# RRB MOCK TEST-9 (Solution)

1. (B)   L   A   Z   Y
    ↓   ↓   ↓   ↓
    12   1   26  25
    Therefore,
    Z   E   A   L
    ↓   ↓   ↓   ↓
    26   5   1   12

2. (C)  $F \xrightarrow{+5} K \xrightarrow{+5} P$

    $G \xrightarrow{+5} L \xrightarrow{+5} Q$

    $D \xrightarrow{+5} I \xrightarrow{+5} N$

    Similarly, $J \xrightarrow{+5} O \xrightarrow{+5} T$

3. (A)  12 + 13 = 25 ;  15 + 10 = 25 ;
    16 + 9 = 25;    18 + **7** = 25

4. (C)

    B$^{(+)}$
    |
    A$^{(+)}$     C$_{(-)}$
              |
              D$^{(-)}$ ↔ E$^{(-)}$

5. (D)

    N
    ↑
    8m | 5m | 10m
    W ——————— E
    S
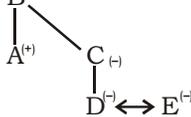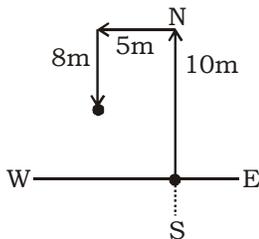
6. (C)
7. (D)
8. (C)  (4 + 2) – 3  = 3;  (8 + 6) – 7 = 7;
    (8 + 5) – 7  = 6; and
    (13 + 12) – 3 = **22**

9. (B)  7 + 7 – 2 × 1 = 12
    ⇒ 14 – 2 = 12

10. (C)  135 – 123 = 12
    123 – 111 = 12
    100 – 88 = 12
    But, 111 – 100 = 11

11. (B)  ab̲c̲ab̲ab̲c̲ab̲ab̲c̲ab̲

12. (B)

    
    I. False
    II. True

13. (C)

    Chair — Cup — Flower
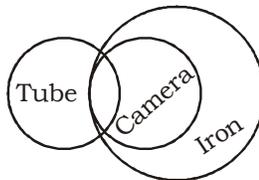
    I. Doubt ⎤
    II. Doubt ⎦ or

14. (A)
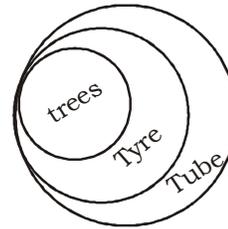
    
    I. True
    II. False

15. (B)   216   168   120   72   24
    └ -48 ↑ -48 ↑ -48 ↑ -48 ↑
    Therefore, the number 163 is wrong in the series.

16. (C)  In each subsequent figure the design rotates through 45° clockwise.

17. (B)  The meaningful order will be :
    4.Embryo (Before Birth first 4 weeks of pregnancy
    ↓
    Fetus (after 4 weeks of pregnancy - Before Brith)
    ↓
    1. Neonate (0 - 4 weeks after birth)
    ↓
    3. Infant (0 - 12 months after birth)
    ↓
    2. Child (Above l yr of age)

18. (D)

19. (A)   36 + 24  = 30 × 2;
    15 + 7 = 11 × 2
    and  60 + **20** = 40 × 2

20. (D)

| Subject | L | M | N | O | P |
|---|---|---|---|---|---|
| English | √ | √ | √ | × | × |
| History | √ | × | √ | √ | |
| Civics | √ | √ | × | √ | √ |
| Economics | × | √ | √ | √ | √ |
| Maths | × | × | × | √ | √ |

O is god in Civics, Economics, History and Mathematics.

21. (C)  The lowermost number in each column is equal to the square of the sum of the first three numbers.
    $(1 + 4 + 2)^3 = 243$
    $(4 + 2 + 2)^3 = 512$
    Therefore,
    $(? + 5 + 3)^3 = 2197$
    or, $(? + 8)^3 = (13)^3$
    or, ? = 13 – 8 = 5

22. (A)  Luggage

23. (A)  The letters of the adjacent faces to the face with letter A are B, F, C and E. Hence

D is the letter of the face opposite to the face with letters (A).

24. (A) Blood relation Analysis :
Have no brother's or sister, so Harsh is single child
Wife of father's son → His wife
His wife is mother of the person whose portrait is. So portrait is of his child.

