) 30/45

115. ----- is the max. speed of the Tower Car/Wagon.

- () a) 40 KMPH b) As stenciled on it
 c) 50 KMPH d) No restriction

116. SM shall ensure that the non-interlocked LC Gate is closed against road traffic before granting line clear for a train by -----
- () a) Orally advising the Gateman on LC Gate telephone.
b) Exchanging PNs along with the train details
c) Taking a PN from the Gateman
d) None of the above
117. The certificate of competency issued to the Gateman on successful completion of the training at the nominated training centres is valid for -----
- () a) Three years b) Three months
c) Five years d) Six months
118. After getting the PN from the Gateman for closure of the Non-interlocked LC Gate and the train has not left due to change in the planning, SM shall inform the Gateman about the cancellation of the movement by -----
- () a) Issuing a PN to the Gateman
b) Advising orally on telephone
c) Taking a PN from the Gateman
d) Giving a written memo

119. When interlocking of the interlocked LC Gate fails, it shall be treated as -----

() a) Interlocked LC Gate and not necessary to exchange PNs with the Gateman for closure of the LC Gate.

b) Non-interlocked LC Gate and it is necessary to ensure that the gate is closed under exchange of PNs.

c) Semi-interlocked and not necessary to exchange PNs.

d) None of the above

120. A mock NI working is required to be conducted between ----- hours before the actual commencement of the NI working to understand the difficulties.

() a) 2000 – 0600

b) 0600 – 1800

c) 0800 – 1600

d) 1000 – 2000

121. When the Night Patrolman does not turn up as per the patrol chart timings, the SM shall -----
-----.

() a) Issue caution order of 15 KMPH for all trains

b) Stop all trains out of course and issue caution order of 40 KMPH

c) Stop only passenger carrying trains and issue caution order of 40 KMPH

d) Inform the train crew on walkie talkie.

122. ----- no. of explosive loaded wagons can be attached by a Goods and Parcel/Mixed trains.

- () a) 3 / 10 b) 5 / 10
 c) 10 / 3 d) 10 / 5

123. Caution Indicator is located at -----m in rear of Automatic Danger Level Indicator.

- () a) 1200 b) 1000
 c) 1400 d) 1300

124. ----- is the revised limits of speed for Standard II (R), Standard III (R) and Standard IV (R).

- () a) 160 / 140 / 120 b) 120 / 140 / 160
 c) 75 / 100 / 120 d) 50 / 75 / 100

125. IPS stands for -----.

- () a) Integrated Power Supply
 b) Intermittent Power Supply
 c) Intermediate Power Scheme
 d) None of the above

KEY

1. C	2. A	3. C	4. D
5. A	6. C	7.B	8. A
9. B	10. A	11. D	12. C
13. A	14. D	15.A	16. B
17. A	18. C	19.B	20. A
21. B	22. C	23.C	24. A
25. B	26. B	27.B	28. B
29. A	30. C	31.A	32. A
33. B	34. D	35.A	36. B
37. A	38. D	39.C	40. A
41. D	42. E	43.A	44. A
45. D	46. C	47.B	48. A
49. E	50. B	51.B	52. D
53. C	54. C	55.D	56. B
57. A	58. A	59.C	60. C
61. A	62. C	63.C	64. D

65. C	66. C	67.D	68. A
69. B	70. B	71.C	72. D
73. C	74. D	75.A	76. D
77. B	78. C	79.A	80. C
81. B	82. A	83. B	84. C
85. D	86. A	87. A	88. A
89. A	90. C	91.C	92. A
93. A	94. D	95.A	96. C
97. A	98. B	99.D	100. A
101. B	102. A	103.C	104. C
105. B	106. C	107.A	108. C
109. C	110. B	111.A	112. B
113. C	114. D	115.B	116. B
117. C	118. A	119.B	120. C
121. B	122. C	123.D	124. B
125. A			

FILL UP THE BLANKS

1. Accidents are classified into ----- categories and they are -----
2. Train accidents are divided into ----- parts and they are -----
3. Loss of railway property above Rs..... is treated as serious accident.
4. Consequential train accidents that are reportable to Railway Board Safety Directorate are -----
5. General target time for turning out ART during day / night is ----- minutes.
6. General target time for turning out MRV with direct / indirect despatch facility is ----- minutes.
7. Composition of MRV is ----- and -----.
8. Mock drill for ART / MRV shall be conducted once in ----- in case they are not moved on account of accidents.

9. ----- is the ex-gratia to be paid in case of death / serious injury / simple injury in train accidents.
10. ----- is the ex-gratia to be paid in case of death / serious injury / simple injury at manned LC Gate accidents where prima-facie failure is on Railways.
11. Rs..... is the compensation paid in cases of death in train accidents.
12. Accident siren three long, one short indicate-----.
13. Accident siren four long, one short indicate -----.
14. ----- is the duration of long siren and ----- is the duration of short siren.
15. Threshold value of Railway property loss is fixed at Rs.....
16. In the event of breakdown of control telephone, trains shall be given precedence over each other – in that process running of Goods trains takes ----- place.
17. Block instrument bell code 000000 indicate -----

18. Block instrument bell code 000000 – 000 indicate

19. BCC and PCC is valid for a period of -----
20. As a temporary measure when DSTE/ADSTE
issue BCC for Signal Maintainers, such BCC is
valid for ----- and such extension is limited to --

21. Acknowledgement for block bell beat, if not
received from the station adjacent, the code shall
be repeated after a lapse of -----
22. Single and double line TSR No. is -----
23. The TSR of the station shall be checked and
signed by the SM in-charge of the station -----
24. TSR shall be retained in the station after its
completion for a period of -----
25. Outlying Sidings are identified by ----- mark
board.
26. PN Sheets shall be preserved in the station after
its completion for a period of -----

27. ----- is the block instrument bell code for 'cancel last signal'.
28. ----- is the block instrument bell code for 'stop and examine the train'.
29. When SM observes a train running through his station without LV board / Tail lamp during day / night, he shall give ----- bell code to SM in advance and ----- bell code to SM in rear.
30. BWM and Accident Manual are issued under ----
-----.

KEY

- 1. 5, Train accidents, Yard accidents, Indicative accidents, Equipment Failure and Unusual incidences.**
- 2. Two parts, they are Consequential train accidents and Other Train Accidents.**
- 3. 2,00,00, 000/-**
- 4. A1 to A4, B1 to B4, C1 to C4, D1 to D4 and E1**
- 5. 30 / 45**
- 6. 15 / 20**
- 7. Medical Van, Auxiliary Van**
- 8. Quarter**
- 9. Rs. 15,000/- / Rs. 5,000/- / Rs. 500/-**
- 10. Rs. 6,000/- / Rs. 2,500/- / NIL**
- 11. Rs. 4,00,000/-**
- 12. Out station accident, mainline clear, MRV required.**

- 13. Out station accident, mainline blocked, MRV required.**
- 14. 30 seconds , 5 seconds**
- 15. Rs. 1,00,000/-.**
- 16. 11th place**
- 17. Obstruction danger signal**
- 18. Train parted or divided**
- 19. Three years**
- 20. One year, only once**
- 21. Not less than 20 seconds**
- 22. T.14 for single line and T.15 for double line**
- 23. Daily**
- 24. One year from the half year ending in which it is completed**
- 25. 'S' mark board**

**26. Six months from the half year ending in which
it is completed**

27. 00000

28. 000000 – 0

**29. 000000 – 00 to SM in advance and 000000 –
000 to SM in rear.**

30. Special Instructions by COM

SECTION 'B'

SIGNAL & TELECOM OFFICIALS

1. Based on status of track relay, ----- nos. of track circuits are there and they are -----.
2. Based on power supply, ----- nos. of track circuits are there and they are -----.
3. Based on insulation joints, ----- nos. of track circuits are there and they are -----.
4. Based on continuity, ----- nos. of track circuits are there and they are -----.
5. What are the basic advantages of axle counter?
6. What are the different types of axle counters?
7. What are the basic advantages of dataloggers?
8. What are the advantages of SSI?
9. Expand AFTC -----.
10. Before commencement of which works, CRS sanction has to be obtained.
11. Which works do not require the sanction of CRS?
12. Which documents are required to be enclosed to the CRS application?
13. What are the steps to be taken first by the S&T Engineer at the site of accident?

14. Before installation of wireless / microwave stations which clearances are necessary?
15. Which agencies are required to be approached for getting the above clearances?
16. The technique used to transmit analog signaling on digital form is called as -----.
17. Transverse bonding is used for ----
18. While providing a block joint, the dead section should not be more than ----.
19. Maximum length of a track circuit possible with QBAT relay is -----
20. To provide approach locking for a Home signal, a track circuit of ----- length is required.
21. For taking 'off' a Shunt signal ----- point need not be proved.
22. Premature route releasing of a signal is prevented by ----- relays.
23. Track relays are overhauled once in -----.
24. Signalling plan is prepared based on -----.

25. The locking diagram shall be prepared based on -
-----.
26. ----- is the maintenance schedule for ESM for point machines, battery room, battery charger, IB Hut, CL Signals etc.,
27. ----- is the maintenance schedule for ESM for checking the signal unit, locking and opening of colour light signals; checking the dip and staggering of EJ box of axle counter; checking the coupler connections and soldering connections of evaluator.
28. ----- is the maintenance schedule for JE/Signals for SM's slide control, battery, block instrument, track circuits, axle counters, RKT, location boxes, etc.,
29. ----- is the maintenance schedule for SE/SSE-Signals for point machines, battery room, battery charger, axle counters, IB Hut, CL Signals, etc.,
30. The maintenance schedule for the following staff TCM/JE/SE-Tele for checking the block telephones, control telephones, VHF sets, etc.,
31. The maintenance schedule for the following staff TCM/JE/SE-Tele for checking the emergency telephone sockets.

KEY

- 1. Two, they are Open track circuit and Closed track circuit.**
- 2. Three, they are DC track circuit, AC track circuit and Electronic track circuit.**
- 3. Three, they are single rail track circuit, double rail track circuit and jointless track circuit.**
- 4. Three, they are series track circuit, parallel track circuit and series – parallel track circuit.**
- 5. Suitable for all types of sleepers, rails, traction, immune to ballast condition and flooding, does not require insulation joint thereby rails can be continuously welded, etc.,**
- 6. Different types of axle counters are single entry, multi-entry, universal and digital axle counters.**
- 7. Helps in monitoring typical failures, helps in analyzing the cause of accidents, detect human failures like SPAD, Operator's mistakes, S&T Officials interferences in safety circuits, Engg& Electrical Departmental interferences/failures, helps as a tool in preventive maintenance of signaling gears, can be connected to network thereby helps in monitoring the PI/RRI/SSI remotely, failure**

reports can be generated, speed of trains on point zones can be calculated, etc.,

8. Modular in design, easy for maintenance, less no. of relays, less space, remote operation of points/signals, standard of safety and reliability is higher, self-diagnostic failure, less power supply, etc.,

9. Audio Frequency Track Circuit.

10. Additions, extensions to the running lines, alterations to the points and crossings on running lines, new signaling and interlocking installations or alterations to the existing ones, new stations (temporary or permanent), re-grading of running lines involving raising or lowering of track in excess of 500 mm, new bridges or extensions, temporary diversion, new level crossing across running lines, additions or alterations to electrical installations of tracks equipped with electric traction, etc.,

11. Any new work alteration or reconstruction not affecting running lines, any work which do not interfere with the existing signaling and interlocking, works necessitated by accidents, etc.,

- 12. Description of the proposed work, approved drawings of the proposed work such as IP, LT, SM's slide, route control chart, etc., from CSTE, list of infringements to SOD, if any, list of deviations to G&SR / SEM, if any, special restrictions, if any, SWR of the station/s, etc.,**
- 13. Wherever signaling is involved, he shall note down the position of knobs, SM's slide control slides, indication of various points, track circuits, routes, slot indicators, etc., position of block instrument, indications and aspects of concerned signals, readings of the counters, conditions of seals of appliances, any other information relevant to the accident.**
- 14. Full site clearance, mast height clearance, exemption from mast height clearance, clearance for additional antenna, allocation of radio frequencies, license for operation of radio equipment.**
- 15. WPC (Wireless Planning and co-ordinating Committee), SACFA (Standing Advisory Committee on Radio Frequency Allocation, RAC (Regional Advisory Committee).**
- 16. PCM (Pulse Code Modulation).**
- 17. -ve to -ve rail**

- 18. **1.8m**
- 19. **750m**
- 20. **1 KM**
- 21. **Overlap**
- 22. **UYR**
- 23. **10 years**
- 24. **Type of signaling, class of station and standard of interlocking.**
- 25. **Approved locking table.**
- 26. **Once in a fortnight.**
- 27. **Once in a month.**
- 28. **Once in a month.**
- 29. **Once in a quarter.**
- 30. **Once in a fortnight for TCM, once in a month for the JE/Tele and once in a quarter for the SE/SSE-Tele.**

31. Once in 10 days for the TCM, once in a month for the JE/Tele and bi-monthly for the SE/Tele.

BASIC CONCEPT OF SIGNALLING

1. Signal overlap in TALQ territory is ----- m.
() a. 120 b. 180
c. 400 d. 600
2. The speed of a train to pass via loop at std.III interlocked station is ----- KMPH.
() a. 15 b. 25
c. 50 d. None
3. ----- is empowered to issue special instructions.
() a. CRS b. COM
c. CCM d. GM
4. A post type CLS shunt signal at ON position displays -----
() a. Two lights horizontally
b. Two lights inclined at 45 degrees to the left.
c. Two lights repeating will display
d. None

5. Visibility of main line Starter in MACLS is -----m.
() a. 400 b. 300
 c. 200 d. None
6. Minimum distance required between Distant and Home signal in MACLS territory is -----m
() a. 1400 b. 1000
 c. 1200 d. None
7. Shunting Limit Board is provided only in -----
() a. Class A station on single line
 b. Class A station on Double line
 c. Class B station on single line
 d. None
8. 'P' marker is provided on ----- signals
() a. Distant.
 b. Home.
 c. Starter
 d. Advanced Starter.
9. Signal overlap MACLS area is ----- m
() a. 180 b. 120
 c. 400 d. 1000
10. Gate signal in MACLS territory is provided at _____
m from the LC gate.
() a. 180 b. 400
 c. 120 d. None

11. FSS of class ' A' station is -----
() a. Outer b. Warner
c. Home d. Distant
12. Isolation of main line from adjoining lines shall be provided if speed on main line exceeds ----- KMPH
() a.15 b. 50
c. 75 d. None
13. Calling on signal is provided below the----- signal
() a.Distant
b.Home
c.LSS
d.Shunt
14. BSLB is provided on -----
() a. Both single line & double line sections
b.Only on double line section where no points or outermost points are facing
c.Only on double line section where there are no points or outer most points are trailing
d.On single line sections only.
15. In MAUQ signaling territory the LSS is provided at _____ m from trailing point.
() a.120 b. 180
c. 400 d. 3 rail length

16. Inner Distant Signal is identified by -----
() a. 'P' b. 'ID'
c. 'D' d. 'G'
17. For granting line clear at a class 'A' station , line shall be kept clear not only upto the FSS but also upto -----
() a. Top point b. Home signal
c. Starter Signal d. None
18. The normal aspect of Inner Distant Signal is -----
() a. Yellow b. Double Yellow
c. Red, Yellow d. Red
19. In Automatic Signaling Territory the signal overlap beyond Automatic Stop Signal is ----- m.
() a. 120 b. 180
c. 400 d. 2 rail length
20. The subsidiary signal provided below main Home Signal is -----
() a. Co acting b. Repeating
c. Calling on signal d. None
21. The minimum equipment of signals at a class 'A' station are -----
() a. Outer, Warner, Home
b. Warner, Home, Starter

