

Key for the exam held for the selection of Section Controller against 25% LDCE on 30.09.24 ( Raipur Division)

| Q.No | Answer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MARKS<br>(1 mark each) |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 1.   | (c) Days.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |
| 2.   | (c) Electric Multiple.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
| 3.   | (c) CRS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |
| 4.   | (d) 90 days.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| 5.   | (d) All of the above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |
| 6.   | (a) Throughput.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |
| 7.   | (a) 40 kmph.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| 8.   | (a) 300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |
| 9.   | (d) Tie Bar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| 10.  | (c) Jashpur.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| 11.  | (d) Panel operation for train movement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |
| 12.  | (d) Guard instructs him to start.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |
| 13.  | (c) CC rake.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| 14.  | (a) N/BOX.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |
| 15.  | (a) To start a train in case of emergency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |
| 16.  | (c) 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
|      | <p>Solution :</p> <p>Option "C" is correct.</p> <p>Without stoppage average speed = 50 km/h</p> <p>With stoppages average speed = 40 km/h</p> <p>As we know,</p> <p>Time of rest per hour equal to the difference in average speed divided by the speed without stoppage.</p> <p>Required time = <math>[(50 - 40)/50] \times 60 = 12</math></p> <p>So, A train stops on an average 12 minute/hr</p>                                                                                                                                                                     |                        |
| 17.  | (d) 5/12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |
|      | <p>Solution :</p> <p>Option "D" is correct.</p> <p>The average speed of a car = 600 metres/minute = 10 m/s</p> <p><math>\Rightarrow</math> Speed = distance/time</p> <p><math>\Rightarrow</math> The average speed of a sprinter = 100/9.6 m/s</p> <p><math>\Rightarrow</math> Difference of the average speed of car and sprinter = <math>(100/9.6) - 10</math></p> <p><math>\Rightarrow</math> Difference of the average speed of car and sprinter = <math>40/96 = 5/12</math> m/s</p> <p><math>\therefore</math> The car runs (5/12) m/s slower than a sprinter.</p> |                        |
| 18.  | (c) 39.6 km                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
|      | <p>Solution :</p> <p>Option "C" is correct.</p> <p>Let the total distance be x km</p> <p>We know time = distance/speed,</p> <p>Time taken to travel at 66 km/hour = <math>x/66</math> hour and,</p> <p>Time taken to travel at 54 km/hour = <math>x/54</math> hour.</p> <p>Total difference in time = 5 minutes + 3 minutes = 8 minutes or 8/60 hours.</p> <p><math>\Rightarrow x/54 - x/66 = 8/60</math> hours</p> <p><math>\therefore x = 39.6</math> km.</p> <p><math>\therefore</math> Total distance travelled = 39.6 km.</p>                                      |                        |
| 19.  | (a) 29.7 km/hr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |
|      | <p>Option "A" is correct.</p> <p>Average speed = <math>2 \times A \times B / (A + B)</math></p> <p><math>\Rightarrow 2 \times 27 \times 33 / (27 + 33)</math></p> <p><math>\Rightarrow 1782/60</math></p> <p><math>\Rightarrow 29.7</math> km/hr</p> <p><math>\therefore</math> The average speed of Aman in the whole journey is 29.7 km/hr.</p>                                                                                                                                                                                                                       |                        |

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| 20. | (b) Train 'A'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 21. | (c) Train 'B'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 22. | (c) Train 'C'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 23. | (a) Train 'D'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 24. | (a) 02:45 hrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 25. | (c) Approx. 4 minutes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 26. | (c) Ask the next station to issue C.O to the trains that are coming in the opposite direction.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| 27. | (a) Stop the train movement over the section and discuss with TLC for requirement of Tower Car or Diesel Loco for section clearance.                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 28. | (d) 16.2 km/hr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|     | <b>Solution :</b><br>$\Rightarrow$ Distance covered on foot = $1.44/3 = 0.48$ km = 480 m<br>$\Rightarrow$ Distance covered on bike = $1440 - 480 = 960$ m<br>As,<br>$\Rightarrow$ Time = distance/speed<br>$\Rightarrow$ Total Time taken = $(480/2) + (960/12) = 240 + 80 = 320$ sec<br>$\therefore$ Average speed = Total distance/total time = $(1.44/320) \times 3600 = 16.2$ km/hr                                                                                                                                                           |  |
| 29. | (b) 12 kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|     | <b>Solution:</b><br>After selling $1/5$ th of the mixture,<br>Amount of P type of rice remaining = $140 \times (4/5) = 112$ kg and amount of Q type of rice remaining = $35 \times (4/5) = 28$ kg<br>Let amount of P type and Q type of rice added is '2x' and '3x' respectively.<br>Ratio of P type of rice to Q type of rice in the final mixture-<br>$\Rightarrow (112 + 2x) : (28 + 3x) = 3 : 1$ (Given)<br>$\Rightarrow (112 + 2x) = (84 + 9x)$<br>$\Rightarrow x = 4$<br>Hence quantity of Q type of rice added = $3x = 3 \times 4 = 12$ kg |  |
| 30. | (d) 29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|     | <b>Solution:</b><br>Let present age of Kush be K years<br>Present age of Ram = $(K + 22)$<br>As per given,<br>$2 \times (K + 4) = (K + 22 + 4)$<br>$2K + 8 = K + 26$<br>$K = 18$ years.<br>Present age of Ram = $K + 22 = 40$ years<br>Required average = $(40 + 18)/2 = 29$ years.                                                                                                                                                                                                                                                               |  |
| 31. | (c) 7 mtrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|     | <b>Solution:</b><br>Length of the carpet = $((\text{Total cost})/(\text{Rate/m}))$<br>$= (572/3.25)\text{m} = 176$ m<br>Area of the room = Area of the carpet<br>$= (176 \times 60/100)\text{m}^2 = 105.6$ m <sup>2</sup> .<br>$\therefore$ Breadth of the room = $(\text{Area}/15) = (105.6/15)\text{m}$<br>$= 7.04$ meter = 7 meter (approx.)                                                                                                                                                                                                   |  |
| 32. | (b) 6:5:3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|     | <b>Solution :</b><br>Total investment of Ram = $(20000 + 40000) \times 12 = 60000 \times 12$<br>Total investment of Shyam = $(50000) \times 12$<br>Total investment of Rajiv = $60000 \times 6$<br>Ratio of investments of Ram, Shyam and Rajiv after 1 year<br>$= (60000 \times 12) : (50000 \times 12) : (60000 \times 6)$<br>$= 6:5:3$                                                                                                                                                                                                         |  |

