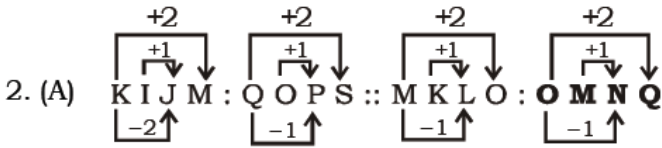


SSC MOCK TEST – 38(SOLUTION)

1. (A) **Lava** emits from **volcano**. Similarly, **ashes** emit from **fire**.



3. (B) $248 : 3 :: 328 : 4$

4. (C)

5. (B) $24 \times 8 \div 4 + 2 - 3 = 47$

$$24 \times 2 + 2 - 3 = 47$$

$$48 + 2 - 3 = 47$$

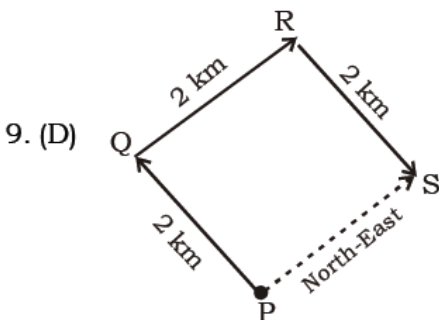
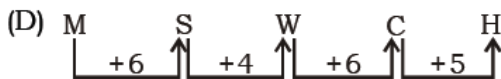
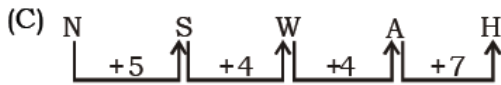
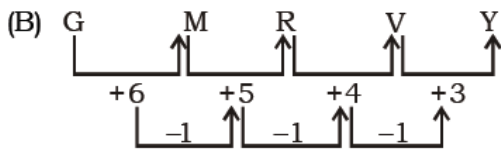
$$48 + 2 - 3 = 47$$

$$50 - 3 = 47$$

$$47 = 47$$

6. (B)

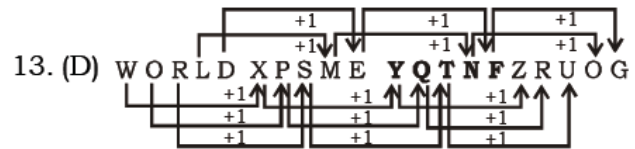
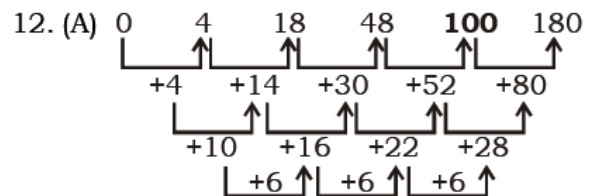
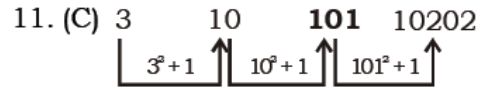
7. (D) In the book, text comes in the last.



10. (B) Clock gains 5 minutes every hour. It means clock gains $\frac{5}{60}$ minutes in one

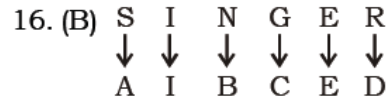
$$\text{minute} = \frac{5}{60} \times 360 = 30.$$

So, the second hand will move 360.5° in a minute.

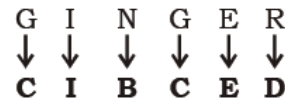


14. (C) $pqr / pqr / pqr / pqr$

15. (C) **6867 68932753422355228119**



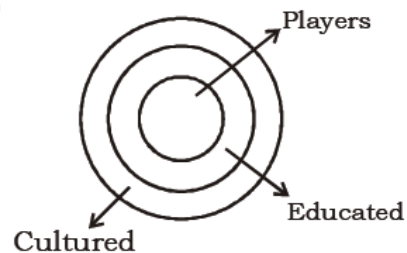
then,



17. (C) **Y O K E**

18. (C)

19. (A)