- c. Outer, Home, Starter
- d. Outer, Warner, Starter

KEY

- | | | | |
|-------|-------|-------|-------|
| 1. b | 2. a | 3. a | 4. a |
| 5. c | 6. b | 7. c | 8. a |
| 9. b | 10. a | 11. c | 12. b |
| 13. b | 14. c | 15. a | 16. b |
| 17. c | 18. a | 19. a | 20. C |
| 21. b | | | |

BASIC ELECTRICITY AND MAGNETISM

1. If two resistances of same value are connected in series , the resultant value -----
 () a. Gets doubled b. Becomes half
 c. Remains same d. Becomes Zero

2. If two condensers of same value are connected in series, the resultant value -----
 () a. Gets doubled b. Becomes half.
 c. Remains Same d. Becomes zero

3. If two resistances of 10 ohms and 15 ohms are connected in parallel its resultant resistance would be -----

- () a. 12 ohms b. 9 ohms
c. 6 ohms d. 5 ohms
4. The equipment which gives various DC outputs with a single AC inputs is -----
- () a. UPS b. IPS
c. Battery charger d. Transformer
5. Diesel generator of self starting requires a battery of pack-----
- () a. 6V b. 8V
c. 12V d. 2V
6. If two resistances of 10 ohms, and 40 ohms are connected in series, its resultant resistance would be -----
- () a. 12 ohms b. 9 ohms
c. 6 ohms d. 50 ohms

KEY

- | | | |
|------|------|------|
| 1. a | 2. b | 3. c |
| 4. b | 5. c | 6. d |

POWER EQUIPMENTS, BATTERIES

1. Inverter output is -----
() a. AC b. DC
c. Impedance matching d. None of these
2. When condensers are connected in parallel the effective capacitance -----
() a. Increases b. Decreases
c. Does not change d. None
3. The specific gravity of the fully charged cell is -----
() a. 1160 b. 1200
c. 1300 d. 1270
4. The float voltage per one secondary cell is -----
() a. 2.15V b. 1.8V
c. 2.4V d. 2.7V

KEY

1. a 2. a 3. b 4. a

SAFETY IN TRAIN OPERATION - SCHEDULE
OF DIMENSIONS

1. Minimum Horizontal distance from center of track to any structure as per the revised SOD
() a) 1676 mm. b) 2360 mm
c) 6250mm. d) None of these
2. Double lock arrangement is required for -----
() a) Relay Room Doors
b) Block instrument doors
c) Both the above
d) None of these
3. CRS statutory enquiry is required in some of the accidents. CRS means -----
() a. Carriage Repair Shop
b. Chief Reservation Supervisor
c. Commissioner of Railway Safety
d. None of these

KEY

1. b 2. c 3. c

CABLES

1. Quad cable is used for -----
() a) Point Operation b) Signal Operation
c) Axle Counter d) Lever Lock

2. The size of the cable trench in ordinary soil should normally be -----
- () a) 1m.width& 30cm. Depth
 b) 1m. Depth & 30cm. Width
 c) 1.5.m. depth & 30cm. Width
 d) 60cm. Depth & 30cm. Width
3. Size of conductor of 30 core signaling cable is -----
- () a) 25sq. mm b) 1.5 sq mm
 c) 2.5sq.mm d) 50sq. mm
4. Cable should normally be laid in ----- pipe across the track
- () a) GI/ RCC Pipe b) PVC pipe
 c) HDPE pipe d) none

KEY

1. c 2. b 3. b 4. a

TELECOMMUNICATION

1. Which of the following are provided for emergency communication in the section where underground telecom cable is laid
- () a) 6 pins sockets
 b) Potable telephones
 c) Both
 d) None

KEY

1. c

EKT, ELECTRICAL DETECTOR

- The resistance value of Electromagnet in EKT is _____
() a. 300 ohms b. 12.5 ohms
 c. 10.5 ohms d. 9 ohms
- The working current of EKT in RE area is _____
() a. 2 A b. 1 A
 c. 220mA d. 110mA
- One slot one train movement in inter cabin control circuit is proved by _____
() a. ASR b. TSR
 c. YSR d. WSR
- In RE area, EKT circuit requires _____ Nos. of relays.
() a. 2 b. 4
 c. 6 d. 7

SIGNALLING RELAYS

5. Working voltage of K-50 relays is _____
 () a. 12V b. 24V
 c. 60V d. 110V
6. The resistance value of shelf type track relay in series connection _____

- () a. 9 Ohms b. 4.5 Ohms
c. 2.25 Ohms d. None
7. QT2 is a _____
() a. Heavy duty Relay b. Track Relay
c. Neutral Relay d. K-50 Relay
8. QTA2 relay pick up voltage is _____
() a. 1.2V b. 2.5V
c. 4.5V d. None
9. Maximum voltage for track relay should be -----
() a. 125% of P.U value b. 125 % of D.a value
c. 250% of P.U value d. 250 % of D.a value
10. Shelf type line relay is overhauled once in _____
() a. 15 years b. 10 years
c. 7 years d. No overhauling
11. QN1 relay resistance is -----
() a. 200 ohms b. 400 ohms
c. 9 ohms d. none
12. The overhauling of track relay should be done once
in -----
() a. 10 years b. 15 years
c. 7 years d. none
13. Contact resistance of K-50 relay is -----
() a. 0.30 Ohms b. 0.18 Ohms
c. 0.03 Ohms d. 1.8 Ohms

14. The total number of contacts for K-50 relay is ----
() a.6 b.8
c. 12 d. 16

15. Resistance of self type line relay -----
() a .4 Ohms b. 40 Ohms
c. 2.5 Ohms d. 1000 Ohms

16. Working voltage of Q style line relay is -----
() a.24 VDC b. 10 VDC
c. 60 VDC d. 110 VDC

17. The percentage release of DC track relay is ____ of
PU value
() a.10% b. 333%
c. 50 % d. 68%

TRACK CIRCUIT

18. Max. Length of track circuit which can be provided
by using QTA2 relay with wooden sleepers is

() a. 720 m b. 450 m
c.370 m d. None

19. Size of underground power cable is _____

() a. 1.5 sq.mm b. 2.5 sq.mm
c. 25 sq.mm d. 15 sq.mm

20. The max. variable resistance value in DC track
circuit RE area is _____

- () a. 15 ohms b. 30 ohms
c. 25 ohms d. None
21. Under maximum ballast resistance with 0.5 Ohms across the relay voltage should be _____
- () a. 15% below P.U value
b. 85 % below P.U value
c. 85 % below D.A value
d. 15 % below D.A value
22. Train shunt resistance of track circuit with PSC sleepers is _____
- () a. 25 ohms b. 0.5 ohms
c. 0.12 ohms d. None
23. Broken rail protection is available in -----
- () a. Series track circuit b. Parallel track circuit
c. Multiple track circuit d. None
24. In RE area, maximum length of track circuit that can be provided with PSC sleepers is _____
- () a. 350 m b. 450 m
c. 650 m d. None
25. The size of bond wire used for track circuit is _____
- () a. 6 SWG b. 8 SWG
c. 10 SWG d. None
26. The ballast resistance/KM in yard is _____

- () a. 2 ohms/km b. 4 ohm/km
c. 10 ohm/km d. none

27. In block section minimum ballast resistance/km is --
-----.

- () a.2 ohms b. 4 ohms
c. 25 ohms d. No limit

28. Size of bond pin used for track circuit is -----

- () a.7/8" b.7/32"
c. 1/2" d. 1/4"

KEY

1. B	2. C	3. C	4. B
5. C	6. A	7. B	8. A
9. C	10. A	11.b	12.A
13. C	14. B	15.D	16.A
17. D	18. B	19. C	20.B
21. C	22. B	23. A	24.A
25. B	26. A	27. B	28.B

COLOUR LIGHT SIGNAL

- 1) At least _____ lamps to be lit for picking up UECR, in junction type route indicator.
- () a. 2 b. 3
 c. 4 d. All

POINT MACHINES

- 2) In Siemen's point contactor unit, the time delay for N/R to release is -----
- () a. 500 Milli sec. b. 10 seconds
 c. 100m sec d. 5 sec.
- 3) The working current of Universal point machine is -----
- () a. 2A b. 5A
 c. 8A d. 3A.

AXLE COUNTER

- 4) Universal Axle counter work on _____ volts DC
- () a. 24 b. 12
 c. 10 d. 5
- 5) EJ box oscillator frequency is -----
- () a. 10KHz b. 20 KHz
 c. 5 KHz d. 3 KHz

- 6) Output voltage at card NO.1 is -----
() a. 115-125mV b. 125-135mV
c. 105-115 mV d. 95-105mV

AUTOMATIC SIGNALLING SECTION

- 7) On the post of semi automatic signal _____ is fixed
() a. "A" marker b. "A" marker light
c. "G" marker d. "P" marker
- 8) The overlap in Automatic signaling is -----
() a. 400 m b. 180 m
c. 580 m d. 120 m

PANEL INTERLOCKING

- 9) White strip lights illuminated when -----
() a. UCR picks up b. HR picks up
c. ASR drops
- 10) Point slit indication on the panel is given by -----
() a. WKR UP b. WKPR UP
c. WSR UP d. ASR UP
- 11) The first relay to pick up when signal knob is operated is
() a. TSR b. UCR
c. ASR d. NJPR

- 12) In a panel interlocking station one signal one train feature is ensured by -----
() a. ASR b. YSR
 c. TSR d. UCR
- 13) When which of the following relay is picked up Free indication near the point knob is available
() a. NWKR b. RWKR
 c. ASR d. WLR
- 14) In PI when point knob is operated, the first relay to pick up is -----
() a. WLR b. ASR
 c. NCR/RCR d. UCR
- 15) The final relay which picks up & release the route in PI station when Route cancellation applied is -----.
() a. NJPR b. SMR
 c. UYR1,UYR2 d. ASR
- 16) In PI station the relay that picks up first when cancellation of route is initiated-----
() a. NJPR b. RJPR
 c. JSLR d. WJR

SIGNALLING IN R.E. AREA

- 17) Max. traction return current on double line section in RE area is -----
() a. 500A b. 600A

c. 800A d. 300A

18) The maximum length of parallelism is permitted by using unscreened cable in RE area is -----

- () a. 1Km b. 1.2 Km
 c. 0.5kM d. 1.5km

19) In RE area the distance between two earth pits shall not be less than -----

- () a. 10M b. 1M
 c. 2M d. 3M

20) Direct lighting of signals with screened cable is applied when the distance is

- () a. 220 m b. 450 m
 c. 600 m D. No limit

21) The induced voltage per KM in the screened cable is -----

- () a. 60 V b. 90 V
 c. 35V d. none

KEY

- | | | | | | |
|-------|-------|------|------|------|------|
| 1. B | 2. B | 3.A | 4.A | 5. C | 6.C |
| 7. B | 8. D | 9.C | 10.B | 11.B | 12.C |
| 13. C | 14. C | 15.A | 16.C | 17.B | 18.B |
| 19. D | 20. A | 21.C | | | |

INTERMEDIATE BLOCK SIGNALING

- 1) The cable used for extending power supply to IB location is -----
- () a. 24 x 1.5 sq. mm copper cable
 b. 2 x 25 sq. mm aluminum cable
 c. 30 x 1.5 sq. mm copper cable
 d. 2 x 2.5 sq. mm copper cable

SINGLE LINE TOKEN BLOCK INSTRUMENT

- 2) POH of single line token block instrument is ____
- () a. 10 yrs b. 7 yrs
 c. 12 yrs d. None
- 3) Total capacity of tablets in token block instrument ____
- () a. 30 b. 35
 c. 40 d. None
- 4) The earth electrode should be buried at depth of not less than _____ m.
- () a. 1 b. 1.5 m
 c. 2 d. None
- 5) Block earths of different block instruments should be separated by -----
- () a. Less than 3 m b. Less than 2 m
 c. More than 3 m d. More than 5 m

SIGNLE LINE TOKENLESS BLOCK
INSTRUMENT

- 6) Working current of Daido block instrument is -----
() a. 20mA b. 85mA
c. 110mA d. 40mA
- 7) Pole changing relay in IRS-PTJ block instrument is -----
() a. ASR B. ASR2
c. PCR d. ASR & ASR2
- 8) TOL acknowledgement relay in IRS-PTJ block is--

() a. TOLTR b. TOLAR
c. ASTR d. CTR
- 9) In Daido Block the bell code is -----
() a. DC positive b. DC negative
c. 150HZ d. None of these.
- 10) Check lock in Daido block instrument is effective
at _____ position of block handle.
() a. D b. Y
c. X d. XX
- 11) The local battery of the Daido block instrument
should be -----
() a. 24V b. 12V
c. 13.5V d. 18V

- 12) One line clear - one train ' is ensured in the single line token less block instrument by -----
- () a. NTR, PTR b. 1CR, 2CR
c. ASTE, ASCR d. ASR1, ASR2 (ASR)
- 13) The relays connected to line circuit in (Daido) is--
--
- () a. NR, BLR,CRR b. CR,NR,BLR
c. NR,BLR d None
- 14) In Daido block instrument the relay that proves complete train arrival -----
- () a. 1R b. 2R
c. TAR d. ZR2
- 15) The carrier /Modulated frequency for turning the handle of a Daido token less block instrument are -

- () a. 1800/2700, 85 hz b. 1800/2700, 65 hz
c. 1800/2700 85 & 65 hz d. None
- 16) The line current for CRR in IRS token less block instrument is -----
- () a. 17mA b. 25mA
c. 60mA d. 130mA
- 17) Single line push button PTJ block instrument operates on -----

- () a. AC impulse code b. DC impulse code
c. AC& Dc impulse codes d. None

DOUBLE LINE BLOCK INSTRUMENT

- 18) The resistance of a door lock coil in SGE block instrument is----
- () a. 140 Ohms b. 50 Ohms
c. 160 Ohms d. 60 Ohms
- 19) Choke S1 in filter unit has impedance of -----
- () a. 5 K Ohms b. 20K Ohms
c. 40K Ohms d. 50 Ohms
- 20) The resistance of PR relay is -----
- () a. 77 Ohms b. 130 Ohms
c. 140 Ohms d. 150 Ohms
- 21) The bell coil resistance in double line block instrument is -----
- () a. 25 Ohms b. 50 Ohms
c. 60 Ohms d. 100 Ohms
- 22) In train arrival circuit on double line ____ are used
- () a. Two track circuits b. Axle counters
c. Last vehicle check device d. Treadle contact
- 23) One line clear one train movement in SGE double line block instrument working is ensured by -----
- () a. FVTR b. SR1,SR2
c. ASR d. LCPR

KEY

1. B	2. A	3. C	4. A
5. C	6. C	7.C	8.B
9. B	10. D	11.A	12.D
13. C	14. B	15.C	16. C
17. B	18. B	19.B	20.A
21. A	22. A	23.B	

TELECOM RELATED QUESTIONS

1. The output stage of a practical amplifier is always - - - coupled. ()
A) R-C B) Transformer C) L.C
2. R.C coupling is used for - - - amplification. ()
A) Voltage B) Current C) Power
3. A Zener diode is operated in the - - - -region ()
A) Breakdown Region
B) Forward characteristic region
C) Reverse characteristic region
4. A Zener diode is used as - - - ()
A) Rectifier B) Voltage regulator C) Both
5. A Transistor has - - - PN junctions ()
A) One B) Two C) Three
6. Common collector arrangement is generally used - - - ()
A) Impedance matching
B) Voltage matching
C) None of the above
7. The most commonly used transistor circuit arrangement - - - ()
A) Common base

