## RPF MOCK TEST - 11 (SOLUTION)

51. (B) Let speed of boat $=x$, speed of current $=y$ Downstream speed $=(x+y)$
Upstream speed $=(x-y)$
ATQ,
$\frac{21}{x+y}+\frac{21}{x-y}=10 \ldots$ (i)
$\frac{7}{x+y}=\frac{3}{x-y}$
$\Rightarrow \frac{x+y}{x-y}=\frac{7}{3}$, assume $x+y=7 \mathrm{k}$,
$(x-y)=3 \mathrm{k}$, put values in equation (i) then, $k=1, x+y=7, x-y=3$
Speed of boat $=\frac{7+3}{2}=5 \mathrm{~km} / \mathrm{hr}$
Speed of current $=\frac{7-3}{2}=2 \mathrm{~km} / \mathrm{hr}$
52. (D) ATQ,
$A=B+4000$
$B=C+5000$
$A+B+C=50,000$
$B+4000+B+B-5000=50000$
$\Rightarrow 3 \mathrm{~B}=51000$
$\Rightarrow B=\frac{51000}{3}=17000$
$\therefore A=17000+4000=₹ 21000$
Hence, A gets $=\frac{21000}{50000} \times 35000$

$$
\text { = ₹ } 14700
$$

53. (D) ATQ,
$x=y$
$\Rightarrow 2 \mathrm{t}=\frac{2 t-1}{3}$
$\Rightarrow 6 \mathrm{t}=2 \mathrm{t}-1$
$\Rightarrow 4 \mathrm{t}=-1$
$\Rightarrow \mathrm{t}=-\frac{1}{4}$
54. (C)


Both are running in the same direction, so relative speed $=(40-20)=20 \mathrm{~m} / \mathrm{min}$.

Actual distance between deer and tiger $=50 \times 8=400 \mathrm{~m}$
Time taken by tiger to overtake deer
$=\frac{400}{20}=20 \mathrm{~min}$
Distance travelled by tiger in $20 \mathrm{~min}=$ $20 \times 40=800 \mathrm{~m}$.
55. (B) Number of passengers after getting down and getting in at the first station
$=240-12+22=250$
Passengers left in the train after the
second station $=250-\frac{1}{5} \times 250=200$
Let $x$ people get down at the third statioin, then
ATQ,
$200+32-x=240 \times \frac{80}{100}$
$\Rightarrow 232-x=192$
$\Rightarrow x=40$
56. (C) Cost price of an atricle $A=₹ 160$

Selling price of $A=160 \times \frac{120}{100}=₹ 192$
ATQ,
Cost price of $\mathrm{B}=₹ 192$
Selling price of $B=₹ 240$
Profit $=240-192=₹ 48$
Percentage profit $=\frac{48}{192} \times 100=25 \%$
57. (C) Let the marked price of shirt be ₹ $x$ and that of trouser be $2 x$.
Let the discount on the trousers be $y \%$ Then,

$$
\begin{aligned}
& x \times \frac{40}{100}+2 x \times \frac{y}{100}=3 x \times \frac{30}{100} \\
& \Rightarrow 40 x+2 x y=90 x \\
& \Rightarrow 2 y=90-4 x 0 \\
& \Rightarrow y=\frac{50}{2}=25 \%
\end{aligned}
$$

58. (B) As $\mathrm{BC}|\mid \mathrm{AD}$ and the diagonals of a trapezium divide each other propertionally.
So, $\frac{\mathrm{AO}}{\mathrm{OC}}=\frac{\mathrm{BO}}{\mathrm{OD}}$
$\Rightarrow \frac{3 x-1}{5 x-3}=\frac{2 x+1}{6 x-5}$