25. (B)

26. (A) Area of triangle = $\frac{1}{2}$ × Base × Height

= $\frac{1}{2}$ × 10 × 26 = 130 sq cm

27. (B) Suppose the number
= $10x + y$
$x + y = 11$ ....... (i)
$(10x + y) + 27 = 10y + x$
$\Rightarrow 10x - x + y - 10y = -27$
$\Rightarrow 9x - 9y = -27$
$\Rightarrow x - y = -3$ .......(ii)
$\Rightarrow x = 4$ and $y = 7$
= $10x + y = 40 + 7 = 47$

28. (A) If the number of successful candidates be $x$, then
$x \times 39 + (120 - x) 15 = 120 \times 35$
$\Rightarrow 39x + 1800 - 15x = 4200$
$\Rightarrow 24x = 4200 - 1800 = 2400$
$\Rightarrow x = 100$

29. (B) Let total cost = ₹ 100

Total S.P. = $\frac{75 \times 124}{100}$ + 25

= 93 + 25 = ₹ 118
∴ Total gain = 18%

30. (C) Let the length be $x$ metre and breadth be $y$ metre
∴ $(x - 5)(y + 3) = xy - 9$.... (i)
Again,
$(x + 3)(y + 2) = xy + 67$ ....(ii)
From equation (i),
$xy + 3x - 5y - 15 = xy - 9$
$\Rightarrow 3x - 5y = 6$ ....(iii)
From equation (ii),
$2x + 3y = 61$ ...(iv)
By equation (iii) × 3 + (iv) × 5
$9x + 10x = 18 + 305$
$\Rightarrow 19x = 323 \Rightarrow x = 17$ metre

31. (C) 10 men = 18 children

$\Rightarrow$ 1 man = $\frac{18}{10}$ children

∴ 25 man +15 children

= $\left(25 \times \frac{18}{10} + 15\right)$ children

= 60 children
Now,
more work more days and more children less days

Work    1 : 2
Children 60 : 18  $\Big\}$ : : 15 : x

∴ $1 \times 60 \times x = 2 \times 18 \times 15$

$\Rightarrow x = \frac{2 \times 18 \times 15}{60}$ = 9 days

32. (C) Let the required number be $x$.
ATQ,
$\frac{5 - x}{7 - x} = \frac{1}{2}$
$\Rightarrow 10 - 2x = 7 - x$
$\Rightarrow 3 = x$
∴ $x = 3$

33. (B) $\dfrac{\sin 30° + \cos 30° \times \tan 30°}{1 + \cot 30° \times \sec 30°}$

= $\dfrac{\dfrac{1}{2} + \left(\dfrac{\sqrt{3}}{2}\right) \times \dfrac{1}{\sqrt{3}}}{1 + \sqrt{3} \times \dfrac{2}{\sqrt{3}}}$

= $\dfrac{\dfrac{1}{2} + \dfrac{1}{2}}{1 + 2}$ = $\dfrac{1}{3}$

34. (A) 8 = 8 × 1
24 = 8 × (1 + 2)
48 = 8 × (3 + 3)
80 = 8 × (6 + 4)
**120** = 8 × (10 + 5)
168 = 8 × (15 + 6)

35. (C) $2\sin(3x) - 1 = 0$
$\Rightarrow 2\sin(3x) = 1$

$\Rightarrow \sin(3x) = \frac{1}{2}$

$\Rightarrow \sin(3x) = \sin 30°$
$\Rightarrow 3x = 30°$
$\Rightarrow x = 10°$

36. (C) Remaining work

= $1 - \dfrac{2}{5} = \dfrac{3}{5}$

Remaining days = 48 – 24 = 24

$\dfrac{M_1 D_2}{W_2} = \dfrac{M_2 D_2}{W_2}$

$\Rightarrow \dfrac{36 \times 24}{\dfrac{2}{5}} = \dfrac{M_2 \times 24}{\dfrac{3}{5}}$

$\Rightarrow M_2 \times 24 \times 2 = 3 \times 36 \times 24$

$\Rightarrow M_2 = \dfrac{3 \times 36 \times 24}{27 \times 2}$ = 54

Additional men = 54 – 36 = 18

37. (C) Total distance travelled
= 50 × 2.5 + 70 × 1.5
= (125 + 105) km = 230 km

38. (D) $2x + y = 5$
    $3(2x + y) = 5 \times 3$
    $\Rightarrow 6x + 3y = 15$

39. (C) $\sqrt{4^n} = 1024$
    $\Rightarrow 4^n = 1024^2 \Rightarrow 4^n = \left(4^5\right)^2$
    $\Rightarrow 4^n = 4^{10} \quad \therefore n = 10$

40. (C) Time taken by outlet pipe in emptying the cistern = 30 minutes
    $\therefore$ Part of cistern emptied in 3 minute
    $= \dfrac{3}{30} = \dfrac{1}{10}$

41. (C) Radius of the base of cylinder $= \dfrac{14}{2}$
    = 7 cm.
    $\therefore$ Volume of cylinder $= \pi r^2 h$
    $= \left(\dfrac{22}{7} \times 7 \times 7 \times 80\right)$ cu. cm.
    = 12320 cu. cm.