- B) Common emitter
C) Common collector
8. The function of Transistor is to do - - - ()
- A) Rectification
B) Amplification
C) None of the above
9. Amplifiers are coupled to - - - - ()
- A) Increase gain
B) Reduce noise
C) Both
10. If three stage amplifiers has individual stage gain of 10 db, 5 db& 12 db then the total gain ()
- A) 600 db B) 7 db C) 27 db
11. Output transformer is always a - - - - transformer ()
- A) Step down B) Step up C) Both
12. Negative feedback reduces - - - - in amplifiers ()
- A) Distortion
B) Stability
C) None of the above
13. Positive feedback used in - - - - ()
- A) Oscillators
B) High gain amplifiers

C) Rectifiers

14. An Oscillator produces - - - oscillations ()
A) Damped B) Undamped C) Both
15. Tuned amplifiers are used for - - - frequency amplification ()
A) Audio B) Radio C) Both
16. Detection is done in - - - ()
A) Radio transmitter
B) Radio receiver
C) None of the above
17. Frequency modulation gives - - - noise ()
A) More B) Less C) No noise
18. Ground plane antenna are used for ()
A) VHF B) UHF
C) MW D) HF
19. In AM wave, useful power is carried by - - - ()
A) Carrier B) Side bands C) Both
20. Superhetrodyne principle provides selectivity at - - - stages ()
A) RF B) IF C) None

21. A switch has - - - states ()
A) One B) Two C) Three
22. A circuit that generates square wave is called - - - ()
A) Amplifiers
B) Multi vibrators
C) Flip-flop
23. A FET is essentially a - - - - driven device ()
A) Voltage B) Current C) Both
24. A FET is a - - - transistor ()
A) Bi-polar B) Uni-polar C) None
25. An SCR has - - - PN junctions ()
A) One B) Two C) Three
26. If firing angle in SCR increases, output is - - - ()
A) Increases
B) Decreases
C) No change
27. An SCR is a - - - switch ()
A) Uni-directional
B) Bi-directional
C) None of the above

28. A Triac is a - - - power switch ()
A) Uni-directional
B) Bi-directional
C) None of the above
29. A Triac has - - - terminals ()
A) One B) Two C) Three
30. A UJT has - - - PN Junction ()
A) One B) Two C) Three
31. A Diac is an - - - switch ()
A) AC B) DC C) Both
32. ICs are generally made of - - - ()
A) Silicon B) Germanium C) None
33. Binary means - - - Binary numbers have a base of 2 ()
A) One B) Two C) Three
34. The digits used in a binary number system are ()
A) 0 & 0 B) 0 & 1 C) 1 & 1

35. A Byte is a string of - - - Bits ()
A) 16 B) 8 C) 2
36. A typical Microcomputer have - - - registers in memory ()
A) 4096 B) 2048 C) 65536
37. A Gate is a logic circuit with one or more inputs, but only - - - output ()
A) One B) Two C) Three
38. The - - - gate has one or more high inputs, produces high output ()
A) NOT B) OR C) XOR
39. Which is the logic gate, where all input signals must be high to get a high output ()
A) AND B) OR C) NOT
40. In a NOR gate all inputs must be - - - to get high output ()
A) Low B) High C) None
41. A NAND gate is equivalent to an - - - gate followed by an inverter ()
A) AND B) OR C) NOR

42. What is ISDN? ()
A) Integrated Services Data Network.
B) Internal services digital network.
C) International services data networks.
D) Integrated services digital network
43. For making outgoing calls, what is the tone heard when the telephone handset is lifted ()
A) Busy tone B) Dial tone
C) No tone D) Ring back tone
44. What is the break down voltage suggested for lightening dischargers (LD) in the MDF of telephone exchanges ()
A) 230 V B) 160 V
C) 300 V D) 1600 V
45. What is the basic function of a telephone exchange? ()
A) Signaling B) Switching
C) Control D) All the above
46. What is the control system used in Electronic exchange ()
A) Stored program control
B) Wire logic control
C) Electromagnetic control
D) None of the above

47. The maximum number of subscriber lines in C-DOT 128P RAX type exchange is ()
- A)104 B) 112
C)96 D)88
48. The duplication system employed for the PSU card of an electronic exchange is ()
- A)Passive standby
B)Load sharing standby
C)N+1 Redundancy
D)None of the above
49. What is the object of earthing for telecommunication equipment ()
- A) To provide a return earth
B) To provide safety against shock to the working person
C) To provide protection against unduly high voltages
D) All the above
50. What is the earth electrode called ()
- A) A wire buried in to the earth nearby the equipment
B) An iron rod buried in to the earth near the equipment
C) A metal plate electrically connected to the general mass of the earth
D) None of the above

51. What is the maximum limit of earth resistance for Telecom equipment ()
- A) 10 ohms B) 5 ohms
C) 2 ohms D) 1 ohm
52. How the telecom equipment is connected to the earth electrode ()
- A) by using earthing lead
B) by keeping the equipment close to the electrode
C) by using capacitors
D) None of the above
53. What are the materials used to prepare an efficient earth for telecom equipment ()
- A) Coke, crushed coal and common salt
B) Plastic waste, thermo coal and glass pieces
C) Wood saw dust, white cement and asbestos powder
D) Wax, petroleum jelly and castor oil
54. In Microwave station which lead of the charger is earthed ()
- A) negative B) positive C) None
55. The maximum number of way stations can be in a control section using 2- digit code are ()
- A) 60 B) 99

C) 100 D) 90

56. DTMF control equipment works on ()
- A) 24 Volts B) 12 Volts
C) 48 Volts D) 230 Volts
57. Nominal ringing period at way station is ()
- A) 4 seconds B) 8 seconds
C) 12 seconds D) 1 minute
58. No. of 20 watts loud speakers permitted to connect
an 250 watt amplifier are ()
- A) 5 B) 15 C) 12 D) 20
59. Block circuits in RE area works on ()
- A) MW patch B) VF quad
C) PET quad D) Carrier quad
60. To increase the ampere hour capacity of secondary
cells, the cells are to be connected in ()
- A) Series B) Parallel
C) Series and Parallel D) One above the other
61. No. of cable pairs required for 4 wire E&M
working are ()
- A) One B) Four C) Three D) Six

62. Duplexer is used for ()
- A) To couple two different antennaes
 - B) To prevent interference between two antennas
 - C) To increase the speed of transmission
 - D) To allow one antenna to be used for reception and transmission
63. Inverter convert ()
- A) AC to DC
 - B) DC to AC
 - C) DC to DC
 - D) AC to AC
64. For converting 2 wire to 4 wire the following is required ()
- A) Low pass filter
 - B) High Pass filter
 - C) Hybrid
 - D) All these
65. In EC socket the transformer used have the impedance ratio ()
- A) 2:1
 - B) 1120 : 1120
 - C) 470 : 1120
 - D) 1120 : 600
66. In a hybrid transformer the loss is ()
- A) 2 db
 - B) 3db
 - C) 4 db
 - D) No loss
67. A power amplifier gives a gain of 3 db when the input is 1 W the output is: ()

- A) 1.3W B) 2 W C) 3 W D) .3 W
68. Grid antenna is used in ()
A) MW B) VHF C) UHF D) HF
69. Hybrid transformer is used in the following electronic exchange card ()
A) LCC B) SPC C) TIC D) TGT
70. In electronic exchange the system software is written as ()
A) E PROM B) E2 PROM
C) RAM D) ROM
71. Which of the electronic exchange card is not redundant. ()
A) X SC B) LCC
C) PSU D) RGD
72. The processor used in a C DOT exchange is ()
A) 65 CO2 B) 8085
C) Z80 D) 8031
73. Control card used in C DOT exchange is ()
A) SPC B) TIC
C) RCT D) All the above.
74. RE repeater are spaced at every ()

- A) 17 KM B) 40 KM
C) 60 KM D) 1860 M
75. The insertion loss of way station control telephone is ()
A) 3 db B) 2 db C) 0.2 db D) 0.5 db.
76. The charectristic impedance of PET quad pair is ---
----- ()
A) 600 Ohms B) 470 Ohms C) 1120 Ohms
77. The loading coil section in RE cable is ()
A) 915 m B) 1830 m C) 530m
78. Which of the MW frequency spectrum is used for Railway Administration trunks ()
A) 4125 4425 MHz
B) 7125 7425 MHz
C) 1200 1600 MHz
79. The size of RE cable having 2 PET and 12 VF quad is represented as ()
A) 2 + 0 + 12
B) 0 + 2 + 12
C) 0 + 12 + 2
D) 0 + 14
80. Float charge voltae adjusted per cell in ()

A) 2.16 V B) 2.4 V C) 1.8 V

81. Beta in grounded emitter circuit is very high due to ()

- A) base current is equal to collector current
- B) base current is small compared to collector current
- C) base current is higher than collector current

82. A metallic sheath is provided in RE cable to ()

- A) to reduce cross-talk
- B) to reduce induced voltage
- C) to reduce weight of the cable

83. In RE cable the insulation resistance will be ()

- A) less than 10 mega ohms
- B) more than 10 mega ohms
- C) above 20 mega ohms

84. Loud Speakers are always connected in parallel on ()

- A) Voltage Matching B) Impedance Matching
- C) Both of them D) None of these

KEY

1	B	2	A
3	A	4	B
5	B	6	A
7	B	8	B
9	A	10	C
11	A	12	A
13	A	14	B
15	B	16	B
17	B	18	A
19	B	20	B
21	B	22	B
23	A	24	A
25	C	26	B
27	A	28	B
29	C	30	A
31	A	32	A
33	B	34	B
35	B	36	C
37	A	38	B
39	A	40	A
41	A	42	D
43	B	44	A
45	D	46	A
47	D	48	B
49	D	50	C
51	D	52	A
53	A	54	B

55	B	56	B
57	A	58	C
59	C	60	B
61	C	62	D
63	B	64	C
65	D	66	B
67	B	68	C
69	D	70	D
71	B	72	A
73	D	74	B
75	C	76	B
77	A	78	B
79	C	80	A
81	B	82	B
83	C	84	C

SECTION 'C'

ENGINEERING OFFICIALS

ENGINEERING(P.WAY)

1. Lubrication of ERCs shall be done in corrosion prone areas ----
[]
 - (a) Every 3 months
 - (b) Every year
 - (c) Once in 2 years
 - (d) Once in 4 years

2. As per Testing Criteria of Toe Load on ERCs, Which one of the following is correct
[]
 - (a) Testing be done at a frequency of 4 years or passage of 100 GMT
 - (b) In corrosion prone areas every year testing be done
 - (c) If 20% of results (verified by 5% sample) are less than 600 kg TFR proposal be initiated
 - (d) TFR proposal be initiated if 20% of results(verified by 5% sample) are less than 400 kg

3. During deep screening, it should be ensured that when ballast is being removed from any sleeper, invariably, there are at least _____ fully supported sleepers between it and the next sleeper worked upon.
[]

- a)2 b) 4 c) 6 d) 8
4. The gap at Junction & combination fish plated joint should be _____ []
- a) 6 mm. b) 4 mm.
c) 2 mm. d) Zero
5. If a patrolman on the arrival at the end of his beat does not find the next patrolman, then he should []
- a) continue patrolling as per patrol chart.
b) Continue further and report to the SM
c) Wait for him
d) Suspend the traffic
6. When no danger is apprehended, the patrolman should stand on the ____ on the left hand side facing the train and exhibit his number plate. []
- a) Middle of the Two lines
b) Cess
c) Under a Tree
d) Ballast
7. The PWI overall Incharge shall cover his entire sub-division once in.....by train/push trolley in night and check the patrolmen. []

- a) Fortnight b) a month
c) a week d) a year
8. Minimum length of check rail, for a square crossing, should be ----- more than width of gate []
- a) 2m b) 1.5m
c) 3m d) None of the above
9. The Railway affecting tank which still requires heavy repairs, despite repeated reminders of Railway, should be considered and included in the list of___ locations. []
- a)Vulnerable b) Bad
c)Important d) Waste
10. A list of vulnerable locations should be maintained by each _____in a register form and updated. []
- a)AEN b) PWI
c)DEN d) HQ
11. Works of “short duration” are those. []
- a) Can complete one day
b) To put Engg. Indicators

- c) Does not require any SR
- d) Take prior permission from CRS

12. For works of short duration, when train has to stop at worksite, then hand signals shall be exhibited at _____, _____, and _____m. in case of BG []

- a) 30, 600, 1200 b) 30, 400, 800
- c) At spot, 400, 600 d) at spot, 270, 540

13. The flagman placing detonators should station himself at a distance not less than.....m from the place of detonators. []

- a) 100 b) 45
- c) 1200 d) 600

14. Indicators shall be placed on theside as seen by the Drivers except on CTC sections (Single line) []

- a) Left b) Right
- c) Centrally d) Oblique

15. Whistle Indicators should be provided at a distance ofm. []

- a) 500 b) 400

c) 600

d) 300

16. The normal life of detonator is_____ []

a) 10 years

b) 5 years

c) 15 years

d) 7 years

17. The life of detonators can be extended by one year after its normal life of 7 years after successful testing. Such extensions are limited to times. []

a) One

b) Two

c) Four

d) Three

18. In cuttings and high banks trolley refuges should be provided at ...m intervals. []

a) 50

b) 100

c) 150

d) 20

19. The night signal for trolley/motor trolley/lorry on single line shall be..... []

a) Both side Red

b) Red on one side and green on the other

c) Both side green

d) One side white and other side red

20. Push Trolleys shall be manned by atleastmen.
[]

a) 2	b) 3
c) 4	d) 5
21. During night and at times of poor visibility the trolley should work under
[]

a) Supervision of SM	b) Trolley memo
c) Following a train	d) Block Protection
22. Protection of trollies with H.S. flags is required only when the visibility is less than.....m
[]

a)1200	b)800
c)600	d)350
23. When two or more trollies are running together in the same direction in the same line, minimum separation required ism.
[]

a)50	b)100
c)150	d)200
24. Sample size for measurement of toe load of elastic clip is –
[]

- (a) 1% of ERCs randomly on every 100 sleepers
 (b) 2% of ERCs randomly on every 100 sleepers
 (c) 3% of ERCs randomly on every 100 sleepers
 (d) 0.5% of ERCs randomly on every 100 sleepers.
25. When the Dip lorry is required to remain stationary for more than.....minutes in Station limits then it should be protected. []
- a) 5 b) 10
 c) 8 d) 15
26. Dip Lorries working in gradients steeper thanshould be controlled by hand brakes as well as by rope tied in rear. []
- a) 1 in 200 b) 1 in 100
 c) 1 in 400 d) 1 in 300
27. The check rail clearances in BG turnouts and LCs are ----- []
- (a) 44-48mm and 51-57 mm respectively
 (b) 38-41mm and 48-51 mm respectively
 (c) 48-51mm and 63-68 mm respectively
 (d) 63-68mm and 76-80mm respectively

28. Desirable clearance between top of stretcher bar and bottom of stock rail is -----mm. []
- a) 1-2mm b) 1.5-2.5mm c) 1.5-3.0mm d) 1-3mm
29. What is the maximum distance apart of trolley refugees in tunnels []
- (a) 30.5 m (b) 50 m
(c) 80 m (d) 100 m
30. Second hand 52 kg rails can be used on Group ____ routes. []
- (a) A route (b) B route
(c) D and E route (d) only C route
31. A sleeper density of ____ sleepers per km is a must on Shatabdhi / Rajdhani routes. []
- (a) 1880 (b) 1760
(c) 1660 (d) 1720
32. The width of ballast shoulder to be provided on the outside of the curve in case of LWR is provided on the reverse curve ----- []
- (a) 500mm (b) 550 mm
(c) 600 mm (d) 650 mm

33. SEJ to be provided from the abutment at a minimum distance away of – []
- (a) 10 m (b) 20 m
(c) 30 m (d) 40 m
34. The maximum cant that can be provided on BG has to be []
- (a) 150 mm (b) 165 mm
(c) 200 mm (d) 240 mm
35. The Recommended yard gradient for new lines in B.G. []
- (a) 1 in 200 (b) 1 in 400
(c) 1 in 1000 (d) 1 in 1200
36. The formation is said to be very bad when - []
- a) less than 6 attentions are given per year
b) 6-12 attentions/year are given
c) More than 12 attentions/year are given
d) Formations are classified based on the TRC and OMS-2000 results.
37. 20 Kmph caution order is prevailing at a deep screening spot. The caution indicator board

should be fixed at a distance of _____meters
from the work spot as per IRPWM . []

- (a) 400 m (b) 600 m
- (c) 800 m (d) 1200 m

38. 1 in 20 cross cant is not provided at – []

- (a) SEJ (b) LCs
- (c) Buffer rails (d) Points and Crossing.