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| 33. | (b) Rs 30000/-                                                                                                                                                                                                                                                                                                                |  |
|     | <b>Solution</b><br>Let amount borrowed by Raman be P. Interest is charged after every 4 months, so number of terms = $(44/4) = 11$<br>Rate of interest for 4 months = $(4/12) \times 15 = 5\%$<br>Total interest = $11 \times (5/100) \times (P) = 16500$<br>$P = (16500) \times (20/11) = 1500 \times 20 = \text{Rs.} 30000$ |  |
| 34. | (c) Goods train that runs through Crew Changing Point without Crew Change.                                                                                                                                                                                                                                                    |  |
| 35. | (c) Working Time Table.                                                                                                                                                                                                                                                                                                       |  |
| 36. | (b) Chief Crew Controller.                                                                                                                                                                                                                                                                                                    |  |
| 37. | (c) Divisional Material Manager.                                                                                                                                                                                                                                                                                              |  |
| 38. | (a) BCN.                                                                                                                                                                                                                                                                                                                      |  |
| 39. | (d) G12                                                                                                                                                                                                                                                                                                                       |  |
| 40. | (d) No Brake Van at all in the train.                                                                                                                                                                                                                                                                                         |  |
| 41. | (c) 5 years.                                                                                                                                                                                                                                                                                                                  |  |
| 42. | (c) Electrical department.                                                                                                                                                                                                                                                                                                    |  |
| 43. | (d) Details of Speed Restriction.                                                                                                                                                                                                                                                                                             |  |
| 44. | (c) Train Ordering.                                                                                                                                                                                                                                                                                                           |  |
| 45. | (c) 2                                                                                                                                                                                                                                                                                                                         |  |
| 46. | (c) Both above.                                                                                                                                                                                                                                                                                                               |  |
| 47. | (b) 58 wagons.                                                                                                                                                                                                                                                                                                                |  |
| 48. | (a) GDR's Joint Check Memo.                                                                                                                                                                                                                                                                                                   |  |
| 49. | (a) Switch Expansion Joint.                                                                                                                                                                                                                                                                                                   |  |
| 50. | (a) ART and ARTME required at outstation.                                                                                                                                                                                                                                                                                     |  |
| 51. | (c) T/806                                                                                                                                                                                                                                                                                                                     |  |
| 52. | (c) Railway Board.                                                                                                                                                                                                                                                                                                            |  |
| 53. | (b) Main Line.                                                                                                                                                                                                                                                                                                                |  |
| 54. | (c) TPC with Section Controller.                                                                                                                                                                                                                                                                                              |  |
| 55. | (b) Isolator.                                                                                                                                                                                                                                                                                                                 |  |
| 56. | (c) Reach Stacker.                                                                                                                                                                                                                                                                                                            |  |
| 57. | (b) Abnormality Register.                                                                                                                                                                                                                                                                                                     |  |
| 58. | (a) 1000 mtrs.                                                                                                                                                                                                                                                                                                                |  |
| 59. | (d) Traffic.                                                                                                                                                                                                                                                                                                                  |  |
| 60. | (b) MXA - DRZ.                                                                                                                                                                                                                                                                                                                |  |
| 61. | (a) Bihar.                                                                                                                                                                                                                                                                                                                    |  |
| 62. | (c) Assam.                                                                                                                                                                                                                                                                                                                    |  |
| 63. | (a) Neurodegenerative disease.                                                                                                                                                                                                                                                                                                |  |
| 64. | (c) 100 kmph 30 years.                                                                                                                                                                                                                                                                                                        |  |
| 65. | (d) 02                                                                                                                                                                                                                                                                                                                        |  |
| 66. | (b) 60 mm                                                                                                                                                                                                                                                                                                                     |  |
| 67. | (a) White.                                                                                                                                                                                                                                                                                                                    |  |
| 68. | (d) Booked Speed.                                                                                                                                                                                                                                                                                                             |  |
| 69. | (a) Indicative.                                                                                                                                                                                                                                                                                                               |  |
| 70. | (b) 15 kmph.                                                                                                                                                                                                                                                                                                                  |  |
| 71. | (c) 25 kmph                                                                                                                                                                                                                                                                                                                   |  |
| 72. | (b) Manually Operated.                                                                                                                                                                                                                                                                                                        |  |
| 73. | (b) 78 Years.                                                                                                                                                                                                                                                                                                                 |  |
|     | <b>Solution :</b> Required sum = $(90 - 3 \times 4)$ years = $(90 - 12)$ years = 78 years.                                                                                                                                                                                                                                    |  |
| 74. | (a) More no. of TOs.                                                                                                                                                                                                                                                                                                          |  |
| 75. | (c) LC gate in the section.                                                                                                                                                                                                                                                                                                   |  |
| 76. | (d) All of the above.                                                                                                                                                                                                                                                                                                         |  |
| 77. | (b) Inspection of section by running train.                                                                                                                                                                                                                                                                                   |  |
| 78. | (a) Maharashtra.                                                                                                                                                                                                                                                                                                              |  |
| 79. | (b) RPF.                                                                                                                                                                                                                                                                                                                      |  |
| 80. | (d) Tail Lamp.                                                                                                                                                                                                                                                                                                                |  |
| 81. | (b) S&T department.                                                                                                                                                                                                                                                                                                           |  |
| 82. | (b) Periodic Overhauling.                                                                                                                                                                                                                                                                                                     |  |
| 83. | (a) T/509.                                                                                                                                                                                                                                                                                                                    |  |
| 84. | (a) 10 kmph.                                                                                                                                                                                                                                                                                                                  |  |

