

HARYANA SSC MOCK TEST - 46 (SOLUTION)

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

Explanation:

41. (C) (A) $\begin{matrix} X & Y & A & D & H \\ \downarrow +1 & \downarrow +1 & \downarrow +2 & \downarrow +3 & \downarrow +4 \\ \end{matrix}$
- (B) $\begin{matrix} S & T & V & Y & C \\ \downarrow +1 & \downarrow +1 & \downarrow +2 & \downarrow +3 & \downarrow +4 \\ \end{matrix}$
- (C) $\begin{matrix} N & O & Q & S & V \\ \downarrow +1 & \downarrow +1 & \downarrow +2 & \downarrow +2 & \downarrow +3 \\ \end{matrix}$
- (D) $\begin{matrix} P & Q & S & V & Z \\ \downarrow +1 & \downarrow +1 & \downarrow +2 & \downarrow +3 & \downarrow +4 \\ \end{matrix}$
42. (C) $\begin{matrix} 2 & 12 & 60 & 240 & 720 & 1440 \\ \downarrow \times 6 & \downarrow \times 5 & \downarrow \times 4 & \downarrow \times 3 & \downarrow \times 2 & \downarrow \times 2 \\ \end{matrix}$
43. (A) French is the language of France.
Similarly, dutch is the language of Holland.
44. (B) Here English alphabet is coded as following —
- | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|
| A | B | C | D | E | F | G | H | I | J | K | L | M |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
-
- | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|
| N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

Now,

$\begin{matrix} P & R & A & I & S & E \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 3 & 5 & 1 & 9 & 6 & 5 \end{matrix}$

Similarly,

$\begin{matrix} C & O & N & T & R & O & L \\ \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ 3 & 2 & 1 & 7 & 5 & 2 & 12 \end{matrix}$

45. (B) $(2 \times 7) + 8 + (6 \times 5) = 52$
 $(5 \times 6) + 2 + (3 \times 2) = 38$

Similarly,

$(3 \times 4) + 2 + (6 \times 2) = 26$

46. (D) $\frac{S_{n_1}}{S_{n_2}} = \frac{\frac{n}{2}[2a_1 + (n-1)d_1]}{\frac{n}{2}[2a_2 + (n-1)d_2]}$
- $= \frac{[2a_1 + (n-1)d_1]}{[2a_2 + (n-1)d_2]}$

$$\Rightarrow \frac{5n+2}{11n-7} = \frac{[2a_1+(n-1)d_1]}{[2a_2+(n-1)d_2]} \dots (i)$$

$$\begin{aligned} \frac{a_6}{b_6} &= \frac{a_1+5d_1}{a_2+5d_2} \\ &= \frac{2a_1+10d_1}{2a_2+10d_2} \\ &= \frac{2a_1+(11-1)d_1}{2a_2+(11-1)d_2} \end{aligned}$$

From (i) and (ii)

$$\begin{aligned} \Rightarrow \frac{a_6}{b_6} &= \frac{S_{11}}{S'_{11}} = \frac{5 \times 11 + 2}{11 \times 11 - 7} \\ &= \frac{57}{121-7} = \frac{57}{114} = \frac{1}{2} = 1 : 2 \end{aligned}$$

46. (B) $\frac{\text{Umber}}{2} \quad \frac{\text{Umbra}}{1} \quad \frac{\text{Umbrage}}{4} \quad \frac{\text{Umlaut}}{3}$

47. (D)

48. (B)

49. (B) Sanjeev \rightarrow Atanu \rightarrow Manoj \rightarrow Joy \rightarrow Amar
 $\frac{5}{5} \quad \frac{4}{4} \quad \frac{3}{3} \quad \frac{2}{2} \quad \frac{1}{1}$

50. (B) Let the age of son = x year

\therefore The age of father = $5x$ year

According to question,

$$(5x + 24) = 2(x + 24)$$

$$\text{or, } 5x + 24 = 2x + 48$$

$$\text{or, } 5x - 2x = 48 - 24$$

$$\text{or, } 3x = 24$$

$$\therefore x = 8 \text{ years}$$

So the age of son = 8 years and the age of father = $5x$ years

$$= 5 \times 8 = 40 \text{ years.}$$

51. (B) $CI - SI = P \left[\left(\frac{R}{100} \right)^3 + 3 \left(\frac{R}{100} \right)^2 \right]$

$$15 \frac{1}{2} = P \left[\left(\frac{10}{100} \right)^3 + 3 \left(\frac{10}{100} \right)^2 \right]$$

$$\frac{31}{2} = P \left[\frac{1}{1000} + \frac{3}{100} \right]$$

$$P = \frac{31}{2} \times \frac{1000}{31}$$

$$= ₹ 500$$

52. (B) Speed of upstream = speed in still water - speed of the stream

$$\Rightarrow 6 = \text{speed in still water} - 2$$

\Rightarrow Speed in still water = 8 km/hr

53. (A) $SI = ₹ (9200 - 8000)$

$$= ₹ 1200$$

$$R = \frac{SI \times 100}{P \times T} = \frac{1200 \times 100}{8000 \times 3} = 5\%$$

New ratio of interest = $(5 + 2)\% = 7\%$

$$SI = \frac{8000 \times 7 \times 3}{100} = ₹ 1680$$

$$\text{Amount} = ₹ (8000 + 1680)$$

$$= ₹ 9,680$$

54. (B) Let the time taken by Kaveri be x days.