39. Sleeper spacing on a curve is the centre to centre
distance between two consecutive sleepers when
measured at []

- (a) Outer rail
- (b) Inner rail
- (c) Centre line of track
- (d) average of all the above.

40. What is not marked in gang chart []

- (a) Casual rail renewal
- (b) Deep screening of track
- (c) Cleaning of side drains
- (d) Machine packing

41. Laying tolerance of sleeper spacing are []

- (a) ± 20 mm (b) ± 2 mm

- (c) $\pm 15\text{mm}$ (d) $\pm 10\text{ mm}$

42. Most feasible parameter to judge the health of an LWR will be []

- (a) gaps measured at the SEJs
- (b) creep at measuring posts fixed at the ends of breathing lengths
- (c) Creep at the measuring post fixed at the centre of LWR
- (d) Creep at the middle of the breathing length

43. Hot whether patrolling is to be introduced in LWR territory ----- []

- (a) When the rail temperature goes beyond $t_m + 10$
- (b) When the rail temperature goes beyond $t_d + 10$
- (c) When the rail temperature goes beyond $t_d + 20$
- (d) When the air temperatures goes beyond $t_m + 20$

44. Maintenance operations in a LWR should be restricted to a temperature range of – []

- (a) $t_d + 10$ to $t_d - 30$ (b) $t_d + 5$ to $t_d - 25$
- (c) t_d to $t_d - 20$ (d) $t_d + 20$ to $t_d - 20$

45. While doing deep screening in LWR territory, if the rail temperature is anticipated to rise above $t_d + 10^\circ\text{C}$, we should do the following – []
- (a) stop the work
 - (b) immediately cut the LWR
 - (c) do a temporary distressing at a temperature of $t_{\max} - 10^\circ\text{C}$
 - (d) continue
46. While passing an LWR over a girder bridge the rail-sleeper fittings should be – []
- (a) rail free type
 - (b) rigid type
 - (c) two way keys
 - (d) elastic rail clips with effective toe load.
47. The gap at SEJ at the time of laying / Subsequent distressing of LWR for a 52 kg Rail section is []
- (a) 60 mm
 - (b) 40 mm
 - (c) 20 mm
 - (d) 120 mm.
48. Gap survey of an SWR has to be done – []

- (a) Just before the monsoon
 - (b) Just after the monsoon
 - (c) Before the onset of the summer season in Feb/March
 - (d) None of the above.
49. Destressing by tensor has to be resorted to when – []
- (a) labour force available is small
 - (b) the blocks are not available
 - (c) the prevailing temperature is less than t_d
 - (d) a more sophisticated method has to be used.
50. Hot weather patrolman have a beat of – []
- (a) 2 km on single line track
 - (b) 1 km of a single line track
 - (c) 2 km on a double line track
 - (d) not more than 5 km
51. SEJs are inspected by the PWI / APWI once – []
- (a) Every 15 days
 - (b) Every 7 days
 - (c) As desired by the AEN (Open Line).
 - (d) Every 15 days in the two hottest and two coldest months of the year and once in 2 months from the remaining period

52. Generally, while performing through packing manually on LWR, opening of sleepers is limited to – []
- (a) Alternate sleeper to be opened
 - (b) Upto 100 sleepers to be opened at a time
 - (c) No restriction but the temperature restriction to be observed
 - (d) Only 30 sleepers to be opened within a temperature range of $t_d + 10$ and $t_d - 30^{\circ}\text{C}$.
53. Permissible speed on 1 in 8.5 turnout with curved switch 52/60 kg on PSC sleepers []
- (a) 10 kmph
 - (b) 15 kmph
 - (c) 20 kmph
 - (d) 25 kmph
54. Emergency repairs to a buckled track involve – []
- (a) Slewing track to original position
 - (b) Machine cut a rail piece out of track and slew back the track
 - (c) Gas cut and slew back to original alignment
 - (d) Wait for temperature to go down before slewing back track to original position.
55. Maximum permissible vertical wear on wing rail or nose of crossing shall be []

- (a) 10mm (b) 5 mm
- (c) 15 mm (d) 20 mm

56. SEJ can be laid on transition curve with degree not sharper than – []

- (a) 1°
- (b) 0.5°
- (c) 2°
- (d) SEJ shall not be located on transition.

57. For checking correct curvature of tongue rail, ordinates should be measured []

- (a) At every 3m
- (b) At midpoint of the tongue rail
- (c) At mid point and quarter points of the tongue rail
- (d) At every 20 m

58. Recommended maximum throw of switch on BG is []

- (a) 95mm (b) 105mm
- (c) 110mm (d) 115mm.

59. Chord length for measuring lead curvature of a turn-out is []
(a) 3m (b) 4m (c) 6m (d) 9m.
60. Frequency of inspection of Points & Crossings on running lines by a PWI in-charge & his Assistant is once in _____ in rotation []
(a) month (b) two months
(c) 3 months (d) 4 months
61. Max. permissible speed on 1 in 8 $\frac{1}{2}$ curved switch is ____ kmph and that on 1 in 12 curved switch is ____ kmph. []
(a) 15 & 30 (b) 30 & 15
(c) 15 & 25 (d) 30 & 50
62. The maximum permissible value for actual cant, cant deficiency and cant excess is ____, ____, ____ and mm respectively for BG, group 'E' route. []
(a) 100, 50, 50 (b) 165, 75, 75
(c) 140, 65, 65 (d) 180, 100, 100
63. Frequency of inspection of a curve by PWI in BG group-A routes is once in []

- (a) 3 months (b) 4 months
- (c) 5 months (d) 6 months

64. Station to station versine variation permitted for 110 kmph speed is _____mm. []

- (a) 15mm or 25% of the average versine on circular curve whichever is more
- (b) 10mm
- (c) 20mm or 15% of the average versine on circular curve whichever is less
- (d) 40mm

65. Flat tyre causes maximum damage at a speed of []

- (a) 90 to 100 kmph
- (b) 25 to 30 kmph
- (c) 10 to 15 kmph
- (d) 50 to 75 kmph

66. Urgent attention is required at all locations where vertical & lateral acceleration peaks exceed - []

- a) 0.2g (b) 0.15g
- (c) .30g (d) 0.35g

67. Need for urgent maintenance of track, arises when the value of individual indices of different parameters of TGI is less than []
(a) 100 (b) 75 (c) 50 (d) 35
68. Minimum frequency of overhauling of a level crossing in PSC track is once in _____ []
(a) year (b) two year
(c) six months (d) three
69. Height gauges should be located at a minimum distance of ___ m from the gatepost. []
(a) 6 (b) 8 (c) 10 (d) 20
70. Frequency of census at a level crossing is ___ years. []
(a) 3 (b) 1 ½ (c) 2 (d) 2 1/2
71. A Gateman should have certificate of fitness of Class _____ from Medical Department. []
(a) A-I (b) A-III
(c) B-I (d) B-II
72. At night the gateman should lit ___ nos. hand signal lamps. []

(a) 2 (b)1 (c)nil (d)3

73. The minimum clearance of check rails at a level crossing should be ____mm []

(a) 41 (b) 51 (c) 61 (d) 31

74. As per IRPWM one speed breaker should be provided on either approach of level crossing located within the railway boundary at a distance maximum feasible but not exceeding _____ m. []

(a)5 (b)10 (c)20 (d)30

75. Whistle indicator board on the approaches of UMLCs should be provided at a distance of []

(a) 200m (b) 400 m
(c) 600 m (d) 800 m

76. At the close of tamping work in mechanised maintenance P. Way Manual prescribes a ramp gentler than ----- []

(a) 1 in 100 b) 1 in 500
(c) 1 in 1000 (d) 1 in 720

77. Hot weather patrolling in LWR/CWR shall be introduced when temperature is []
- (a) $t_d + 10^\circ$ or above (b) $t_d + 20^\circ$ or above
(c) $t_d + 30^\circ$ or above (d) $t_d + 50^\circ$ or above
78. What distance from a danger location should 3-detonators be fixed on BG? []
- (a) 270 m (b) 600 m
(c) 800 m (d) 1200 m
79. During deep screening, it should be ensured that when ballast is being removed from any sleeper, invariably, there are at least ___ fully supported sleepers between it and the next sleeper worked upon. []
- (a) 1 (b) 2 (c) 3 (d) 4
80. After emergency repairs to fracture in LWR Track, the first train has to pass at a speed of []
- (a) Stop Dead & 10 kmph
(b) Stop Dead & 20 kmph
(c) 20 kmph
(d) 30 kmph

81. CWR/LWR shall not be laid as curves sharper than _____m radius both for BG and MG. []
- (a) 440 m (b) 340m
(c) 240m (d) 140m
82. Clearance between Guard rail and Running rail on bridges in case of BG track []
- (a) 250 ± 50 mm (b) 200 ± 25 mm
(c) 150 ± 25 mm (d) 25 ± 25 mm
83. The clear distance between bridge timbers at joints should not exceed _____mm both B.G and M.G. is []
- (a) 100 (b) 450 (c) 200 (d) 50
84. The top table of the guard rail should not be lower than that of the running rail by more than__ mm. []
- (a)10 (b)15 (c)20 (d)25
85. The recommended minimum distance centre to centre of track BG is _____m, for B.G. []
- (a) 4265 (b) 4725

(c) 5300 (d) 1676

86. The recommended minimum widths of embankment for B.G. single line is ____mm []

(a) 5300 (b) 6850
(c) 6250 (d) 4725

87. The recommended minimum widths of cutting for B.G. Single line []

(a) 4495 (b) 12550
(c) 6250 (d) 1676

88. Minimum depth of space for wheel flange from rail level in B.G. is _____mm. []

(a) 18 (b) 28.5
(c) 38 (d) 44

89. The maximum and minimum horizontal distances from centre of track to face of passenger platform coping for B.G. are _____ mm & _____mm respectively. []

(a) 1540 & 1500 (b) 1680 & 1670
(c) 1905 & 1675 (d) 1690 & 1575

90. The maximum and minimum distances from center of track to the face of any platform wall are ____mm & ____mm respectively. []
- (a) 1540 &1500 (b) 1905 &1675
(c) 1680 &1670 (d)1690&1575
91. Maximum and minimum heights above rail level for B.G. high level passenger platforms are _____ mm & _____ mm. []
- (a) 840 &760 (b) 950 &1050
(c) 1680 &1670 (d)1690&1575
92. The maximum height above rail level for B.G. goods platforms is ____mm []
- (a) 1500 (b) 1200
(c) 1065 (d)1690
93. In need based system of USFD testing, rail with IMR defect should be replaced within []
- a) 10 days b) 5 days
c) 3 days (d) 7 days
94. In a turnout, the turnout side stock rail should be given a bend at []
- a) Actual Toe of Switch

- b) Heel of Switch
- (c) Theoretical Toe Switch
- (d) SRJ

95. Maximum permissible cant deficiency on BG Group D route is []

- a) 100mm.
- b) 65mm
- c) 75mm
- d) 50 mm

96. Frequency of the inspection of level crossings by JE/SE- []

- a) Once a month
- b) once in 2months
- c) once a year

97. Recommended gradient in station yard_____ []

- (a) 1200
- (b) 400
- (c) 100
- (d) 500

98. When more than one track machine is running in a block section, there should be a minimum distance of _____ m between two units. []

- (a) 120m
- (b) 160m
- (c) 200m
- (d) 220m

99. Fish plated joint shall be avoid in check rails & on the running rails withinfrom the end of LC. []
- a) 9m b) 6m c) 3m d) 2m
100. Emergency crossovers should be []
- (a) lubricated on the gauge faces to reduce derailment proneness
(b) lubricated on the rail table to reduce derailment proneness
(c) lubricated on the gauge tie plates to reduce derailment proneness
(d) Lubricated on non-guage face to reduce derailment proneness
101. In design mode of tamping, lift values should be fed at []
- (a)front bogie of tamping machine
(b)at middle measuring trolley
(c)at the rear measuring trolley
(d) Rear bogie of tamping machine
102. Banner flag at level crossing shall be provided at.....distance from the ends of check rail- []
- a) 7m b) 6m c) 5m d) None of these

103. Minimum distance of gate posts from centre line of nearest track on BG as per IRPWM - []
a) 3m b) 2.5m c) 2m d) 5m
104. In skew level crossings, the angle of crossing should not be less than 45^0 and gate posts shall be fixed 5m to the road in which class of gate? []
a) Special b) A class c) B class d) C class
105. Minimum number of gate keepers on 'B' class level crossing should be----- []
a) 1 b) 2 c) 3 d) 4
106. The clear distance between consecutive sleepers laid over unballasted bridge on BG should not exceed----- []
a) 510mm b) 850mm c) 450mm d) 150mm
107. Dynamic gauge for BG []
a) 1750 b) 1676 c) 1065 d) 1690
108. Diameter of drill bit for hole in a gapless joint should be----- []

- a) 28.5mm b) 32mm c) 26.5mm d) 30mm

109. In calculating TVU, the Bullock carts is taken as []

- a) ½ unit b) 1 unit c) Not considered d) 2 units

110. The purpose of OMS 2000 is to record []

- a) Track geometry
- b) Rail profile
- c) Acceleration monitoring in vertical & lateral
- d) Track feature measurement

111. Permanent rail closure on running line should not be less than []

- a) 6.5m b) 6.0m c) 5.5m d) 4.0m

112. Permanent rail closure on bridge approach should not be less than []

- a) 13.0m b) 11.0m c) 6.0m d) 5.50m

113. Second quality rails when used on siding the speed shall be restricted to – []

- a) 50kmph b) 30kmph c) 20kmph d) 75kmph

114. Service life of 90UTS rail is-----% higher than that of mm rails. []
- a) 40% b) 45% c) 50% d) 55%
115. Defective Weld (DFW) shall be marked with- []
- a) One red cross b) two red cross
c) three red cross d) No mark
116. Gauge on P.S.C sleeper BG- []
- a) 1676 b) 1673 c) 1679 d) 1681
117. Rubber pads should be stored in cool dry place preferable below- []
- a) 30° b) 45° c) 55° d) 25°
118. Liners when reduced in thickness by.....mm or more shall be replaced- []
- a) 2mm b) 3mm c) 4mm d) 1mm
119. What is the minimum height of the bottom of an ROB in AC traction area from rail level []
- a) 5870mm b) 5500mm c) 5460mm d) 5200mm