**Key for the exam held for the selection of Section Controller against 25% LDCs on 30.09.24 ( Raipur Division)**

|      |                                                                     |  |
|------|---------------------------------------------------------------------|--|
| 85.  | (c) Railway Board                                                   |  |
| 86.  | (a) 15/10                                                           |  |
| 87.  | (c) DR No.                                                          |  |
| 88.  | (d) P.O.M                                                           |  |
| 89.  | (a) 10 day                                                          |  |
| 90.  | (d) 25.0, 25.0, 10, 10                                              |  |
| 91.  | (b) 1200 mtrs                                                       |  |
| 92.  | (c) Waving a Green Flag vertically Up & Dn                          |  |
| 93.  | (a) 01                                                              |  |
| 94.  | (a) 15 kmph                                                         |  |
| 95.  | (d) 50 mm                                                           |  |
| 96.  | (a) 362.232                                                         |  |
| 97.  | (b) 0.27                                                            |  |
| 98.  | (a) 0.11                                                            |  |
| 99.  | (a) 161                                                             |  |
|      | <b>Solution:</b>                                                    |  |
|      | Given arithmetic sequence is:                                       |  |
|      | 177, 173, 169, 165,...                                              |  |
|      | Here, $173 - 177 = -4$                                              |  |
|      | $169 - 173 = -4$                                                    |  |
|      | $165 - 169 = -4$                                                    |  |
|      | So, the next term = $165 - 4 = 161$                                 |  |
| 100. | (c) 4                                                               |  |
|      | <b>Solution:</b>                                                    |  |
|      | $7 - 24 \div 8 \times m + 6 = 1$                                    |  |
|      | $7 - (24/8) \times m + 6 = 1$                                       |  |
|      | $7 - 3 \times m + 6 = 1$                                            |  |
|      | $13 - 3 \times m = 1$                                               |  |
|      | $\Rightarrow 3 \times m = 13 - 1$                                   |  |
|      | $\Rightarrow 3 \times m = 12$                                       |  |
|      | $\Rightarrow m = 12/3$                                              |  |
|      | $\Rightarrow m = 4$                                                 |  |
|      | Therefore, the missing number is 4.                                 |  |
| 101. | (c) Hindi in Devnagari script.                                      |  |
| 102. | (b) 30                                                              |  |
| 103. | (a) A Prime Minister.                                               |  |
| 104. | (a) HRD Ministry.                                                   |  |
| 105. | (d) 10 <sup>th</sup> May, 1963                                      |  |
| 106. | (a) Department of Official Language in the Ministry of Home Affair. |  |
| 107. | (d) 100%                                                            |  |
| 108. | (b) DRM                                                             |  |
| 109. | (b) English.                                                        |  |
| 110. | (a) Hindi, English, Regional.                                       |  |