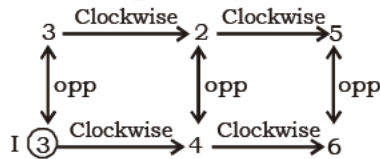
Conclusions = I - ✓
= II - ✗

20. (C) $(25 + 45 + 35 + 30) \div 5 = 27$
 $(60 + 20 + 40 + 20) \div 5 = 30$
 Similarly, $(25 + 40 + 35 + 65) \div 5 = 33$

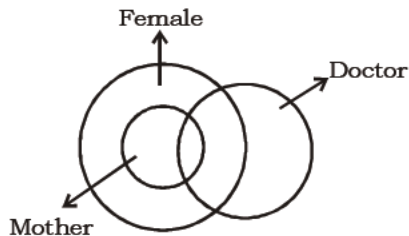
21. (D) $50 \times 6 = 550$; $50 \times 11 = 550$
 (Read '500' as '550'),
 $10 \times 60 = 60$; $10 \times 11 = 110$ and
 $124 \times 6 = 744$; $124 \times 11 = 1364$
 Similarly, $2 \times 6 = 12$; $2 \times 11 = 22$

22. (A) c. Rabindranath Tagore (1913)
 e. C.V. Raman (1930)
 b. Mother Teresa (1979)
 a. Amartya Sen (1988)
 d. Venkatraman Ramakrishna (2009)

23. (A) According to dice I and II



24. (B)



25. (B)

26. (B) Principal = P
 Rate = r
 Time = 16 years
 ATQ,
 $(2P - P) = \frac{P \times r \times 16}{100}$
 $r = \frac{100}{16} > 6\frac{1}{4}\%$

27. (B) Total simple interest = 5420

ATQ, $\frac{12000 \times 13 \times 1}{100 \times 2}$, $\frac{28000 \times 8 \times 1}{100}$, $\frac{40000 \times r \times 1}{100}$
 $= 780 + 2240 + 400r = 5420$
 $400r = 2400$
 $r = 6\%$

28. (C) ATQ, First number \times second number
 $= \text{HCF} \times \text{LCM}$

Second Number = $\frac{4 \times 576}{64} = 36$

29. (D)

$x - y = \frac{x, y}{7}$
 $7x - 7y = x + y$
 $6x = 8y$
 $3x = 4y$
 $x - y = \frac{xy}{4}$
 $4x - 4y = xy$
 $4x - 3x = x \left(\frac{3}{4}x \right), \Rightarrow x = \frac{4}{3}$
 $xy = \left(\frac{4}{3} \right) \times \left(\frac{4}{3} \times \frac{3}{4} \right) > \frac{4}{3}$

30. (C)

$x = \frac{\sqrt{3}, 1}{\sqrt{3}-1}$
 $x = \frac{\sqrt{3}, 1}{\sqrt{3}-1} \times \frac{\sqrt{3}, 1}{\sqrt{3}, 1} = \frac{3, 1, 2\sqrt{3}}{3-1}$
 $= 2, \sqrt{3}$
 $x^2 = 4 + 3 + 4\sqrt{3} = 7, 4\sqrt{3}$
 $x^2 - 4x + 2 = 7 + 4\sqrt{3} - 8 - 4\sqrt{3} + 2$
 $= 1$

31. (A) $\frac{\cot 54^\circ}{\tan 36^\circ}, \frac{\tan 20^\circ}{\cot 70^\circ} - 2 = \frac{\cot 54^\circ}{\cot 54^\circ}, \frac{\tan 20^\circ}{\tan 20^\circ} - 2$
 $= 1 + 1 - 2 = 0$

32. (A)

$\tan \theta = \sin \theta$
 $\frac{\sin \rho}{\cos \rho} = \sin \theta$
 $\cos \theta = 1 = \cos 0^\circ$
 $\theta = 0^\circ$

33. (A)

$\frac{x^2, 3x}{3x^2, 1} = \frac{341}{91}$
 $\frac{x^2, 3x, 3x^2, 1}{x^2, 3x - 3x^2 - 1} = \frac{341, 91}{341 - 91} = \frac{432}{250}$
 $= \frac{216}{125}$
 $\frac{x, 1^{*3}}{x - 1^{*3}} = \left(\frac{6}{5} \right)^3$