120. Minimum clean ballast cushion required for tie tamping- []

a)150mm b) 250mm c) 300mm d) 350mm

KEY

1	B	2	D	3	B
4	D	5	B	6	B
7	B	8	A	9	A
10	A	11	A	12	A
13	B	14	A	15	C
16	D	17	D	18	B
19	A	20	C	21	D
22	A	23	B	24	A
25	D	26	B	27	A
28	A	29	D	30	C
31	C	32	C	33	A
34	A	35	D	36	C
37	C	38	D	39	A
40	A	41	A	42	A
43	C	44	A	45	C

46	A	47	B	48	C
49	C	50	A	51	D
52	D	53	B	54	C
55	A	56	B	57	C
58	D	59	C	60	C
61	A	62	A	63	D
64	A	65	B	66	D
67	D	68	B	69	B
70	A	71	B	72	A
73	B	74	C	75	C
76	C	77	B	78	D
79	D	80	A	81	A
82	A	83	D	84	D
85	C	86	B	87	C
88	C	89	B	90	B
91	A	92	C	93	C

94	C	95	C	96	A
97	A	98	A	99	C
100	A	101	A	102	C
103	A	104	A	105	B
106	C	107	A	108	C
109	B	110	C	111	C
112	B	113	A	114	C
115	B	116	B	117	A
118	A	119	A	120	A

SECTION ‘D’

DIESEL TRACTION (TECHNICAL)

OBJECTIVE TYPE OF QUESTIONS
(TECHNICAL)

1. _____ Valve will help to create vacuum in trailing loco in MU.
- () **a) VA1B**
 b) A1 differential valve
 c) MU2B
 d) 28 VB
2. _____ safety device is provided to prevent traction motors from damages.
- () **a) ESR**
 b) SAR
 c) WSR
 d) GFOLR
3. L7 HP pipe line cracked.
- () **a) Fail the loco**
 b) Lock rack of L7
 c) Lock left side racks
 d) Ignore
4. When GF contactor packed, loco can be worked in _____
- () **a) By manual transition**
 b) Only in parallel

- c) Series parallel
d) Normal
5. During dynamic braking _____ valve avoids loco brake to apply.
- () a) Additional C2 relay valve
b) BK1V
c) C2 relay valve
d) SA9
6. If power cable become overheats _____ will experience.
- () a) Continuous wheel slip
b) Explosive power ground
c) Non explosive power ground
d) Nothing.
7. If pinion is slipped _____ relay will operate
- () a) FSR
b) ESR
c) WAR
d) ERF
8. PATB will operate if _____.
- () a) PCS knocked out
b) MR Pressure dropped
c) Loco brake applied

d) Alarm chain pulled

9. In IRAB 1 brake system PCS picks and drops at _____.

- () **a) 4.0 & 4.5 kg/cm²**
b) 1.3 & 1.6 kg/cm²
c) 4.0 & 4.8 kg/cm²
d) 2.5 & 3.0 kg/cm²

10. If electrolyte leaks from battery _____ will happen.

- () **a) Starting ground**
b) Battery discharging
c) Non-explosive power ground
d) Engine shut down.

11. If explosion door burst, _____.

- () **a) Fail the loco**
b) Wait for second time
c) Work on 4th notch
d) Work up to destination.

12. ADA dropped on run

- () **a) Locos will derail**
b) Engine shut down
c) Auto transition and ESM fail
d) Engine come to idle.

13. After releasing A9, for quick charging of BP, in WDM_{3A} _____ is provided
- () **a)** Foot pedal
b) BP governor switch
c) SA9 quick release
d) Overcharging feature.
14. Engine having 5 kg/cm² and BV having 4.0 kg/cm² of BP then _____ test to be conducted.
- () **a)** Efficiency
b) Continuity
c) Blockage
d) Leakage
15. _____ test to be conducted while cleaning stabled loads.
- () **a)** Blockage
b) Leakage
c) Air Continuity
d) Efficiency
16. To find out the leakage in the formation _____ is provided.
- () **a)** Air flow indicator
b) Main reservoir
c) BP gauge
d) Spy glass.

17. Name the wheel numbers to which brake blocks get applied when hand brake is applied.
- () **a) L5-6**
b) R4-2
c) L2-3
d) L1-2
18. In expansion tank, if water level comes down below 1" from bottom of tank _____ safety device will operate.
- () **a) LLOB**
b) PCS
c) LWS
d) OSTA
19. When train parting on run _____ valve will operate to bring engine speed to idle
- a) HB5**
b) VA1B
c) H5A
d) HS4
20. In short hood control stand _____ duplicate breaker is provided.
- () **a) MCB**
b) MFPB
c) AGFB
d) ERF

21. In long hood control stand _____ duplicate breaker is provided.
- () **a) MCB**
b) MFPB
c) AGFB
d) ERF
22. The safety device provided in the brake system is _____.
- () **a) OPS**
b) LWS
c) PCS
d) OSTA
23. Dust exhaustor motor is available for _____ types of filters.
- () **a) Car body filters**
b) Cyclonic filters
c) Air maize filters
d) All of these
24. If radiator room door remain in open position _____ will be experienced.
- () **a) Engine shut down**
b) Hot engine
c) Load meter not responding
d) None of these.

25. On run, if MCB1 or MCB2 trips _____ trouble will be experienced.
- () **a)** Engine shut down
b) Load meter not responding
c) Throttle not responding
d) None of these.
26. To protect power circuit from earth fault _____ relay is provided
- () **a)** DMR
b) GR
c) ESR
d) SAR
27. Control air pressure is controlled by _____
- () **a)** F2 feed valve
b) N1 reducing valve
c) MU2B valve
d) 28VB valve.
28. The traction motor gear case is having _____ No. of bolts.
- () **a)** 4
b) 7
c) 6
d) 8

29. If in series parallel WSR2 and in parallel WSR2 operates _____ traction motor may be defective.
- () **a) 1**
b) 2
c) 3
d) 4
30. In WDM₂ OPS prevents engine damages due to lack of _____
- () **a) Water cooling**
b) Lube oil lubrication
c) Governor oil supply
d) None of these
31. In WDM₂ LWS prevents engine damages due to lack of _____
- () **a) Water**
b) Lube oil
c) Governor oil
d) None of these
32. $\frac{3}{4}$ " COC is between _____.
- () **a) Addl.C2 relay valve & BP pipe**
b) MR2 & Addl.C2 relay valve
c) C2 relay valve & brake cylinder
d) None of these.

33. WDM₂ loco is having _____no. of brake blocks.
- () **a)** 16
b) 24
c) 12
d) 18
34. LWS is located in _____
- () **a)** Engine room
b) Expresser room
c) Radiator room
d) Generator room.
35. HS4 valve pressure is _____.
- () **a)** 24 PSI
b) 60 PSI
c) 26 PSI
d) 70 PSI
36. N1 reducing valve is provided in _____.
- () **a)** Engine room
b) Expressor room
c) Radiator room
d) Nose compartment.

37. 28 VB valve is provided in _____.
- () **a)** Nose compartment
b) Long hood control stand
C) Short hood control stand
D) Driver's cabin.
38. In WDM₂ axle boxes are lubricated by _____.
- () **a)** Lube oil
b) Cardium compound
c) Soft grease
d) Hard grease.
39. N1 reducing valve is used to control _____ pressure.
- () **a)** BP pressure
b) FP pressure
c) Control reservoir air pressure
d) MR pressure.
40. Malfunctioning of LWS leads Engine to _____.
- () **a)** Idle RPM
b) 4th Notch RPM
c) Shutdown
d) None of the above.

41. No of brake cylinder COCs on WDM₂ loco are_____
- () **a)** Four
b) Six
c) Two
d) Three
42. One of the reason for MR pressure not building up is _____
- () **a)** Inter cooler tubes burst
b) Safety valve dummied
c) Auto blow down valve not working
d) Engine hunting
43. Position of EP governor switch on control stand in rear loco f MU set is _____
- () **a)** Neutral
b) OFF
c) ON
d) Close
44. Auto flasher light comes in to action if_____
- () **a)** A9 applied
b) SA9 applied
c) Unauthorized drop in BP or vacuum due to ACP, train parting etc.
d) Dynamic brake applied

45. Flat tyre can happen_____
- () **a)** if hand brake is in applied condition
b) if SA9 applied instead of A9 on run
c) Wheel is not rotating due to TM bearing seized or obstruction in gear case
d) All the above
46. Proportionate brakes not working_____
- () **a)** 28 VB COC in closed condition or 28VB valve defective
b) Brake cylinder COC's of both trucks are in closed condition
c) Foot pedal is malfunctioning or in pressed condition
d) All the above
47. Problem in brake power due to _____
- () **a)** A9 COC in both control stands in open condition
b) A9 COC in both control stands in closed condition
c) For loaded rake the load/empty device in empty direction
d) All the above

48. AFL system gets operated during_____
- () **a)** Fireman emergency
 b) ACP
 c) Guard application
 d) All the above
49. Control; air pressure in the loco
- () **a)** 5Kg/cm²
 b) 6Kg/cm²
 c) 8.55Kg/cm²
 d) 9.5Kg/cm²
50. In AC/DC Locomotives engine is cranked by
- () **a)** Main Generator
 b) Auxiliary & Exciter Generators
 c) Auxiliary Generator
 d) Exciter Generator

KEY

1	B	16	A	31	A	46	D
2	C	17	D	32	A	47	D
3	B	18	C	33	B	48	D
4	C	19	A	34	B	49	A
5	B	20	B	35	A	50	B
6	A	21	A	36	D		
7	C	22	C	37	C		
8	D	23	B	38	C		
9	B	24	B	39	C		
10	A	25	C	40	C		
11	A	26	B	41	C		
12	C	27	B	42	A		
13	D	28	B	43	B		
14	D	29	B	44	C		
15	C	30	B	45	D		

FILL UP THE BLANKS

1. What is the position of MU2B valve for application of loco brake _____
2. What is the position of BC 3 way cocks in under truck for application of loco brakes _____
3. How much brake cylinder pressure is adjusted for application of loco brake _____
4. What is position of SA9 cocks in control stand for application of loco brake _____
5. If MU locos are parted, through which valve in conjunction brake will be applied in parted loco. _____
6. What will happen if BP and FP pipes are wrongly connected _____
7. What for foot pedal is provided. _____
8. What is brake cylinder piston travel of WDG3A loco motive _____
9. What is brake cylinder pressure during in conjunctional brake _____.

10. When loco motive is working as banker, what is position of 3/4 or 1 inch BP cock _____
11. What happens if 3/4 or 1" BP cock is in open position when loco motive is working as banker _____
12. What is purpose of air flow I indicator gauge. _____
13. Which valve plays vital role for application of loco brake. _____
14. Which valve plays vital role for BP charging. _____
15. Which relay will detect the wheel slip _____
16. During train parting through which relay engine RPM comes to idle _____
17. Other than A9 if BP or vacuum drops what will happen _____
18. What is the MPS of WDG3A _____
19. What is the MPS of WDM2 _____
20. What is the MPS of WDP1 _____
21. What is the MPS of WDM3A _____
22. What is the MP of WDP4 _____

23. What is the MPS of WDG4_____
24. Which light to be switched on whenever the train is derailed_____
25. What the maximum length of wheel flat permitted on diesel loco _____
26. When hand brake is applied for how many wheels brake will be applied_____
27. After how many seconds VCD applied penalty brake_____
28. What we are suppose to do if loco motive horns are not working_____
29. What we are suppose to do if locomotive speedometers are not working _____
30. What is the brake power percentage of a train, in 50 wagons formation, for 12 wagons brake cylinder pistons are in operated _____
31. In MU operation if leading loco is failed, Working from leading loco what are the Changes to make _____

32. What is position of 3/4 or 1" BP cock in trailing loco, when loco motives are working as double headed_____.
33. What happens if 3/4 or 1" BP cock is in open position, when loco motives are working as double headed. _____.
34. What is reason for BP pressure dropping only in A9 emergency position_____
35. What is reason for BP pressure dropping from over reduction position_____
36. How do you secure engine and formation when loco motive shutdown in the section_____
37. What is safety device provided in brake system _____
38. What are breakers to be kept in off position to avoid VCD operation in MU trailing loco_____.
39. What is the minimum wheel diameter of wheel in mm. _____
40. What is the max. wheel diameter of wheel in mm _____
41. What is the height of cattle guard above the rail in mm. _____

42. To avoid separation of chassis & bogie_____ are provided in WDM2 locomotive.
43. What is the height of sander pipe above the rail in mm. _____
44. What is the minimum flange thickness permitted in mm. _____
45. What is the maximum flange thickness permitted in mm. _____
46. What is the maximum root wear in mm_____
47. What is the maximum tread wear in mm_____
48. What is buffer height should be minimum in mm _____
49. What is buffer height should be maximum mm. _____
50. If dead loco BP is attached to formation what is position of MU 2B & 3/4 “BP cock _____
51. On run if pinion slips _____ relay will operate and if traction motor cable rubbed with loco body _____ relay will pick up.

52. Alarm gang will operate for _____ safety devices operated and buzzer will operate for _____ safety device operation.
53. _____ Switch is fitted in brake system and it is making _____ relay to operate.
54. Mention any two different types of breakers making engine shut down on run _____.
55. On bringing A9 to emergency _____ switch will drop and _____ relay makes engine to idle.
56. If MFPB1 and MFPB2 is defective _____ contactor will not energize and to overcome the problem _____ to be put on.
57. For the feed pipe, air is coming from _____ reservoir through _____ valve.
58. For charging the BP pressure, MU2B position is _____ and 3/4" BP COC is _____ Position.
59. For making MU operation, the trailing loco MU2B position is _____.

60. After attaching a loco to the air brake formation _____ test to be conducted on formation.
61. In case of TM isolation, remaining motors are connection in the circuit in _____ combination.
62. Foot pedal switch is provided for _____
63. Brake pipe pressure is _____.
64. Feed pipe pressure is _____.
65. The purpose of GFOLR in AC/DC Locomotive _____
66. If fuel oil gauge pipe is leaking, the remedial action to be taken _____
67. In IRAB Locomotive, conjunctional brakes are actuated by _____
68. If dead loco is attached MU2B & ¾" BP COC in dead loco should be _____
69. In WDG4 loco the position of A9 During starting, in non working console _____
70. If BKT or Reverser is not operating properly what is the action to be taken _____

KEY

1. Lead position.
2. Open position.
3. 3Kgs.
4. Working control stand SA9 cock open and non working SA9 cock close or both open.
5. F1 selector.
6. Formation brakes fail.
7. To release conjunctonal.
8. 95.105MM.
9. 1.8kgs/cm2.
10. Close.
11. Brake power will be very poor.
12. To show the rate of leakage in BP.
13. C2 relay valve.
14. Additional C2 relay valve.
15. WSR.
16. DMR.
17. Engine RPM comes to idle, Automatic switching on of flasher light, audio and visual take place.
18. 100 KMPH.
19. 120 KMPH.
20. 120 KMPH.
21. 120 KMPH.
22. 160 KMPH.
23. 100 KMPH.
24. Flasher light.

25. 50MM
26. For one Wheel full and for other wheel half.
27. 94 sec.
28. They should get repair or fail the locomotive.
29. Fail the locomotive.
30. 76 percentage.
31. Switch off, FPB, CCEB,AGFB, in failed loco.
32. Closed.
33. Brake power will be very poor.
34. Working control stand A9 cock may be in closed position and non working control stand A9 cock may be in open position.
35. Both control stands A9 cocks may be in open position.
36. Apply SA9, Apply A9 to emergency position, Apply Hand brake, Keep the skids under neath the loco motive wheels, apply hand brakes of formation based on gradient, advice guard to apply hand brake of brake van.
37. PCS.
38. MCB1& MCB2.
39. 1016.
40. 1095.
41. 100.
42. Collar pins (truck holding pins) and 'U' bracket
43. 60.
44. 29.
45. 32.

