### RRB MOCK TEST-2 (Solution)

1. (B) \( P + A + N = PAN \)
   \[
   \begin{align*}
   16 + 1 + 14 &= 31 \\
   P + A + R &= PAR \\
   16 + 1 + 18 &= 35 \\
   P + A + T &= PAT
   \end{align*}
   \]
   \[16 + 1 + 20 = 37\]

2. (B) \( 7^2 = 49 \)
   \[
   \begin{align*}
   9^2 &= 81 \\
   8^2 &= 64
   \end{align*}
   \]
   \[10^2 = 100\]

3. (A)
   Suresh (father)
   
   Deepak \( \rightarrow \) Naresh (brother)
   Anu \( \rightarrow \) Ramesh (daughter) (brother)
   
   The uncle of Ramesh is Deepak.

4. (A) Opposite of Pleasure is sorrow, so opposite of right is wrong.

5. (D) The numbers 1, 3, 5 and 6 are on the adjacent faces of the number 2. So, 4 lies opposite 2. From the two views of the dice, it is clear that 6 lies opposite of 1.

6. (B) The tree grows up from root in the same way smoke comes from fire.

7. (A) Given that
   
   \[
   \rightarrow \text{ WONDERFUL L U} \]
   
   Change according to alphabet
   
   D E F L N O R M

8. (C)
   
   (Woman) mother
   only one daughter
   father
   
   woman (mother)
   woman (father)
   
   Woman is the mother of the man.

9. (C) Birbal, Abul Fazl and Tansen were included in Akbar’s Navratna but Faiz Ahmed was not a member of Navratna.

10. (B) 1980 is a leap year. The February will have 29 days.

   - 26 January, 1980 \( \Rightarrow \) Saturday
   - 31 January, 1980 \( \Rightarrow \) Thursday
   - 1 February, 1980 \( \Rightarrow \) Friday
   - 29 February, 1980 \( \Rightarrow \) Friday
   - 3 March, 1980 \( \Rightarrow \) Monday

   Y’s birthday \( \Rightarrow \) Friday

11. (D) Claims \( \rightarrow \) Wish \( \rightarrow \) Demand

12. (D)
   
   Cars \( \rightarrow \) Cats \( \rightarrow \) Fans
   
   I. False
   II. False

13. (B)
   
   Windows \( \rightarrow \) Doors \( \rightarrow \) Wall
   
   I. False
   II. True

14. (A)

15. (D) N A T I O N \( \rightarrow \) E A R N

   \[
   \begin{align*}
   4 & 6 & 7 & 2 & 3 & 4 \\
   1 & 6 & 5 & 4
   \end{align*}
   \]
   
   A T E N T I O N

   \[
   \begin{align*}
   6 & 7 & 1 & 4 & 7 & 2 & 3 & 4
   \end{align*}
   \]

16. (D) The colour of milk is white. Here, white means yellow.

17. (D) Meaningful logical order:

   5. Planning \( \downarrow \)
   
   2. Booking \( \downarrow \)
   
   3. Boarding \( \downarrow \)
   
   4. Travel \( \downarrow \)
   
   1. Destination

18. (D)

### Diagram

The triangles are: \( \Delta ABL; \Delta BCD; \Delta DEF; \Delta FGP; \Delta PGH; \Delta QHI; \Delta QJI; \Delta KRJ; \Delta LMK; \Delta OSG; \Delta SGR; \Delta SPI; \Delta SRI; \Delta KMS; \Delta FGH; \Delta JHI; \Delta JKL; \Delta KSG; \Delta NEI; \Delta ANI; \Delta MGC; \Delta KCO; \Delta GMK; \Delta KOG; \Delta AEI; \Delta KCG \)

Thus, there are 27 triangles.
20. (B)

21. (D)

22. (B) Litmus paper is used to test the acidity. Similarly, test is conducted to assess knowledge.

23. (C) One writes with pen on paper. Pencil is related with paper in the same way.

24. (C) A is B's sister. C is B's mother. Therefore, C is also the mother of A. D is C's father i.e. D is A's mother's father. Therefore, A is the grand-daughter of D.