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$\Rightarrow(3 x-1)(6 x-5)$
$=(5 x-3)(2 x+1)$
$\Rightarrow 18 x^{2}-15 x-6 x+5$
$=10 x^{2}+5 x-6 x+5$
$\Rightarrow 8 x^{2}-20 x+8=0$
$\Rightarrow 4 x^{2}-10 x+4=0$
$\Rightarrow 4 x^{2}-8 x-2 x+4=0$
$\Rightarrow 4 x(x-2)-2(x-2)=0$
$\Rightarrow(4 x-2)(x-2)=0$
$\Rightarrow x=\frac{1}{2}$ or $x=2$
But as $x=\frac{1}{2}$ will make OC negative $\therefore x=2$
59. (D) Total cost price $=150 \times 10+100=₹ 1600$

Total selling price $=150 \times 12 \times 120$

$$
=\text { ₹ } 2160
$$

Profit = ₹ 2160 - ₹ $1600=₹ 560$
Profit $\%=\frac{560}{1600} \times 100=35 \%$
60. (D) Required remainder $=$ Remainder obtained by dividing $2^{2}$ by 5 .
Remainder $=4$
61. (B) Slant height of the cone,
$l=\sqrt{(12)^{2}+(5)^{2}}=13 \mathrm{~cm}$
Lateral surface of the solid = Curved surface of cone + Curved surface of cylinder + Surface area of bottom
$=\pi r l+2 \pi r h+\pi r^{2}$, where $h$ is the height of the cylinder.
$=p r(l+h+r)=\left[\frac{22}{7} \times 12 \times(13+18+12)\right] \mathrm{cm}^{2}$
$=\left(\frac{22}{7} \times 12 \times 43\right) \mathrm{cm}^{2}=\left(\frac{11352}{7}\right) \mathrm{cm}^{2}$
$=1357 \frac{5}{7} \mathrm{~cm}^{2}$
62. (C) ATQ,
$\frac{x+\frac{1}{x}}{2}=16$
$\Rightarrow x+\frac{1}{x}=32$
Required average
$=\frac{x^{2}+\frac{1}{x^{2}}}{2}=\frac{\left(x+\frac{1}{x}\right)^{2}-2}{2}$
$=\frac{(32)^{2}-2}{2}=511$
63. (B) Pipe $A$ is opened at 3 pm , pipe $B$ at 4 pm and the pipe C at 5 am .
Part of the tank filled by pipe A in 2 hours $=\frac{2}{3}$
Part of the tank filled by pipe B in 1 hour $=\frac{1}{4}$
Part of the tank filled by pipe B in 1 hour $=\frac{1}{4}$
Part of the tank filled till 5 pm
$=\frac{2}{3}+\frac{1}{4}=\frac{8+3}{12}=\frac{11}{12}$
Remaining part $=1-\frac{11}{12}=\frac{1}{12}$
New part empited when A, B and C are opened $=\frac{1}{3}+\frac{1}{4}-1=\frac{4+3-12}{12}=\frac{-5}{12}$
$\therefore \frac{5}{12}$ Part is emptied in 1 hoiur
$\therefore \frac{11}{12}$ is emptied in $=\frac{12}{5} \times \frac{11}{12}$ $=\frac{11}{5}$ hours
$\therefore$ Required time $=5+2 \frac{1}{5}=7: 12 \mathrm{pm}$
64. (B) Let the required distance $\mathrm{be}=x \mathrm{~km}$