- 46. 6.0
- 47. 6.5
- 48. 1030.
- 49. 1105.
- 50. Dead, close.
- 51. WSR, GR
- 52. LWS, OPS, GR, ETS WSR
- 53. PCS, DMR
- 54. MFPB, MB2, FPB
- 55. PCS, DMR
- 56. Fuel pump, put on duplicate MFPB
- 57. MR1, F2 feed valve
- 58. Lead, Open
- 59. Trail or dead
- 60. Air Continuity
- 61. Parallel
- 62. Isolating loco brake during A9 application. &
Quick release for Loco brakes
- 63. 5 kg/cm²
- 64. 6 kg/cm²
- 65. To protect Main Generator field & rectifier panel
- 66. Gauge connection to be dummied at regulating
valve.
- 67. Distributive valve.
- 68. Dead, close.
- 69. Full service.
- 70. Operate manually with 'L' rod.

SECTION 'E'

ELECTRIC TRACTION (TECHNICAL)

QUESTION BANK ON AC TRACTION LOCOS

CONTROL & POWER CIRCUITS

1. Controlling fuse for SMGR control circuit is....
 - a) CCPT
 - b) CCA
 - c) CCBA
 - d) CCDJ ()

2. On run when GR is on notches and CCPT is melted.....happens in the loco
 - a) Panto lowers
 - b) GR comes to Zero
 - c) DJ trips
 - d) Both (a) & (c) ()

3. The capacity of CCPT is..... Amps
 - a) 16 Amps
 - b) 6 Amps
 - c) 10 Amps
 - d) 35 Amps ()

4. When pacco switch is in pressed condition, the crew experiences Traction failure.
 - a) TLTE with LSB
 - b) TLTE without LSB

- c) Auto regression with LSP
d) None of the above ()
5. The SMGR pressure should be between..... tokg/cm²
a) 2.5 to 3.5
b) 3.0 to 3.5
c) 3.5 to 4.0 ()
6. When rear cab BL is not locked properly, crew experiencesTraction failure.
a) TLTE with LSB
b) TLTE without LSB
c) Auto regression with LSP
d) 1st notch Auto regression without LSP()
7. While operating GR manually GR shall be rotated within..... seconds
a) 0.5 sec
b) 0.6 sec
c) 5 sec
d) None ()
8. Auxiliary controlling relay is.....
a) Q118
b) Q49
c) Q119
d) Q100 ()

9. When BLVMT is defective blowers can be started by.....
- a) Wedging contactors
 - b) Changing switch position
 - c) Taking a notch
 - d) Ask for relief Loco ()
10. After wedging any 3 phase EM contactor ensure.....without fail.
- a) Proper closing of 3 tips
 - b) Motor is working
 - c) Both (a) & (b)
 - d) None of the above ()
11. During RB..... valve energizes automatically to avoid proportional working
- a) Auto drain
 - b) VEF(E)
 - c) RGCP
 - d) VEAD ()
12. If Q100 is wedged and BLVMT is not opened after passing neutral section crew experiences tripping failure.
- a) Operation 'O'
 - b) Operation II
 - c) Operation I

d) ICDJ ()

13. Starting current rating up to 2 minutes for WAG-7 loco TMs is..... Amps

- a) 1200
- b) 1250
- c) 1300
- d) 1350 ()

14. Continuous current rating of TMs in WAG-7 & WAP4 locos is..... Amps

- a) 960 Amps
- b) 750 Amps
- c) 1150 Amps
- d) 900 Amps ()

15. QRSI-1 setting in WAG-5 is..... Amps and in WAG-7 loco is..... Amps.

- a) 3300,3600
- b) 3000,4000
- c) 4000,4500
- d) 3600,4000 ()

16. QD actions are.....

- a) Auto regression of few notches
- b) Auto sanding
- c) LSP glows
- d) All the above ()

17. Poly glass material projecting from TM vent mesh is called asfailure
- a) Short circuit
 - b) Over current
 - c) Banding failure
 - d) None of the above ()
18. Relay will act when banding failure takes place in TMs
- a) QRSI
 - b) QLM
 - c) QOP
 - d) QLA ()
19. If banding failure takes place clear the section not exceeding.....Kmph of restricted speed.
- a) 40
 - b) 25
 - c) 10
 - d) 15 ()
20. While using RB brakes should not be used to avoid loco wheel skidding
- a) A9
 - b) SA9
 - c) Both A9 & SA9
 - d) None ()

21. In WAG5 or WAM4 locos QLM is set atAmps of current
a) 325 Amps
b) 450 Amps
c) 300 Amps
d) 400 Amps ()
22. In WAG7/WAP4 locos QLM is set at
Amps of feeding power circuit.
a) 325 amps
b) 450 Amps
c) 300 Amps
d) 400 Amps ()
23. When panto is raised and DJ is in open position
.....protects roof equipment against surge
voltage
a) ET TFP 1
b) ET 2
c) ET 1
d) ET TFP 2 ()
24. After closing DJ, protects main
transformer against surge voltage
a) ET TFP 1
b) ET 2
c) ET 1

d) ET TFP 2 ()

25. On run when GR is on notches and CCPT is melted happens in the loco

- a) Panto lowers & GR does not comes to zero
- b) Panto lowers & GR comes to zero
- c) DJ trips & GR comes to zero ()

26. While operating GR manually equipment to be observed

- a) PHGR
- b) RPGR
- c) CGR arc-chutes
- d) RGR ()

27. Maximum permitted voltage in WAG-5 for Hitachi motors is.....volts

- a) 865 Volts
- b) 740 Volts
- c) 750 Volts
- d) 700 Volts ()

28. After moving MP to 'P' position ... contactor closes

- a) C107
- b) C145
- c) C118
- d) C111 ()

29. When ZQWC is pressed, QWC relay will energise only when GR is on.....
Notch(es)
a) '0'
b) '1'
c) '0' or '1'
d) Above 20th notch ()
30. seconds time gap should be given for each operation of MPS
a) 10
b) 15
c) 45
d) 30 ()
31. In conventional locos, if CHBA is isolated, work the train for..... hours during day time and hours during night time with minimum utilization of battery supply
a) 6 hrs, 4 hrs
b) 4 hrs, 6 hrs
c) 5 hrs, 4 hrs
d) 6 hrs, 3 hrs ()
32. In twin beam head light loco, if head light is not glowing, change..... Switch on DC-DC Converter and try

- a) Toggle
- b) ZPT
- c) ZRT
- d) Bi-Polar ()

33. When head light is not glowing work the train with maximum kmph speed during night time

- a) 50 KMPH
- b) 30 KMPH
- c) 40 KMPH
- d) 60 KMPH ()

34. Purpose of additional CCBA is to.....

- a) Protects BA +ve cable
- b) Protects BA -ve cable
- c) Protects BA CHBA
- d) Protects BA UBA ()

35. AFL and ACP circuits are protected by..... fuse

- a) CCLSA
- b) CCLS
- c) CCA
- d) CCPT ()

36. Relay causes Auto Regression during AFL working

- a) PR1
- b) PR2
- c) RGEB2
- d) Q20 ()

37. During A9 application..... Relay energizes and nullifies the AFL actions

- a) Q121
- b) Q120
- c) QFL
- d) PR1 ()

38. Lower pantograph caution order will be given during..... situation to running train

- a) Engineering block
- b) Emergency feed extension
- c) (a) & (b)
- d) None of the above ()

39. Length of the conventional type of Neutral section is..... meters

- a) 42 m.
- b) 45 m.
- c) 41 m.
- d) 4.8 m. ()

40. The length of PTFE neutral section is..... meters

- a) 2.8 m.
- b) 4.8 m.
- c) 4.2 m.
- d) 5.8 m ()

41. The zigzag arrangement of contact wire is called as

- a) Auto tension
- b) Regulating
- c) Un regulating
- d) Staggering ()

42. On run, if OHE contact wire is found hanging, the immediate duty of the crew is.....

- a) Inform TLC
- b) Inform TLC
- c) Keep ZPT on “0” and apply emergency brakes or press BPEMS
- d) None of the above ()

43. If ATDs are provided at both ends of Contact and Catenary wires, it is known as type of OHE

- a) Un-regulated
- b) Semi regulated
- c) Regulated
- d) Un known ()

44. To maintain uniform wear & tear of panto pan
..... arrangement is provided on OHE
- a) ATD
 - b) Staggering
 - c) Anti creep
 - d) (a) & (b) ()
45. Emergency telephone sockets are provided at a
distance ofmeters along the track
- a) 1000 m.
 - b) 1500 m.
 - c) 900 m.
 - d) 750 m. ()
46. Sander's control circuit controlling fuse
is.....
- a) CCA
 - b) CCLSA
 - c) CCLS
 - d) CCPT ()
47. Whenever cattle run over takes place, if BP
dropped due to front side BP angle cut-off cock is
broken, the duty of LP is to close.....COC to
maintain BP
- a) A8 COC
 - b) RAL COC
 - c) Front side Addl. BP angle COC

d) A9 COC ()

48. Whenever cattle run over takes place, after clearing the block section, the LP has to check voltage (after tripping DJ)

- a) OHE voltage
- b) Charger voltage
- c) Battery Voltage
- d) None of the above ()

49. During loco checking, the level of TFP oil in gauge should be.....

- a) Above 15 degrees centigrade
- b) Above 40 degrees centigrade
- c) Above 20 degrees centigrade
- d) Above 10 degrees centigrade ()

50. Switch OFF blowers when the train is expected to stop formin

- a) 10 c) 15
- b) 30 d) 20 ()

51. Lower the pantograph whenever the detention of train is expected to be more thanmin. with the consultation of SM/SCOR

- a) 30 c) 45
- b) 15 d) 60 ()

52. type bogie provided in WAG-5 locos
- a) Co-co tri mount bogie
 - b) Co-co tetra mount high adhesion bogie
 - c) Co-co flexi coil bogie
 - d) Bo-bo tri mount bogie ()
53. type bogie provided in WAG-7 locos
- a) Co-co tri mount bogie
 - b) Co-co tetra mount high adhesion bogie
 - c) Co-co flexi coil bogie
 - d) Bo-bo tri mount bogie ()
54. type bogie provided in WAP-4 locos
- a) Co-co tri mount bogie
 - b) Co-co tetra mount high adhesion bogie
 - c) Co-co flexi coil bogie
 - d) Bo-bo tri mount bogie ()
55. When hand brake is applied in WAG-5 or in WAG-7 locos,&.....wheel brakes gets applied
- a) No-2 both sides, no-4 one side
 - b) No-2.
 - c) No-1 both sides, no-2 one side
 - d) No-4 both sides, no-2 one side ()

56. When hand brake is applied in WAP-4 locos
.....wheel brakes gets applied
a) No-2 both sides, no-4 one side
b) No-2
c) No-1 both sides, no-2 one side
d) No-4 ()
57. In WAP-4 loco the entire vertical load is carried
by...
a) Center pivot
b) Friction damper
c) H Type Bolster
d) I Type Bolster ()
58. While attaching loco on to formation stop the
loco first atm from formation
a) 10 m.
b) 15 m.
c) 20 m.
d) 25 m. ()
59. QD relay in WAG-5 & WAG-7 loco energizes
at...A and de energizes at...A of differential
current
a) 125, 80 c) 160, 130
b) 150, 80 d) 150, 125 ()

60. In roof mounted RB provided WAP4 locos, revised setting of QF relay isamps
a) 700 c) 850
b) 800 d) 900 ()
61. When A-9 is applied, maximum kgs/cm² pressure will enter into loco brake cylinders
a) 1.5 c) 2.0
b) 1.8 d) 2.5 ()
62. In conventional locos, VCD acknowledgment is done by operating.....once in every 60 seconds
a) A-9 or SA-9
b) Sander or horns
c) Progression or regression or Ack.button
d) Any of the above ()
63. In conventional locos, when VCD is acted.....
a) Auto regression and BP dropping
b) DJ trips
c) Panto lowers
d) All the above ()
64. In conventional locos, for resetting VCD wait for secs
a) 30 c) 120
b) 32 d) 140 ()

65. In conventional locos, to acknowledge VCD,
Ack.push button/paddle switch should not be
pressed for more than seconds.
- a) 30 c) 40
- b) 32 d) 60 ()
66. In conventional locos BP pressure is adjusted by
keeping A9 feed valve handle in.....
position
- a) Full service position
- b) Release position
- c) Over reduction position
- d) Emergency position ()
67. In conventional locos rear cab A9 handle Position
is.
- a) Full service
- b) Release
- c) Over reduction
- d) Emergency ()
68. If conventional loco moving as dead along with a
train, to avoid wheel skidding.....to
be isolated
- a) C3W c) SA9 and A9
- b) C2A relay valve d) A8 ()
69. Normal pressure of SMGR is.....Kg /cm²

- a) 2.5-3.5
- b) 2.0-3.0
- c) 35-45
- d) 3-5 ()

70. While starting loaded train with conventional locos from yard, to avoid loco wheel slipping..... switch(s) are to be pressed

- a) ZQWC
- b) BPSW
- c) PVEF
- d) ZQWC & PSA ()

71. When BP drops below 4.4 (in BP gauge) without A9 application,starts functioning

- a) ACP indication
- b) AFL
- c) Both (a) & (b)
- d) None of the above ()

72. C2A relay Valve is meant for..... pressure creation, maintaining & destruction

- a) FP
- b) BP
- c) Loco BC
- d) All the above ()

a) 10 c) 15
b) 5 d) 20 ()

a) BP
b) FP
c) Loco BC
d) Both BP & FP ()

a) MV4
b) QD1 & QD2
c) VEF Electrical ()

- RS & CPA drain cocks
- DJ oil separator drain cock
- PT & RDJ drain cocks
- All the above ()

77. Normally colour COCs to be kept open and colour COC to be kept closed of Air dryer is working
- a) Red, Green
 - b) Green, Red
 - c) Red, Red
 - d) Green, Green ()
78. A-8 cut out cock position is.....in MU leading loco and..... in MU trailing loco
- a) Open, Close
 - b) Open, Open
 - c) Close, Close
 - d) Close, Open ()
79. In MU locos, MU2B position in leading loco is and in trailing loco is.....
- a) Lead, Lead
 - b) Lead, Trail
 - c) Trail, Trail
 - d) Trail, Lead ()
80. In conventional locos.....brake only can be applied in stabled dead loco when pneumatic pressure is nil in main reservoirs
- a) A9
 - b) SA9
 - c) Hand Brake

d) No Brake can be applied ()

81. To create, maintain & destroy the vacuum in dual brake loco, valve is provided

- a) A1 differential valve
- b) VA1 release valve
- c) VA1B valve
- d) MU2B valve ()

82. During vacuum blockage test, vacuum should not be created more thancm. in vacuum train pipe

- a) 8
- b) 56
- c) 53
- d) 5 ()

83. After passing neutral section, If ICDJ is experienced, check & fuses.

- a) CCPT & CCBA
- b) Addl. CCBA & CCPT
- c) Addl. CCBA & CCBA
- d) CCPT & CCDJ ()

84. Relay Q118 is having ----- Seconds Time lag

- a) 5 Sec
- b) 6 Sec

- c) 3 Sec
- d) 60 Sec ()

85. Relay Q44 is having ----- Seconds Time lag

- a) 1 Sec
- b) 0.5 Sec
- c) 0.6 Sec
- d) 2 Sec ()

86. Relay Q-44 is called as..... Relay

- a) GR Half notch protection Relay
- b) Auxiliaries protection Relay
- c) GR full notch protection Relay
- d) DJ protection Relay ()

87. Relay Q45 is called as -----Relay

- a) DJ protection Relay
- b) Auxiliaries protection Relay
- c) DJ resetting Relay
- d) Notch by notch progression Relay. ()