Then,

$$\text{time taken by Kanti} = \frac{x}{2} \text{ days}$$

$$\text{and time taken by Kalpana} = \frac{x}{3} \text{ days}$$

ATQ,

$$\frac{1}{x} + \frac{1}{\frac{x}{2}} + \frac{1}{\frac{x}{3}} = 1$$

$$\frac{1+2+3}{x} = 1$$

$$\Rightarrow x = 6 \text{ days}$$

$$\text{Time taken by Kanti alone} = \frac{6}{2} = 3 \text{ days}$$

55. (A) $\therefore x$ is real

$$\Rightarrow (x-1)^2 \geq 0$$

$$\Rightarrow x^2 + 1 - 2x \geq 0$$

$$\Rightarrow x^2 + 1 \geq 2x$$

$$\Rightarrow \frac{x^2+1}{x} \geq 2$$

$$\Rightarrow \sin \theta \geq 2$$

which is impossible, as $-1 \leq \sin \theta \leq 1$

56. (D) $(A + B) + (B + C) + (C + A)$'s 1 day's work

$$= \frac{1}{12} + \frac{1}{15} + \frac{1}{20} = \frac{5+4+3}{60} = \frac{12}{60} = \frac{1}{5}$$

$$\text{Workdone by } 2(A + B + C) \text{ in 1 day} = \frac{1}{5}$$

$$\text{Workdone by } (A + B + C) \text{ in 1 day} = \frac{1}{10}$$

Workdone by A alone in 1 day

$$= \frac{1}{10} - \frac{1}{15} = \frac{3-2}{30} = \frac{1}{30}$$


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∴ A takes 30 days to complete the work.

57. (A) Let $f(x) = 4x^3 - ax^2 + bx - 4$

∴ $f(x)$ is divided by $(x - 2)$

⇒ Remainder = $f(2) = 20$

$4(2)^3 - a(2)^2 + b(2) - 4 = 20$

$32 - 4a + 2b - 4 = 20$

$8 = 4a - 2b$

⇒ $2a - b = 4$ (i)

Also, $f(x)$ is divided by $(x + 1)$

∴ Remainder = $f(-1) = -13$

⇒ $4(-1)^3 - a(-1)^2 + b(-1) - 4 = -13$

$-4 - a - b - 4 = -13$

$-a - b = -13 + 8$

$a + b = 5$ (ii)

On solving (i) & (ii), we have

$a = 3$ & $b = 2$

58. (B) ∴ CP_1 @ 25% gain = $\frac{1000 \times 100}{100 + 25}$

= ₹ 800

CP_2 @ 20% loss = $\frac{1000 \times 100}{100 - 80}$

= ₹ 1250

% loss = $\frac{[\text{Total CP} - \text{Total SP}]}{\text{Total CP}} \times 100$

= $\frac{[(800 + 1250) - (1000 + 1000)]}{(800 + 1250)} \times 100$

= $\frac{2050 - 2000}{2050} \times 100$

= $\frac{5000}{2050} = \frac{100}{41} = 2\frac{18}{41}\%$

59. (D) $\frac{a-b}{x-a} + \frac{a-b}{x-b} = \frac{a}{x-a} - \frac{b}{x-b}$

⇒ $\frac{a-b}{x-a} - \frac{a}{x-a} = \frac{-b}{x-b} - \frac{a-b}{x-b}$

⇒ $\frac{a-b-a}{x-a} = \frac{-b-a+b}{x-b}$

⇒ $\frac{-b}{x-a} = \frac{-a}{x-b}$

⇒ $(x-a)a = (x-b)b$

⇒ $x(a-b) = a^2 - b^2$

∴ $x = a + b$.

60. (D) $\frac{S_{n_1}}{S_{n_2}} = \frac{\frac{n}{2}[2a_1 + (n-1)d_1]}{\frac{n}{2}[2a_2 + (n-1)d_2]}$

= $\frac{[2a_1 + (n-1)d_1]}{[2a_2 + (n-1)d_2]}$

⇒ $\frac{5n+2}{11n-7} = \frac{[2a_1 + (n-1)d_1]}{[2a_2 + (n-1)d_2]}$... (i)

$\frac{a_6}{b_6} = \frac{a_1 + 5d_1}{a_2 + 5d_2}$

= $\frac{2a_1 + 10d_1}{2a_2 + 10d_2}$

= $\frac{2a_1 + (11-1)d_1}{2a_2 + (11-1)d_2}$

From (i) and (ii)

⇒ $\frac{a_6}{b_6} = \frac{S_{11}}{S'_{11}} = \frac{5 \times 11 + 2}{11 \times 11 - 7}$

= $\frac{57}{121-7} = \frac{57}{114} = \frac{1}{2} = 1 : 2$

Note:- If you face any problem regarding result or marks scored, please contact 9313111777

Note:- If your opinion differs regarding any answer, please message the mock test and question number to 8860330003