Difference of time $=6+6=12$ minutes

$$
=\frac{1}{5} \mathrm{hr}
$$

ATQ,
$\frac{x}{\frac{5}{2}}-\frac{x}{\frac{7}{2}}=\frac{1}{5}$
$\Rightarrow \frac{2 x}{5}-\frac{2 x}{7}=\frac{1}{5}$
$\Rightarrow \frac{14 x-10 x}{35}=\frac{1}{5}$
$\Rightarrow \frac{4 x}{35}=\frac{1}{5} \Rightarrow x=\frac{35}{20}=\frac{7}{4} \mathrm{~km}$
65. (B) Average cost of 1 bag of rice
$=₹\left(\frac{7 \times 800+8 \times 1000+5 \times 1200}{7+8+5}\right)$
$=₹\left(\frac{5600+8000+6000}{20}\right)$
$=\frac{19600}{20}=₹ 980$
66. (D) Let 1 kg of each of the alloys A and B be mixed together.
In alloy A,
Quantity of gold $=\frac{5}{8} \mathrm{~kg}$
Quantity of copper $=\frac{3}{8} \mathrm{~kg}$
In alloy B,
Quantity of gold $=\frac{5}{16} \mathrm{~kg}$
Quantity of Copper $=\frac{11}{16} \mathrm{~kg}$
$\therefore$ Required ratio $=\left(\frac{5}{8}+\frac{5}{16}\right):\left(\frac{3}{8}+\frac{11}{16}\right)$
$=\frac{15}{16}: \frac{17}{16}=15: 17$
67. (B) $\because \mathrm{PR}|\mid \mathrm{TS}$
$\therefore \angle \mathrm{PRQ}=\angle \mathrm{USR}=50^{\circ}$
In $\triangle \mathrm{PQR}$
$\angle \mathrm{PQR}=180^{\circ}-\left(50^{\circ}+60^{\circ}\right)=70^{\circ}$
$\therefore \angle \mathrm{TPU}=\angle \mathrm{PQR}=70^{\circ}$
$[\because \mathrm{PU}||\mathrm{RS}|| \mathrm{QS}]$
68. (A)


Number of days in which he was absent
$=\frac{40}{(33+7)} \times 7=7$ days
69. (C) LCM of 9,10 and $15=90$
$\Rightarrow$ The multiple of 90 are also divisible by 9,10 or 15 .
$\therefore 21 \times 90=1890$ will be divisible by them
$\therefore$ Now, 1897 will be the number that will give remainder 7 .
Required number $=1936-1897=39$
70. (B) Let the number be $x$.

Then,
$\frac{3}{4} x-\frac{3}{14} x=150$
$\Rightarrow \frac{21 x-6 x}{28}=150$
$\Rightarrow 15 x=28 \times 150$
$\Rightarrow x=\frac{28 \times 150}{15}=280$

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77. (C) Diameter of circle $=$ breadth of park $=$ 28 m
$\therefore$ Radius of circle $=\frac{28}{2}=14 \mathrm{~m}$.
$\therefore$ Area of circle $=\pi \mathrm{r}^{2}=\frac{22}{7} \times 14 \times 14$

$$
=616 \mathrm{~cm}^{2}
$$

Required area $=40 \times 28-616=504 \mathrm{~cm}^{2}$
78. (C) Area of $z=\frac{\pi 8^{3}}{3}$
$\therefore \pi r^{2}=\frac{\pi 8^{2}}{3} \Rightarrow r^{2}=\frac{8^{2}}{3}$
$\therefore \mathrm{r}=\frac{8}{\sqrt{3}}$

area of middle circle $=\frac{\pi 8^{2}}{3}$
$\therefore \pi \mathrm{R}^{2}-\pi \mathrm{r}^{2}=\frac{\pi 8^{2}}{3}$
$R^{2}-r^{2}=\frac{8^{2}}{3}$
$\therefore \mathrm{R}^{2}-\frac{8^{2}}{3}=\frac{8^{2}}{3}$
$\Rightarrow R^{2}=\frac{8^{2}}{3}+\frac{8^{2}}{3}=\frac{64}{3}+\frac{64}{3}=\frac{128}{3}$
$\therefore \mathrm{R}=\sqrt{\frac{128}{3}}=\frac{8 \sqrt{2}}{\sqrt{3}}$
$\therefore$ The ratio of radii $=8: \mathrm{R}: \mathrm{r}$
$=8: \frac{8 \sqrt{2}}{\sqrt{3}}: \frac{8}{\sqrt{3}}$
$=1: \frac{\sqrt{2}}{\sqrt{3}}: \frac{1}{\sqrt{3}}=\sqrt{3}: \sqrt{2}: 1$
$\therefore$ The ratio in acending order $=1: \sqrt{2}: \sqrt{3}$
79. (C) Installment (I) $=₹ 1210, R=10 \%$