$\frac{x, 1}{x-1} = \frac{6}{5}$

Apply componendo and Dividendo

$\frac{x, 1, x-1}{x, 1-x, 1} = \frac{6, 5}{6-5}$

$x = 11$

34. (A) $\frac{5 \cos \rho - 4}{3 - 5 \sin \rho}, \frac{3, 5 \sin \rho}{4, 5 \cos \rho}$
 $= \frac{)5 \cos \rho^2 \cdot 4^2 \cdot 3^2,)5 \sin \rho^2}{)3 \cdot 5 \sin \rho^*)4, 5 \cos \rho^*}$
 $= \frac{25) \cos^2 \rho, \sin^2 \rho^* - 16 - 9}{)3 - 5 \sin \rho^*)4, 5 \cos \rho^*}$
 $= \frac{25 - 25}{)3 \cdot 5 \sin \rho^*)4, 5 \cos \rho^*} > 0$

35. (C) Number of literate men = 4320

ATQ,

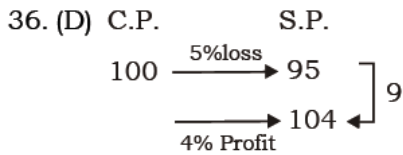
So, number of literate population

$= 4320 \times \frac{100}{72}$

$= 6000$

So, the total population of village

$= 6000 \times \frac{100}{40}$
 $= 15000$



If the man sold the article at ₹ 9 more, then the cost price = ₹ 100

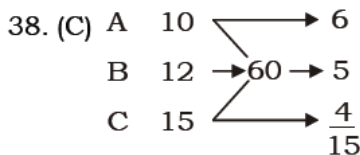
If the man sold the article at ₹ 1800 more,

$$\begin{aligned}
 \text{then the cost price} &= ₹ \left(\frac{1800 \times 100}{9} \right) \\
 &= ₹ 20000
 \end{aligned}$$

37. (A) Seats of Maths, Physics and Chemistry = 5 : 7 : 8

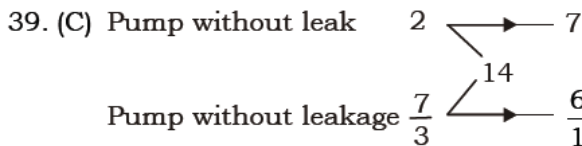
ATQ,
New ratio of seats of Maths, Physics and Chemistry

$$\begin{aligned}
 &= 5 \times \frac{140}{100} : 7 \times \frac{150}{100} : 8 \times \frac{175}{100} \\
 &= 2 : 3 : 4
 \end{aligned}$$



Let total units of work = 60 units
 In 5 days, A can work = 6 × 5 = 30 units
 In 3 days, B can work = 5 × 3 = 15 units
 So, total days to complete the work

$$\begin{aligned}
 &= \frac{60, 30, 15}{15} \\
 &= 7 \text{ days}
 \end{aligned}$$



So, leakage will empty the tank in = $\frac{14}{1}$
 = 14 hrs.

40. (B) Let the speed of the faster train = S_1
 Let the Speed of the slower train = S_2
 ATQ,

$$S_1 + S_2 = \frac{130, 110}{12} > \frac{240}{12}$$

$$\Rightarrow S_1 + S_2 = 20$$

$$S_1 - S_2 = \frac{130, 110}{20} > \frac{240}{20}$$

$$\Rightarrow S_1 - S_2 = 12$$

So, speed of the faster train

$$= \frac{20, 12}{2} > 16 \text{ m/sec.}$$

41. (A) ATQ,
 the speed of boat during downstream = $\frac{2 \times 2}{15} \times 60$
 = 16 km/hr.

the speed of boat during upstream = $\frac{1 \times 3}{2 \times 20} \times 60$

$$= 4.5 \text{ km/hr.}$$

$$\text{So, the speed of stream} = \frac{16 - 4.5}{2}$$

$$= 5.75 \text{ km/hr.}$$

42. (A) $\sin x + \sin y = a$
 $2 \sin \left(\frac{x+y}{2} \right) \cos \left(\frac{x-y}{2} \right) = a$... (i)

$$\cos x + \cos y = b$$

$$2 \cos \left(\frac{x+y}{2} \right) \cos \left(\frac{x-y}{2} \right) = b$$
 ... (ii)