88. Relay Q46 is called as -----Relay

- a) GR Half notch protection Relay
- b) Auxiliaries protection Relay
- c) GR Full notch protection Relay
- d) DJ protection Relay ()

89. Relay Q118 is called as -----Relay

- a) GR Half notch protection Relay
- b) Auxiliaries protection Relay
- c) GR Full notch protection Relay
- d) DJ protection Relay ()

90. Pantograph in raised condition indicates that the -
----- & ----- fuses are in good condition.

- a) CCPT & CCDJ
- b) Addl. CCBA & CCPT
- c) CCBA & CCPT
- d) Addl.CCBA & CCDJ ()

91. Earth fault in Q118 Relay coil causes-----fuse to
melt

- a) CCBA
- b) CCDJ
- c) CCPT
- d) Addl.CCBA ()

92. Earth fault in Q45 Relay coil causes-----fuse to
melt

- a) CCBA
- b) CCDJ
- c) CCPT
- d) Addl.CCBA ()

93. Earth fault in Q44Relay coil causes-----fuse to
melt

- a) CCPT
- b) CCDJ
- c) CCBA
- d) Addl.CCBA ()

94. Earth fault in MTDJ coil causes-----fuse to melt

- a) CCBA
- b) Addl.CCBA
- c) CCPT
- d) CCDJ ()

95. Earth fault in EFDJ coil causes-----fuse to melt

- a) CCBA
- b) Addl.CCBA
- c) CCDJ
- d) CCPT ()

96. Earth fault in C118 Contactor coil causes-----fuse to melt

- a) CCDJ
- b) Addl.CCBA
- c) CCPT
- d) CCBA ()

97. Permanent welding of the tips of C-106 contactor causestripping failure.

- a) No Tension
- b) 6th notch tripping

- c) ICDJ
- d) Operation 'O' ()

98. Closing of DJ in LT but not in HT, indicates..... I/L is defective on MTDJ branch

- a) QPDJ
- b) Q44
- c) QLM
- d) QOA ()

99. Sluggish operation of GR causes tripping of DJ through relay

- a) Q118
- b) Q44
- c) Q50
- d) Q45 ()

100. RGR comes into service innotches.

- a) Full notches
- b) odd notches
- c) in between notches
- d) None of the above ()

101. When LSCHBA is glowing on run and equipment to be checked

- a) CHBA
- b) QV61
- c) CHBA & ARNO

a) CHBA & BATTERIES ()

102. Earth fault in MPH motor causes tripping of DJ throughrelay

- a) QLA
- b) QOP1
- c) QOA
- d) QRSI1 ()

103. Earth fault in MVRH causes tripping of DJ by EnergizingRelay

- a) QOP1
- b) QOP2
- c) QOA
- d) QLA ()

104. If MVSL-2 is not working, work the train by isolating.....

- a) No restriction for current rating
- b) Isolate bogie-2
- c) Work with 50% sectional load
- d) All the above ()

105. In conventional locos, regulating governor for main compressors is

- a) RGAF
- b) RGEB2
- c) RGCP

d) QPH ()

106. A8 COC position in MU locos shall be -----

- a) Open in leading and close in trailing loco
- b) Open in both locos
- c) Close in leading and open in trailing loco
- d) None of the above ()

107. Position of A9 and SA9 COCs in the loco shall be -----

- a) Open in both cabs
- b) Open in trailing cab and close in leading cab
- c) Open in leading cab and close in trailing cab
- d) None of the above ()

108. Wedging of relay Q51 in de-energised condition may lead to -----

- a) Damage of traction motors
- b) Prevents auto regression at the time of wheel slip
- c) Rail / Wheel burns
- d) All the above ()

KEY

1	a	16	d	31	a	46	c
2	d	17	c	32	d	47	c
3	c	18	c	33	c	48	c
4	b	19	d	34	a	49	a
5	a	20	b	35	a	50	c
6	d	21	a	36	b	51	a
7	a	22	b	37	d	52	a
8	d	23	c	38	b	53	b
9	c	24	b	39	c	54	c
10	c	25	a	40	b	55	a
11	b	26	d	41	d	56	b
12	d	27	c	42	c	57	c
13	c	28	b	43	c	58	c
14	d	29	c	44	b	59	c
15	d	30	d	45	c	60	c

61	b	71	b	81	c	91	c
62	d	72	b	82	a	92	b
63	a	73	a	83	b	93	a
64	b	74	c	84	a	94	d
65	d	75	a	85	c	95	c
66	b	76	d	86	a	96	a
67	b	77	b	87	c	97	c
68	a	78	a	88	c	98	b
69	a	79	b	89	b	99	b
70	d	80	c	90	c	100	c
101	c	103	c	105	c	107	c
102	c	104	d	106	a	108	d

STATIC CONVERTOR & MICROPROCESSOR LOCOS

1. In SIV locos, switch is to be kept on '0', in the event of external/internal earth fault and unable to rectify and to work the train further
 - a) HSIV
 - b) HVSI
 - c) HBA
 - d) HCHBA ()
2. HRAVT is provided to isolate & equipment
 - a) Static converter
 - b) Micro processor
 - c) Heaters, cab fans, NR W/T charger
 - d) None of the above ()
3. In SIV locos, after keeping HSIV on '0' & pressing ELD bypass switch, time allowed to work the train is..... minutes
 - a) 60
 - b) 45
 - c) 30
 - d) No speed restriction ()

4. &Safety relays are removed in static converter locos
a) QLM & QLA
b) QOP 1&QOP
c) QRSI 1 &QRSI 2
d) QOA & QLA ()
5. & time delay relays are removed in static converter locos
a) QTD 105 &QTD 106
b) QTD 100
c) QTD 107&QTD 108 ()
6. & bushings of TFWA are newly provided in static converter locos
a) A0 & A1
b) a7 & a8
c) a0 & a1
d) none of the above ()
7. When static converter is not working (BLVMT is closed)fuse(s) to be checked
a) CCINV
b) CCDJ
c) CCA
d) CCINV & CCA ()

8. In static converter locosfuses to be checked during ICDJ
- a) Add. CCBA,CCBA, CCPT & CCDJ
 - b) Add. CCBA,CCBA, CCINV
 - c) CCINV & CCA
 - d) None of the above ()
9. In micro processor loco fuses are removed
- a) CCDJ , CCLS, CCA & CCLSA
 - b) CCINV & CCAD
 - c) CCCPU & CCBA
 - d) Add. CCBA & CCBA ()
10. In Microprocessor loco, if experienced TLTE due to malfunctioning of AFL/ACP circuit, change the position of switch
- a) HAD
 - b) HRS
 - c) HPAR
 - d) HBA ()
11. To avoid QD action in microprocessor loco..... switch to be pressed up to 10th notch
- a) BPQD
 - b) BPSW
 - c) ZQWC
 - d) PSA ()

12. In micro processor loco, before checking any loco equipment or attending any loco trouble ensure to keep switch in open position
- a) HBA
 - b) HPAR
 - c) BLDJ
 - d) HOBA
- ()

KEY

1	a
2	c
3	b
4	d
5	a
6	b
7	d
8	a
9	a
10	c
11	a
12	c

THREE PHASE LOCOS

1. WAG 9 loco is having type of bogie
 - a) Bo-Bo flexi coil
 - b) Co-Co Tri mount
 - c) Co-Co flexi coil
 - d) Co-Co tetra mount high adhesion ()

2. In 3Ø loco, to isolate Panto No. 1 keep Panto selector switch in Position
 - a) Auto
 - b) I
 - c) II
 - d) I & II ()

3. In 3Ø loco, to switch on flasher light switch to be operated
 - a) AFL
 - b) BPFL
 - c) ZFL
 - d) Auto Brake ()

4. Parking brake provided in WAG 9 loco to.....wheels
 - a) 1,4,5 & 8
 - b) 2,6,7 & 11
 - c) 2 & 11
 - d) 1,6,7 & 12 ()

5. In 3Ø loco, Loco grounding key is
a) Solenoid valve No. 30
b) IG 68
c) IG 38
d) E 70 ()
6. In 3Ø loco, for charging of BP pressureCOC to be kept open
a) A 8 COC
b) 70 COC
c) 74 COC
d) 47 COC ()
7. In 3Ø loco, If ZBAN is switched ON in working cab, happens
a) BP pressure drops to 'O'
b) FP pressure drops to 'O'
c) BC pressure raises to 3.5 kg/cm²
d) None of the above ()
8. In 3Ø loco, In case of emergency, ALP can stop the train by operating
a) Emergency stop switch
b) Emergency brake valve
c) BPVG
d) Emergency stop switch or Emergency brake valve ()

9. In WAG 9 or WAP 7, location of air dryer is
.....
a) Behind MCP 1 in left side
b) Between two trucks
c) Behind cattle guard 1 loco pilot side
d) Behind cattle guard 1 in ALP side ()
10. WAG 9 loco is provided with.....No. of direct
brake cylinders andNo. of parking brake
cylinders
a) 12 & 4
b) 12 & 12
c) 4 & 12
d) 12 & 6 ()
11. 3 phase loco is fitted with type of traction
motors
a) 3 Ø AC Asynchronous squirrel cage
induction motor
b) TAO 659
c) Hitachi
d) Hitachi or TAO 659 ()
12. When three phase loco is attached as dead and if
parking brakes are released manually, parking
brake pressure gauge shows kg/cm²
a) 0 Kg/cm²

- b) 4 Kg/cm²
- c) 5 Kg/cm²
- d) 6 Kg/cm² ()

13. In 3Ø loco, position of control Electronics (CE) during cab changing is

- a) OFF
- b) ON
- c) Self hold mode
- d) None of the above ()

14. In 3Ø loco, location of BPFL switch is

- a) FLCU
- b) In both cabsPanel A
- c) In both cabsPanel B
- d) In both cabsPanel C ()

15. In 3Ø loco, during self hold mode, CE will remain in ON for minutes

- a) 15
- b) 10
- c) 20
- d) Will not Switch OFF ()

16. To move 3 phase loco as live or dead ensure& brakes are released.

- a) Parking brakes, proportional
- b) Direct brakes, proportional

- c) Parking , Direct brakes
- d) None of the above ()

17. Location of Emergency stop push button switch in three Ø loco is

- a) In both cabsPanel A
- b) In both cabsPanel B
- c) In both cabsPanel C
- d) In both cabsPanel D ()

18. WAP 5 loco is provided with..... No. of direct brake cylinders andNo. of parking brake cylinders

- a) 8 & 4
- b) 12 & 12
- c) 4 & 8
- d) 12 & 6 ()

19. In 3Ø loco, when harmonic filter is isolated, speed of the train is restricted to

- a) 60 KMPH
- b) 40 KMPH
- c) 20 KMPH
- d) No speed restriction ()

20. In modified WAP 7 loco,Wheels are having parking brakes facility

- a) 2, 6, 7 & 11

- b) 2 & 11
- c) 1, 4, 5 & 8
- d) 6 & 7 ()

21. In 3Ø loco, location of Fire Detection Unit (FDU) is.....

- a) SB1
- b) SB2
- c) HB2
- d) Panel C ()

22. In 3Ø loco, between two operations of PSA pressing for sanders,time gap is required

- a) 10 to 12Minutes
- b) 10 to 12Seconds
- c) 12 to 15Seconds
- d) 30Seconds ()

23. In WAP 5 loco, wheels are having Parking brake facility

- a) 2, 6, 7 & 11
- b) 2 & 11
- c) 1, 4, 5 & 8
- d) 6 & 7 ()

24. In 3Ø dead loco..... COC should be open for charging BP pressure into auxiliary reservoir
- a) 70 COC
 - b) 47 COC
 - c) 74 COC
 - d) 136 COC ()
25. While 3Ø loco working as banker put on Switch and close 70 cut out cock in pneumatic panel
- a) ZTEL
 - b) ZBAN
 - c) BLHO
 - d) None of the above ()
26. For resetting VCD in WAG 9 or WAP 7 loco, Wait for Seconds
- a) 120
 - b) 100
 - c) 240
 - d) 160 ()
27. In 3Ø loco, if battery voltage drops below volts, loco will shut down
- a) 82V
 - b) 87V
 - c) 90V
 - d) 92V ()

28. In 3Ø loco, Constant speed control (CSC) can be activated above KMPH of speed
- a) 5
 - b) 1
 - c) 1.5
 - d) 15 ()
29. In 3Ø loco, if vigilance penalty brakes are applied BP pressure drops to kg/cm²
- a) 2.0
 - b) 2.5-3.0
 - c) 2.5-3.5
 - d) 0 ()
30. In 3Ø loco, during cab changing, before leaving cab keep direct brake handle (SA9) inposition
- a) Apply
 - b) Release
 - c) FS & Locked
 - d) None of the above ()
31. In 3Ø loco, on moving BL key from 'D' to 'OFF' position, brakes will apply automatically
- a) Direct brakes
 - b) Auto brakes
 - c) Parking brakes

d) All brakes ()

32. Electrical brake in three phase loco is called as.....

- a) Independent loco brake
- b) Parking brake
- c) Re-regenerative brake
- d) Automatic train brake ()

33. type of fire extinguishers are provided in three phase locos

- a) BC
- b) DCP
- c) CO₂ (CARBON DI OXIDE)
- d) Fixed DCP & Portable CO₂ ()

34. In 3Ø loco, constant speed control will deactivate automatically if BC pressure increased above kg/cm²

- a) 1
- b) 1.5
- c) 0.25
- d) 0.6 ()

35. To apply parking brakes in 3Ø dead loco, press. side plunger of solenoid valve

- a) Left
- b) Right

- c) Any plunger
d) None of the above ()

KEY

1	C	11	A	21	B	31	C
2	C	12	A	22	B	32	C
3	B	13	C	23	C	33	C
4	B	14	D	24	B	34	D
5	C	15	B	25	B	35	A
6	B	16	C	26	D		
7	A	17	A	27	A		
8	D	18	A	28	A		
9	C	19	B	29	B		
10	A	20	B	30	B		

SECTION 'F'

C&W MECHANICAL

1. The lowest permissible wheel diameter of a coach turned out after POH should be -----
() a. 835mm b. 836mm
 c. 825mm d. 822mm
2. The 53rd wagon has parted in an air-brake train of 59 +1 formation, the likely cause is -----
() a. Operating handle mis-use.
 b. Poor strength of knuckle.
 c. Brake binding.
 d. Poor brake power.
3. To distinguish the BPC, the color of BPC of vacuum brake and air brake stock will be ----- & -----
() a. Green, Yellow b. Red, Green
 c. Yellow, Green d. Pink, Green
4. Pistons stroke of BTPG'N' wagon in loaded condition is -----
() a. 130+10 b. 135+10
 c. 85+10 d. 120+10
5. Which of the following statements is correct?
 - a. All freight trains shall be examined if stabled for more than 24 hours.
 - b. BPC of CC rake is valid for 4500 KMs.