We know (for two installment)
$I=\frac{\text { Principle }}{\left(\frac{100}{100+\mathrm{R}}\right)+\left(\frac{100}{100+\mathrm{R}}\right)^{2}}$

$$
\begin{aligned}
& \Rightarrow 1210=\frac{\text { Principle }}{\frac{10}{11}+\frac{100}{121}} \\
& \Rightarrow \text { Principle }=1210 \times\left(\frac{110+100}{121}\right) \\
& =\frac{1210 \times 210}{121}
\end{aligned}
$$

$$
\text { Principle = ₹ } 2100
$$

80. (A)


On solving equation (i) and (ii)
$10 w=700-440=260$
$\therefore 1 \mathrm{w}=\frac{260}{10}=₹ 26$
Now, $5 \mathrm{~m}+5 \mathrm{w}=220$
$5 \mathrm{~m}+5 \times 26=220$
$\therefore 1 \mathrm{~m}=\frac{220-130}{5}=\frac{90}{5}=₹ 18$
Now, the required number of days
$=\frac{1060}{(6 \times 18+4 \times 26)}=\frac{1060}{212}=5$ days
81. (C) Let the share of $\mathrm{B}=₹ x$

Then share of $\mathrm{A}=₹(3903-x)$
ATQ,
$(3903-x)\left(1+\frac{4}{100}\right)^{7}=x\left(1+\frac{4}{100}\right)^{9}$
$\Rightarrow(3903-x)=x\left(\frac{26}{25}\right)^{2}=\frac{676 x}{625}$
$\Rightarrow 3903 \times 625-625 x=676 x$
$\Rightarrow 1301 x=3903 \times 625$
$\Rightarrow x=\frac{3903 \times 625}{1301}=₹ 1875$
$\therefore$ Share of B = ₹ 1875
82. (B) $\mathrm{SI}=₹(7200-6000)=₹ 1200$
$\therefore \mathrm{SI}=\frac{\mathrm{PRT}}{100} \Rightarrow 1200=\frac{6000 \times \mathrm{R} \times 4}{100}$
$\Rightarrow R=\frac{1200 \times 100}{6000 \times 4}=5 \%$
New rate $(R)=5 \times 1.5=7.5 \%$
Then, SI $=\frac{6000 \times 7.5 \times 5}{100}=₹ 2250$
$\therefore$ Amount $=₹(6000+2250)=₹ 8250$
83. (D)
84. (B) Let the expenditure $=x$

In 2002,
$65=\frac{\mathrm{I}_{1}-x}{x} \times 100 \Rightarrow \frac{65 x}{100}+x=\mathrm{I}_{1}$
$\Rightarrow I_{1}=\frac{165 x}{100}$
and, in 2005,
$75=\frac{\mathrm{I}_{2}-x}{x} \times 100 \Rightarrow \frac{75 x}{100}+x=\mathrm{I}_{2}$
$\Rightarrow I_{2}=\frac{175 x}{100}$
$\therefore$ Required ratio $=\frac{\frac{165 x}{100}}{\frac{175 x}{100}}=33: 35$
85. (A) Required Average profit
$=\frac{50+65+45+70+75+60}{6}$
$=\frac{365}{6}=60 \frac{5}{6}$
86. (C)
87. (B) As, $(1)^{3} \times 8=8$

Similarly, $(3)^{3} \times 8=\mathbf{2 1 6}$
88. (A) As, 14

$$
\frac{14}{14 \times 3+14 \div 2} \frac{49}{\uparrow}
$$

Similarly, $\frac{18}{18 \times 3+18 \div 2 \overbrace{}^{\frac{63}{1}}}$
89. (B)

$$
\frac{64}{(6+4) \times 4}
$$

Similarly

$$
\frac{56}{[(5+6) \times 4}
$$

90. (D) As, SURE $\xrightarrow{4 \times 3+3} 15$

Similarly, SCHOOL $\xrightarrow{6 \times 3+3} \mathbf{2 1}$
91. (D) Amjad Ali Khan, is a Sarod player. While all others are Tabla player.
92. (C) Except 492765831, all others are written with the help of 8 digits.
93. (A) Except 181, all others are divisible by 13.
94. (D) Except PHRASE, in all others vowel A used two times.
95. (B)