25. (B) Let their monthly income are \( x \) and \( y \) respectively.

\[
\text{Putting the value of eq. (2) in eq. (1)}
\]

\[
\Rightarrow \frac{3}{2}y + y = 7500
\]

\[
\Rightarrow \frac{5y}{2} = 7500
\]

\[
\therefore y = \frac{7500 \times 2}{5} = \text{₹} 3000
\]

\[
\therefore x = \frac{3}{2} \times \frac{3}{2} \times 3000 = \text{₹} 4500
\]

27. (A) Let the both parts are \( x \) and \( y \).

\[
\therefore x + y = 72 \quad \text{...(1)}
\]

By question, 20% of \( x \) = 25% of \( y \)

\[
\Rightarrow \frac{20x}{100} = \frac{25y}{100}
\]

\[
\Rightarrow \frac{x}{5} = \frac{y}{4} \quad \text{...(2)}
\]

\[
\text{Putting the value of eq. (2) in eq. (1),}
\]

\[
\frac{5}{4}y + y = 72
\]

\[
\Rightarrow \frac{9y}{4} = 72
\]

\[
\therefore y = 32
\]

\[
\therefore x = 72 - y = 72 - 32 = 40
\]

both parts = 40, 32.

28. (C) : Interest

\[
\text{\( \text{interest} = \frac{\text{principle} \times \text{time} \times \text{rate}}{100} \)}
\]

\[
\therefore 747 - P = \frac{\text{P} \times 6 \times 11}{100}
\]

\[
\Rightarrow 747 = \frac{66P}{100} + 1 = \frac{166P}{100}
\]

\[
\therefore P = \frac{747 \times 100}{166} = \text{₹} 450
\]

29. (C) \( (a - b) = 1 \Rightarrow (a - b)^3 = (1)^3 \)

\[
\Rightarrow a^3 - b^3 - 3ab(a - b) = 1
\]

\[
\Rightarrow a^3 - b^3 - 3ab \times 1 = 1
\]

\[
\Rightarrow a^3 - b^3 = 1
\]

30. (A) S.P. = 720, loss = 25%

So, C.P = \( \frac{720 \times 100}{100 - 25} = \text{₹} 960 \)

For 25% Profit, the S.P. will be 125% of \( \text{₹} 960 \)

\[
= \frac{125}{100} \times 960 = \text{₹} 1200
\]

31. (C) Let mean proportional is \( x \)

So, 49 : \( x \) :: \( x \) : 64

\[
\Rightarrow \frac{49}{x} = \frac{x}{64}
\]

\[
\Rightarrow x^2 = 49 \times 64
\]

\[
\Rightarrow (x)^2 = (7 \times 8)^2
\]

\[
\therefore x = 56
\]
32. (D) Speed = 82.6 km/h,
    time = 15 minute = \( \frac{15}{60} \) hours
    \( \therefore \) distance = speed \& time
    = 82.6 km/h \times \frac{15}{60} = 20.65 km
    = 20.65 \times 1000 m = 20650 m

33. (A) Let the income of C = \( x \).
    \( \therefore \) income of B = 80% of \( x \)
    = \( 0.8x \)
    \( \therefore \) income of A = 110% of \( 0.8x \)
    = \( 1.1 \times 0.8x = 0.88x \)
    \( \therefore \) Ratio is,
    \( 0.8x : 0.8x : x = A : B : C \)
    \( \therefore \)\( A : B : C = 22 : 20 : 25 \)

34. (A) 8 men + 12 children work in 9 days.
    From question,
    1 man = 2 children
    \( \therefore \) income of B = 80% of \( x \)
    \( \therefore \) income of A = 110% of \( 0.8x \)
    \( \therefore \) income of C = \( x \)
    \( \therefore \) Ratio is,
    \( 22 : 20 : 25 \)
    \( \therefore \)\( A : B : C = 22 : 20 : 25 \)

35. (D) Remainder = 2 \times 24 – 11 = 48 – 11 = 37

36. (C) The pattern is:
    \( 1 \times 2^2 = 1 \times 4 = 4 \)
    \( 2 \times 3^2 = 2 \times 9 = 18 \)
    \( 3 \times 4^2 = 3 \times 16 = 48 \)
    \( 4 \times 5^2 = 4 \times 25 = 100 \)
    \( 5 \times 6^2 = 5 \times 36 = 180 \)
    \( 6 \times 7^2 = 6 \times 49 = 294 \)

38. (B) 2 | 12, 18, 21, 28
    \| 2 | 6, 9, 21, 14
    \| 3 | 3, 21, 7
    \| 7 | 1, 3, 7, 7
    n
    \( \therefore \) L.C.M. = 2 \times 2 \times 3 \times 7 \times 3 = 252
    The smallest 5-digit number = 10000
    252 10000 39
    756 2440
    2268 172
    \( \therefore \) Smallest number divisible by 252
    = 10000 + (252 - 172) = 10080
    \( \therefore \) Required number = 10081