42. (D) Time = T years,
    Rate = R% per annum
    $\therefore A = P\left(1 + \dfrac{R}{100}\right)^T$
    $\Rightarrow 4320 = 3000\left(1 + \dfrac{R}{100}\right)^T$ ...(i)
    $\Rightarrow \dfrac{4320}{3000} = \left(1 + \dfrac{R}{100}\right)^T$
    $\Rightarrow \dfrac{36}{25} = \left(1 + \dfrac{R}{100}\right)^T$
    $\Rightarrow \left(\dfrac{6}{5}\right)^2 = \left(1 + \dfrac{R}{100}\right)^T$
    $\therefore$ T = 2 and $1 + \dfrac{R}{100} = \dfrac{6}{5} = 1 + \dfrac{1}{5}$
    $\Rightarrow \dfrac{R}{100} = \dfrac{1}{5} \Rightarrow R = \dfrac{1}{5} \times 100 = 20\%$
    $\therefore$ Amount $= 3000\left(1 + \dfrac{20}{100}\right) = 3000\left(1 + \dfrac{1}{5}\right)$
    $= 3000 \times \dfrac{6}{5} = ₹\, 3600$

43. (D) Let the marked price be ₹ $x$.
    $\therefore \dfrac{x \times 75}{100} = \dfrac{200 \times 135}{100}$
    $\Rightarrow x = \dfrac{200 \times 135}{75} = ₹\, 360$

44. (D) Initial speed of train
    $= \dfrac{\text{Distance}}{\text{Time}} = \left(\dfrac{\frac{10}{12}}{60}\right)$ kmph
    $= \left(\dfrac{10 \times 60}{12}\right)$ kmph = 50 kmph
    $\therefore$ Distance $= 50 \times \dfrac{12}{60} = 10$ km
    $\therefore$ Required time $= \dfrac{10}{40}$ hours
    $= \left(\dfrac{10}{40} \times 60\right)$ minutes = 15 minutes

45. (B) Ratio of the number of 50 paise, 25 paise and 10 paise coins = 5 : 9 : 4
    Ratio of their values
    $= \dfrac{5}{2} : \dfrac{9}{4} : \dfrac{4}{10} = 50 : 45 : 8$
    $\therefore 50x + 45x + 8x = 206$
    $\Rightarrow 103x = 206 \Rightarrow x = 2$
    $\therefore$ Total number of coins
    $= 50 \times 2 \times 2 + 45 \times 4 \times 2 + 8 \times 10 \times 2$
    $= 200 + 360 + 160 = 720$

46. (B) Required difference $= 1200 \times \dfrac{(30 - 10)}{100}$
    $= 1200 \times \dfrac{20}{100}$
    $= 240$

47. (D) Required % $= \dfrac{(31 - 10)}{31} \times 100$
    $= \dfrac{21}{31} \times 100 = 67.74\%$

48. (C) Total number of students
    $= 1200 \times \dfrac{(4 + 10 + 20 + 31)}{100}$
    $= 1200 \times \dfrac{65}{100} = 780$

49. (A) Required difference
    $= 1200 \times \left[\dfrac{(30 + 20) - (4 + 31)}{100}\right]$
    $= 1200 \times \dfrac{15}{100} = 180$

50. (B) Required number of students
    $= \dfrac{217}{31} \times 100 \times \dfrac{9}{100} = 63$

# RRB MOCK TEST - 9 (ANSWER KEY)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. | (B) | 26. | (A) | 51. | (C) | 76. | (B) |
| 2. | (C) | 27. | (B) | 52. | (B) | 77. | (C) |
| 3. | (A) | 28. | (A) | 53. | (B) | 78. | (B) |
| 4. | (C) | 29. | (B) | 54. | (A) | 79. | (D) |
| 5. | (D) | 30. | (C) | 55. | (C) | 80. | (A) |
| 6. | (C) | 31. | (C) | 56. | (C) | 81. | (B) |
| 7. | (D) | 32. | (C) | 57. | (C) | 82. | (A) |
| 8. | (C) | 33. | (B) | 58. | (B) | 83. | (C) |
| 9. | (B) | 34. | (A) | 59. | (C) | 84. | (B) |
| 10. | (C) | 35. | (C) | 60. | (B) | 85. | (A) |
| 11. | (B) | 36. | (C) | 61. | (C) | 86. | (A) |
| 12. | (B) | 37. | (C) | 62. | (D) | 87. | (B) |
| 13. | (C) | 38. | (D) | 63. | (D) | 88. | (A) |
| 14. | (A) | 39. | (C) | 64. | (D) | 89. | (C) |
| 15. | (B) | 40. | (C) | 65. | (A) | 90. | (D) |
| 16. | (C) | 41. | (C) | 66. | (B) | 91. | (A) |
| 17. | (B) | 42. | (D) | 67. | (D) | 92. | (B) |
| 18. | (D) | 43. | (D) | 68. | (C) | 93. | (D) |
| 19. | (A) | 44. | (D) | 69. | (B) | 94. | (C) |
| 20. | (D) | 45. | (B) | 70. | (D) | 95. | (C) |
| 21. | (C) | 46. | (B) | 71. | (A) | 96. | (A) |
| 22. | (A) | 47. | (D) | 72. | (D) | 97. | (A) |
| 23. | (A) | 48. | (C) | 73. | (D) | 98. | (D) |
| 24. | (A) | 49. | (A) | 74. | (B) | 99. | (B) |
| 25. | (B) | 50. | (B) | 75. | (B) | 100. | (C) |