- c. BPC of CC rake is valid for 15 days from the date of issue.
 - d. Intermediate examination of CC rake is required.
6. Warranty period of BP/FP hose pipe from the date of fitment is -----
- () a. 22 months b. 26 months
 - c. 12 months d. 24 months
7. Which of the following statements are incorrect in the context of centre pivot of coaches.
- () a. To transmit braking forces and tractive forces.
 - b. To do not control and damp the angular oscillation.
 - c. Tend to centralize the bogie with body.
 - d. To join bogie with body
8. Standard moving dimension from rail level to top centre is ----- mm and from rail level to top sides is --- mm
- () a. 4115, 3505 b. 3200, 3050
 - c. 4900, 2896 d. None of these
9. En-route train examination of a passenger trains are done after a distance of ---- KMs
- () a. 250 to 300 b. 250 to 350

- c. 300 to 350 d. 650+50

10. Which of the following statements is correct in the context of fire extinguisher

- () a. To check every month only.
 b. To provide in all coaches.
 c. To refill after empty only.
 d. To provide all AC coaches & Pantry Cars

11. MHC stand for -----

- () a. Coach movement History card
 b. Maintenance History Card
 c. Maintenance Hand Card.
 d. Coaching maintenance hand book

12. Which of the following statement is correct:

- a. Schedule A maintenance should be done in
1month+- 3 days
b. Schedule A maintenance should be done in
3month+- 7 days
c. Schedule A maintenance should be done in
6month+- 15 days
d. Schedule A maintenance should be done in
6month+- 30 days

13. Condemning size of wearing plate of side bearer in coach is ----- mm

- () a. 8.5 b. 8.25
 c. 8.60 d. 8

14. BP pressure in the BV of a Goods train having more than 56 wagons -----

- () a. 4.8 kg/cm^2 b. 4.6 kg/cm^2
 c. 4.5 kg/cm^2 d. 4.7 kg/cm^2

15. The water raising apparatus is working with a minimum and maximum pressure of ----- kg/cm^2 and ----- kg/cm^2 respectively

- () a. 7, 5 b. 3.5, 6
 c. 0.35, 0.7 d. None of these

16. Which of the following statement are incorrect in the context of CASNUB bogie.

- a. 22.9 T axle load capacity is used to all type of bogie
- b. 22.9 T axle load capacity is used to all type of bogie except 22 HS bogie
- c. 22 HS type bogie is fit to run for 100 KMPH.
- d. Helical spring is provide in secondary suspension

17. Which of the following type of side bearer is not used in CASNUB bogie?

- () a. Roller type b. Metallicrubber bonded
c. Spring loaded d. Only metallic type

18. The following component in CBC AAR Coupler of Goods stock has not been upgraded.

- () a. Coupler body b. Yoke
c. Knuckle d. None of these

19. Knuckle pin stretched in CBC coupling is measured By -----

- () a. Contour gauge No 1
b. Contour gauge No 2
c. Contour gauge No 3
d. None of these

20. ----- mm difference in wheel diameter permitted from one trolley to another trolley in a wagon.

- () a. 5 b. 25 c. 15 d. 13

21. ----- is the codal life of BOXN wagon.

- () a. 25 years b. 30 years
c. 35 years d. 40 years

22. FRP stands for -----

- () a. Fibre rubber plastic
 b. Fibre-reinforced plastic
 c. Foam re-inforced plastic
 d. None of the above

23. Codal life of RA coaches is ----- years

- () a. 25 b 30 c. 35 d. 40

24. Which of the following statements are incorrect in case of coaches

- () a. L-type brake block is used up to 110 kmph
 b. Coefficient of friction of cast iron brake block is more than L-type composite brake block.
 c. Cast iron brake blocks are used for 140 kmph
 d. K-type brake block is used for 110 kmph coaches

25. Which of the following statements are incorrect in case of brake binding of Air Brake coaches?

- () a. D.V. leakage
 b. Non-cleaning the dirt collector
 c. Weak return spring of DV
 d. Mal functioning of SAB

26. In bogie mounted brake system coaches ----- type of brake blocks are used.
- () a. 'L type composite brake block.
b. 'K' type composite brake block.
c. Cast iron brake block.
d. None of the above.
27. ----- is the size of the brake cylinder of bogie mounted brake system.
- () a). 14" b). 8" c). 12" d). 5"
28. ----- type of trolley is used in BRN wagons.
- () a. UIC bogie. b. Casnub bogie.
c. Flat bogie d. ICF bogie
29. ----- is the connection of brake cylinder during application in case of air brake system?
- () a. Brake cylinder is connected to control reservoir.
b. Brake cylinder is connected to Auxiliary reservoir.
c. Brake cylinder is connected to Atmosphere.
d. None of the above
30. ----- spring arrangement is used in Casnub BOX'N'HA Bogie for 22.9 T axle load.

- () a. Outer spring-14, Inner spring-10, Snubber spring-4.
b. Outer spring-14, Inner spring-14, Snubber spring-4.
c. Outer spring-12, Inner spring-8, Snubber spring-4.
d. Outer spring-12, Inner spring-10, Snubber spring-4.

31. ----- mm is the maximum permissible buffer height

of BG stock in 'empty' condition?

- () a) 1100 b) 1105 c) 1110 d) 1115

32. ----- mm is the minimum permissible buffer height of BG stock in 'load' condition.

- () a) 1025 b) 1030 c) 1035 d) 1040

33. Split pins or cotters used for securing brake gear pins should be split at an angle of -----

- () a. 30° b. 60° c. 45° d. 90°

34. Periodicity of POH of BOXN wagon is -----

- () a. 6 years b. 4 years c. 4 ½ years d. 3 ½ years

35. ACP to be operated at ----- Kg force in BG coaching train
() a. 10 - 15 b. 15 - 20 c. 6.4 - 10 d. 20 - 25
36. ----- % is the minimum brake power for CC rakes at the originating station (PME).
() a) 85 b) 95
c) 100 d) 90
37. ----- is the validity of BPC issued for a Ballast train.
() a) 30 days with revalidation once in a week
b) 15 days with revalidation once in a week
c) 7 days
d) 10 days
38. ----- is the periodicity of ROH of a BOX N wagon.
() a) 6 months b) 9 months
c) 12 months d) 18 months
39. ----- is the leakage rate allowed per minute in Air Brake BOX N trains?
() a) 0.3 Kg/cm^2 b) 0.25 Kg/cm^2
c) 0.35 Kg/cm^2 d) 0.4 Kg/cm^2
40. ----- mm is the permitted flange thickness of wheels of high-speed coaches.

- () a) 16 b) 20
 c) 22 d) 18

41. ----- mm is the specified 'A' dimension of SAB for air brake stock in high-speed coaches.

- () a) 20 b) 18
 c) 16 d) 14

42 ----- mm is the piston stroke of air brake (bogie mounted) coach.

- () a) 32 b) 85
 c) 90 d) 95

43. Over hauling of alarm signal apparatus is done during ----- schedule

- () a) 'A' b) POH
 c) 'C' d) Trip

44. Maximum Axle load of BG Main line coaches are ---
-----Tonnes

- () a) 16.50 b) 16.25
 c) 9.25 d) Any of above

45. During application stage of the twin pipe working the components which have less than 5 kg/cm^2 are -----

- () a) AR b) FP
 c) CR d) BP

46. In case of coaching stock on Mail/Express train, the POH interval is ----- months.

- () a) 20 b) 19
 c) 18 d) 16

47. ----- defect on a wagon increases the flange force.

- () a) Flat face
 b) Deep flange
 c) Thin flange
 d) Hollow tyre

48. ----- will be the BP pressure in engine and BV if formation is more than 56 wagons.

- () a) 5 kg/cm² & 4.8 kg/cm²
 b) 5 kg/cm² & 4.7 kg/cm²
 c) 5 kg/cm² & 4.6 kg/cm²
 d) 5 kg/cm² & 4.9 kg/cm²

49. ----- mm is the condemning limit of wheel dia of BOX-N wagon.

- () a) 1010 b) 1000

- c) 906 d) 895

50. Brake block of BOX-N wagon will be replaced -----

- () a) If thickness is less than 20 mm
 b) If thickness is less than 10 mm
 c) If thickness is less than 25 mm
 d) If thickness is less than 05 mm

51. In air brake coaching train leakage rate in FP is -----

- () a) 0.2 kg/cm²/min(Max)
 b) 0.29kg/cm²/min(Max)
 c) 0.50 kg/cm²/min(Max)
 d) 0.60 kg/cm²/min(Max)

52. -----type of couplers are fitted in Venkatadri Express.

- () a) Enhanced screw coupling
 b) 'F' type CBC
 c) 'H' type CBC
 d) Schaku coupler

53. Length over head stocks of BRN wagon is ----- mm.

- () a) 9788 b) 14500
 c) 13716 d) 12517

54. The wheel base of a CASNUB trolley is ----- mm.

- () a) 2005 b) 2000
 c) 1900 d) 1676

55. The tare weight of WGACCW coach is ----Tonnes.

- () a) 40 b) 45
 c) 50 d) 55

56. On full service application ----- kg/cm² of BP pressure is reduced.

- () a) 0.5 to 0.8 b) 0.8 to 1.0
 c) 1 to 1.5 d) 1.5 to 2.0

57. Colour of feed pipe is conventionally -----

- () a) White b) Black
 c) Green d) Blue

58. Colour of brake pipe is conventionally-----

- () a) White b) Black
 c) Green d) Blue

59. In air brake coaching train leakage rate in a brake pipe pressure is-----

- () a) 0.2 kg/cm²/min(Max)
 b) 0.29 kg/cm²/min(Max)
 c) 0.50 kg/cm²/min (Max)
 d) 0.60 kg/cm²/min(Max)

60. ----- Tonnes is the weight of one bogie which is used in ICF AC coaches.

- () a) 13 b) 14
 c) 15 d) 16

61. ----- is the piston stroke of brake cylinder of BOX-Nwagon in 'empty' condition?

- () a) 85 mm +10 b) 88 mm +10
 c) 75 mm +10 d) 80 mm +10

62. Type of couplers fitted on DEMU/DHMU/EMU --

- () a) Enhanced screw coupling
 b) 'F' type CBC
 c) 'H' type CBC
 d) Schaku coupler

63. Internal flaw of axle are checked by -----

- () a) DP testing b) Ultrasonic testing
 c) Zyglow testing d) None

64. Minimum no. -----of emergency windows are provided in a coach.

- () a) 1 b) 2
 c) 3 d) 4

65. K-type brake blocks are used in -----
- () a) BMBC coaches b) BOX-N
c) Vacuum Stock d) None
66. AC three tier coaches are displayed to public as --

- () a) A b) B
c) C d) S
67. Unsafe (Warm/Hot) running temperature of spherical roller bearing is -----
- () a) 40⁰ C b) 60⁰ C
c) 80⁰ C d) 30⁰ C
68. Allowable difference of wheel diameter on same bogie of coaching stock is ----- mm
- () a) 13 b) 5
c) 8 d) 0.5
69. IOH schedule of coaching stock is performed at a periodicity of -----
- () a) 4 ½ months b) 15 days
c) 3 months d) 9 months

70. Diameter of BMBC is -----
- () a) 14 inch b) 12 inch
c) 10 inch d) 8 inch
71. Maximum speed limit of ART/ARMV (BG) is ---

- () a) 90 kmph b) 100 kmph
c) 110 kmph d) 120 kmph
72. Life line express means -----
- () a) Mobile Hospital in a train
b) Mobile pantry Car
c) Mobile Exhibition
d) None
73. Four wheeler tower wagons is permitted to be
attached by ----- trains.
- () a) Coaching trains b) Freight trains
c) Brake Van d) None of above
74. How many coaches can be attached in rear of rear
BV---
- () a) 5 b) 3
c) 2 d) 4

75. ----- no. of coaches can be attached enroute without endorsement on BPC
- () a) 5 b) 3
c) 2 d) 4
76. Different colours of BPCs for freight stock is ----
- () a) 1 b) 2
c) 7 d) 3
77. Detachable size of flat place of BOX-N wagons wheel is ----- mm
- () a) 250 b) 60
c) 50 d) 125
78. Minimum prescribed time for PM of super fast express train is ----- hours.
- () a) 6 b) 4:30
c) 5:30 d) 8
79. IRCA Part-III is related with -----
- () a) Tower wagon b) ICF coach
c) Freight stock d) Track Machine
80. IRCA Part-IV is related with -----
- () a) BOX-N wagon b) Coaching Stock
c) Freight stock d) Track Machine

81. BPC of premium rake is of ----- color.
- () a) Pink b) Green
c) Black d) White
82. ----- type of coupling is used in LHB coaches.
- () a) CBC b) Non-TC
c) Schaku d) Screw Coupling
83. Which of the following is the latest modern highest riding index coach in Indian Railways?
- () a) BEML b) AAR
c) LHB d) ICF
84. Codal life of BG coach is ----- years.
- () a) 12 b) 18
c) 25 d) 20
85. ----- many classes of ODCs are there.
- () a) 17 b) 03
c) 06 d) 09
86. BPC of coaching train after PM is valid up to ----

- () a) 4 days b) 96 hrs.
c) 5000 KM d) 6000 KM

87. BPC of BOX-N CC Rakes is valid up to -----

- () a) 3500 KM b) 1000 KM
c) 7500 KM d) 6000 KM

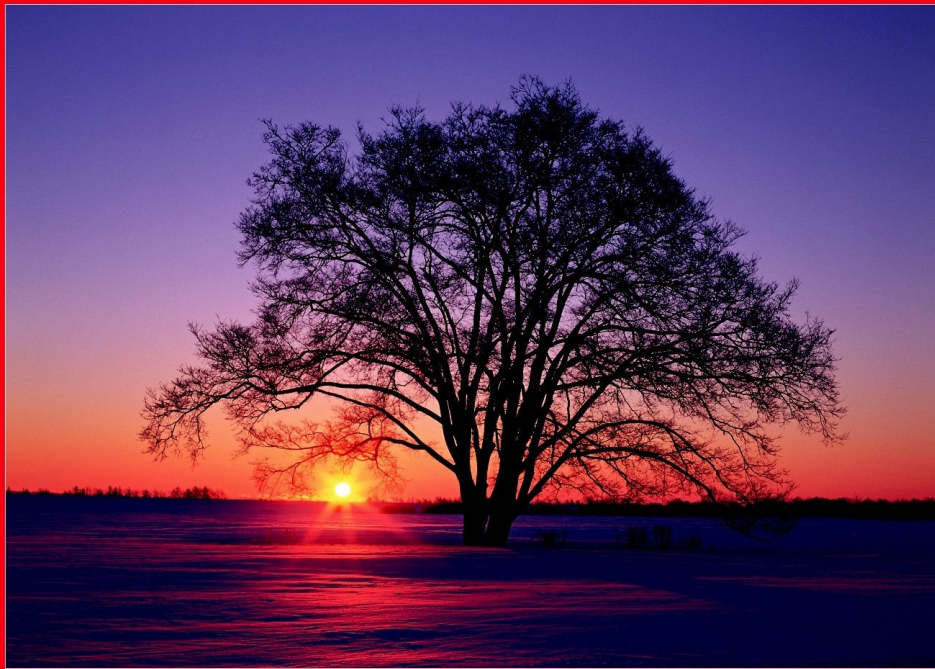
88. Riding index of ICF coach is -----

- () a) 3.5 b) 2.5
c) 1.5 d) 4.5

KEY

1	B	2	C	3	D	4	A
5	A	6	D	7	A	8	A
9	B	10	D	11	B	12	A
13	A	14	D	15	C	16	D
17	D	18	C	19	D	20	B
21	B	22	B	23	D	24	C
25	B	26	B	27	B	28	B
29	B	30	B	31	B	32	B
33	C	34	C	35	C	36	C
37	A	38	D	39	B	40	C
41	A	42	A	43	B	44	B
45	D	46	C	47	C	48	B
49	D	50	B	51	A	52	C
53	C	54	B	55	C	56	C
57	A	58	C	59	A	60	D

61	A	62	A	63	B	64	B
65	A	66	B	67	C	68	B
69	D	70	D	71	B	72	A
73	D	74	C	75	C	76	D
77	B	78	A	79	C	80	B
81	B	82	A	83	C	84	C
85	B	86	B	87	C	88	A



Chief Safety Officer
HEADQUARTERS SAFETY ORGANISATION