39. (C) In the word ASSASSINATION.
    A comes thrice, S - four times
    I twice and N twice.
    We have to arrange AAA II NNTO (SSSS)
    \( \therefore \) Number of arrangements
    = \( \frac{10!}{3! \times 2! \times 2!} \)
    = \( \frac{10!}{24} \)
    = 151200

40. (A) Let the fraction is \( \frac{x}{y} \).
    By question,
    \( \frac{x - 10\% of x}{y + 20\% of y} = \frac{9}{20} \)
    \( \Rightarrow \frac{x - \frac{10x}{100}}{y + \frac{20y}{100}} = \frac{9}{20} \)
    \( \Rightarrow \frac{9x}{5y} = \frac{9}{20} \)
    \( \Rightarrow \frac{9x}{5y} = \frac{9 \times 5 	imes 6}{20} \)
    \( \Rightarrow \frac{x}{y} = \frac{9 \times 10 \times 6}{3} \)
    \( \Rightarrow \frac{x}{y} = \frac{9 \times 5 \times 20}{5} \)
    \( \Rightarrow \frac{x}{y} = \frac{9 \times 100}{5} \)
    \( \Rightarrow \frac{x}{y} = \frac{900}{5} \)
    \( \Rightarrow x = \frac{900}{5} \)
    \( \Rightarrow x = 180 \)

41. (D) Let the breadth of hall = \( x \) m
    \( \therefore \) length = \( (x + 5) \) m
    \( \therefore \) area of hall = 750 m²
    \( \Rightarrow l \times b = 750 \) m²
    \( \Rightarrow (x + 5)x = 750 \)
    \( \Rightarrow x^2 + 5x - 750 = 0 \)
    \( \Rightarrow x^2 + 30x - 25x - 750 = 0 \)
    \( \Rightarrow (x + 30)(x - 25) = 0 \)
    \( \Rightarrow x = 25, -30 \)
x = \frac{5}{3} \text{ is not possible}

\therefore \text{length} = (x + 5) \text{ m}

= (25 + 5) \text{ m} = 30 \text{ m}

\therefore \text{length} = (x + 5) \text{ m}

= (25 + 5) \text{ m} = 30 \text{ m}

42. (C) From formula,

\begin{align*}
\frac{M_1 T_1}{W_1} &= \frac{M_2 T_2}{W_2} \\
(\text{Let Required rupees} &= W_2)
\end{align*}

\Rightarrow 6 \times 8 = \frac{9 \times 6}{W_2}

\Rightarrow W_2 = \frac{9 \times 6 \times 8400}{6 \times 8} = 9450 \text{ ₹}

43. (C) \frac{?}{0.3} = \frac{\sqrt{0.01} + \sqrt{0.0064}}{0.01 \times 0.3}

= \frac{0.3}{0.003} = 100

44. (A) Total amount of the bill = ₹ x

\therefore \left(1 - \frac{3}{5}\right) x = 400

\Rightarrow \frac{2x}{5} = 400

\Rightarrow x = \frac{400 \times 5}{2} = 1000 \text{ ₹}

45. (A) \frac{1}{1 + \frac{1}{x}} = 2

\Rightarrow \frac{1}{1 + \frac{x + 1}{x}} = 2

\Rightarrow \frac{1}{x + 1} = 2

\Rightarrow \frac{x + 1}{x} = 2

\Rightarrow \frac{x + 1}{2x + 1} = 2

\Rightarrow 4x - 2 = x + 1

\Rightarrow 3x = -1

\Rightarrow x = -\frac{1}{3}

46. (C) Ratio of the share of profit between P and Q

= (600 \times 4) : (800 \times 2)

= 2400 : 1600

= 3 : 2

47. (D) 20% of 200 = \frac{20 \times 200}{100} = 40

7% of 500 = \frac{7 \times 500}{100} = 35

1300% of 3 = \frac{1300 \times 3}{100} = 39

600% of 7 = \frac{600 \times 7}{100} = 42

48. (A) Reqd % = \frac{221}{4933} \times 100 = 4.48 \approx 4.5%

49. (B) Difference = \frac{1}{5} \{1542 - 1382\} + (1545 - 1384) + (1550 - 1275) + (1570 - 1300) + (1580 - 1290)

= \frac{1}{5} \{160 + 161 + 275 + 270 + 290\}

= \frac{1}{5} \times 1156 = 231.2 \approx 231

50. (D) Reqd ratio = \frac{5825}{5625} = \frac{233}{225} = 233 : 225
### RRB MOCK TEST-2 (ANSWER KEY)

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