By (i) and (ii)

$$\tan \left(\frac{x-y}{2} \right) = \frac{a}{b}$$

43. (D) ATQ,
 Ratio of curved surface areas will be = $\pi r_1 l_1 : \pi r_2 l_2$
 = 5 : 4

44. (C) Radius of the Cylinder = 70 cm
 Height of the Cylinder = 30 cm
 Ratio of the total surface area and the curved surface area = $(2\pi rh + 2\pi r^2) : 2\pi r h$
 = $(h + r) : h$
 = $(30 + 70) : 30$
 = 10 : 3

45. (C) Ratio of M.P. of a shirt and trousers = 1 : 2
 Let the marked price of a shirt = 100
 Marked price of a trousers = 200
 Total discount = $\frac{30}{100} \times 100, 200 \times > 90$

$$\text{Discount on shirt} = \frac{40}{100} \times 100 = 40$$

Discount on trousers = 90 - 40 = 50
 So, discount percent on trousers

$$\begin{aligned}
 &= \frac{50}{200} \times 100 \\
 &= 25\%
 \end{aligned}$$

46. (D) Base Area of the cone (πr^2) = 770 cm^2

$$\begin{aligned}
 \text{So, radius of the cone} &= \sqrt{770} \approx \frac{7}{22} \\
 &= 7\sqrt{5} \text{ cm}
 \end{aligned}$$

Curved surface area of the cone

$$= (\pi r l) = 814 \text{ cm}^2$$

$$\text{Slant height of the cone} = 814 \times \frac{7}{22} \times \frac{1}{7\sqrt{5}}$$

$$= \frac{37}{\sqrt{5}} \text{ cm}$$

Height of the cone

$$= \sqrt{\left(\frac{37}{\sqrt{5}}\right)^2 - (7\sqrt{5})^2} = \frac{12}{\sqrt{5}}$$

So, volume of the cone = $\frac{1}{3} \pi r^2 h$

$$= \frac{1}{3} \times \frac{22}{7} \times 7\sqrt{5} \times 7\sqrt{5} \times \frac{12}{\sqrt{5}}$$

$$= 616 \sqrt{5} \text{ cm}^3$$

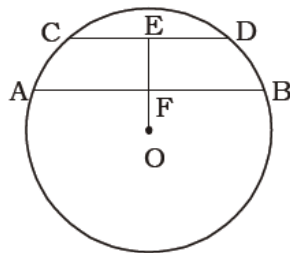
47. (C) ATQ,

Time required to fill the tank by 7 cm

$$= \frac{50 \times 44 \times 7 \times 7 \times 100 \times 100}{100 \times 22 \times 7 \times 7 \times 5000}$$

$$= 2 \text{ hours}$$

48. (A)



$$AF > \frac{1}{2} AB > 4 \text{ cm}$$

$$DE > \frac{1}{2} CD > 3 \text{ cm}$$

$$(OD)^2 = (OF + 1)^2 + (DE)^2$$

$$(OD)^2 = (OF)^2 + 1 + 2 \times OF + 9 \dots (i)$$

$$(OA)^2 = (OF)^2 + (AF)^2$$

$$(OA)^2 = (OF)^2 + 16 \dots (ii)$$

From (i) and (ii)

$$(OF)^2 + 10 + 2 \times OF = (OF)^2 + 16$$

$$OF = 3$$

$$\text{So, radius of the circle} = \sqrt{(3)^2 + (4)^2}$$

$$= 5 \text{ cm}$$

49. (C) Total number of employees in

$$\text{scale V} = \frac{13}{100} \times 1700$$

$$= 221$$

Total number of male employees in

$$\text{Scale V} = \frac{12}{100} \times 900$$

$$= 108$$

So, Total number of female employees in

$$\text{Scale V} = 221 - 108$$

$$= 113$$

50. (B) Total number of employees in

$$\text{Scale VII} = \frac{6}{100} \times 1700$$

$$= 102$$

Total number of male employees in

$$\text{Scale VII} = \frac{10}{100} \times 900$$

$$= 90$$

Required Ratio = 90:(102-90)

$$= 90 : 12$$

$$= 15 : 2$$

SSC MOCK TEST – 38(ANSWER)

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