96. (B) As, 54-32 = 22

Similarly, 48-26=22
97. (A) As, $\frac{-2+0}{2}=-1$
and, $\frac{-1+1}{2}=0$
Similarly, $\frac{10+2}{2}=\mathbf{6}$
98. (D)
99. (B)
100. (C) Seventh letter from the left is A and third letter to its right is $\mathbf{k}$.
101. (D) From figure,

$\therefore$

can't be made by the question fig-
ure.
102. (C)
103. (C)
104. (A)

105. (B)

106. (B)

107. (C)
108. (C)

109. (D) mopn/mopn/mopn/mopn
110. (C)

I. $\checkmark$
II. $\checkmark$

Hence, both conclusion follow.

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111. (A)
112. (D) As, S E Q U E N C E
$\frac{\downarrow \text { Opp. }}{\text { H V J F V M X V }}$

Similarly,
C H I L D R E N

113. (B) $1,12,7,5,2,18,1$ $\begin{array}{lllllll}\downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow & \downarrow \\ \mathbf{A} & \mathbf{L} & \mathbf{G} & \mathbf{E} & \mathbf{B} & \mathbf{R} & \mathbf{A}\end{array}$
114. (C)
115. (B) $36-6+3+3 \times 5 \div 3=74$
116. (D) After changing the signs,

$$
\begin{aligned}
& 36 \times 6 \div 3+5-3=74 \\
\Rightarrow & 72+5-3=74 \\
\Rightarrow & \mathbf{7 4}=\mathbf{7 4}
\end{aligned}
$$

117. (B)
118. (A)
119. (B)
120. (D)

## Answer key

| 1. (D) | 16. (C) | 31. (C) | 46. (C) | 61. (B) | 76. (D) | 91. (D) | 106. (B) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2. (D) | 17. (C) | 32. (D) | 47. (D) | 62. (C) | 77. (C) | 92. (C) | 107. (C) |
| 3. (A) | 18. (A) | 33. (B) | 48. (C) | 63. (B) | 78. (C) | 93. (A) | 108. (C) |
| 4. (D) | 19. (A) | 34. (D) | 49. (C) | 64. (B) | 79. (C) | 94. (D) | 109.(D) |
| 5. (C) | 20. (D) | 35. (D) | 50. (D) | 65. (B) | 80. (A) | 95. (B) | 110.(C) |
| 6. (C) | 21. (B) | 36. (A) | 51. (B) | 66. (D) | 81. (C) | 96. (B) | 111.(A) |
| 7. (D) | 22. (A) | 37. (B) | 52. (D) | 67. (B) | 82. (B) | 97. (A) | 112.(D) |
| 8. (C) | 23. (B) | 38. (A) | 53. (D) | 68. (A) | 83. (D) | 98. (D) | 113.(B) |
| 9. (C) | 24. (B) | 39. (C) | 54. (C) | 69. (C) | 84. (B) | 99. (B) | 114. (C) |
| 10. (A) | 25. (B) | 40. (B) | 55. (B) | 70. (B) | 85. (A) | 100.(C) | 116.(D) |
| 11. (A) | 26. (C) | 41. (A) | 56. (C) | 71. (D) | 86. (C) | 101.(D) | 117.(B) |
| 12. (C) | 27. (A) | 42. (A) | 57. (C) | 72. (A) | 87. (B) | 102. (C) | 115.(B) |
| 13. (B) | 28. (C) | 43. (C) | 58. (B) | 73. (A) | 88. (A) | 103. (C) | 118.(A) |
| 14. (C) | 29. (D) | 44. (B) | 59. (D) | 74. (B) | 89. (B) | 104.(A) | 119.(B) |
| 15. (D) | 30. (D) | 45. (A) | 60. (D) | 75. (D) | 90. (D) | 105.(B) | 120.(D) |

Note:- If your opinion differs regarding any answer, please message the mock test
and question number to 8860330003
Note:- Whatsapp with Mock Test No. and Question No. at 7053606571 for any of the doubts, also share your suggestions and experience of Sunday Mock

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

