

## ANSWER SET - 22

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

## EXPLANATION - 22

02. (2)

04. (3)  $14 : 16 : 22 : \boxed{24}$

$\begin{array}{c} \uparrow \\ +2 \\ \uparrow \\ +2 \end{array}$

06. (2) ART : BSU :: MRV :  $\boxed{NSW}$

$\begin{array}{c} \uparrow \uparrow \uparrow \\ +1 \quad +1 \quad +1 \\ \uparrow \uparrow \uparrow \\ +1 \quad +1 \quad +1 \end{array}$

08. (3)

10. (4)  $(10+1)^2 \rightarrow (11)^2 \rightarrow 121$   
 $(12+1)^2 \rightarrow (13)^2 \rightarrow 169$   
 $(14+1)^2 \rightarrow (15)^2 \rightarrow 225$   
 $(16+1)^2 \rightarrow (17)^2 \rightarrow 279 \boxed{289}$

12. (3) R T V X H I K M

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \end{array}$

D F I K L N P R

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +2 \quad +3 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \end{array}$

14. (4) 11 13 16 18 21  $\boxed{23}$

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \\ +2 \quad +3 \quad +2 \quad +3 \quad +2 \end{array}$

16. (2) I M J O K Q L S  $\boxed{M U}$

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \\ \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \quad +2 \end{array}$

18. (3) अभीष्ट लड़कों की संख्या =  $45 + 25 - 1 = 69$

20. (4) book is tough  $\rightarrow$  fu la mi ... (1)  
 tough can easy  $\rightarrow$  for muk po ... (2)  
 easy not book  $\rightarrow$  ti po la ... (3)

समीकरण (1) व (2) से

tough  $\rightarrow$  fu

22. (4)  $2 - 12 + 10 \times 5 \div 12$

$\begin{array}{c} \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \\ 2 + 12 \times 10 \div 5 - 12 \\ = 2 + 24 - 12 = 14 \end{array}$

24. (4)  $1 \div 14 \times 30 + 20 - 10 = 12$

$\begin{array}{c} \downarrow \quad \downarrow \\ 1 + 14 \times 30 \div 20 - 10 = 12 \\ 1 + 21 - 10 = 12 \\ 12 = 12 \end{array}$

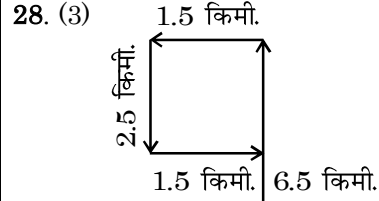
26. (1) जिस प्रकार,

$\frac{8-2}{2} - \frac{6}{2} = 3$

$\frac{14-18}{2} = \frac{-4}{2} = -2$

तथा,  $\frac{18-2}{2} = \frac{16}{2} = 8$

उसी प्रकार,  $\frac{14-18}{2} = \frac{4}{2} = 2$

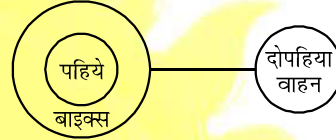


• आरम्भिक स्थिति

आरम्भिक स्थिति से दूरी =  $6.5 - 2.5 = 4$  किमी.

तथा दिशा = उत्तर

30. (1)



32. (1)

34. (3) LOP MPQ NQR ORS  $\boxed{PST}$

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \\ \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \quad +1 \end{array}$

36. (3) 10 12 14 16 18  $\boxed{20}$

$\begin{array}{c} \uparrow \uparrow \uparrow \uparrow \uparrow \uparrow \\ +2 \quad +2 \quad +2 \quad +2 \quad +2 \end{array}$

38. (4)  $\begin{array}{c} \uparrow \quad \uparrow \\ 2 \quad 3 \quad 4 \quad 4 \quad 5 \quad 6 \\ \uparrow \quad \uparrow \\ +2 \quad +2 \end{array}$

$\begin{array}{c} \uparrow \quad \uparrow \\ 6 \quad 7 \quad 8 \quad 4 \quad 6 \quad 8 \\ \uparrow \quad \uparrow \\ +2 \quad +4 \end{array}$

40. (3)

42. (2)

44. (3)  $\frac{61681 \times 61681 - 31681 \times 31681}{30000}$

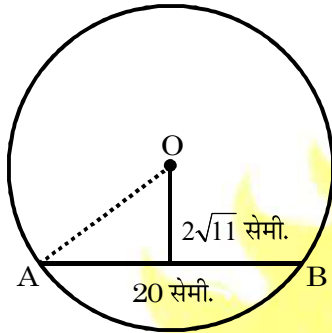
$= \frac{(61681)^2 - (31681)^2}{30000}$   
 $= \frac{(61681 + 31681)(61681 - 31681)}{30000}$   
 $= \frac{93362 \times 30000}{30000} = 93362$

45.

46. (2)  $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$   
 $\Rightarrow \frac{6}{2} = \frac{12}{g} = \frac{9}{3}$   
 $\Rightarrow 3 = \frac{12}{g} = 3$   
 $g = \frac{12}{3} = 4$

47.

48. (2) वृत्त की त्रिज्या =  $\sqrt{(2\sqrt{11})^2 + (10)^2}$



$= \sqrt{4 \times 11 + 100}$   
 $= \sqrt{44 + 100}$   
 $= \sqrt{144} = 12 \text{ सेमी.}$

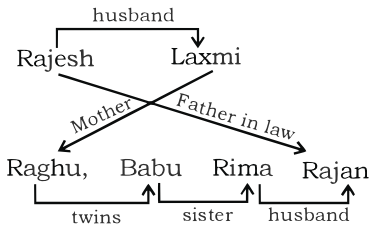
49.

50. (3) अभीष्ट वृद्धि प्रतिशत =  $40 + 70 + \frac{40 \times 70}{100} = 110 + 28 = 138\%$

51.

52. (3) B का हिस्सा =  $\frac{6300}{\left(\frac{1}{3} + 1 + \frac{3}{5}\right)} \times 1$   
 $= \frac{6300}{21} \times 10 \times 1 = ₹ 3000$

53. (3)



54. (1) ब्याज की दर

$= \frac{(1488 - 1392) \times 100}{[(1392 \times 3) - (1488 \times 2)]}$   
 $= \frac{9600}{1200} = 8\%$

55. (4)  $K > B$  and  $Y > B > J$ . It means J is on bottom.

56. (3) कुर्सी का अंकित मूल्य =  $520 + 40 = ₹ 560$

तब क्रय मूल्य =  $\frac{560}{140} \times 100 = ₹ 400$

अभीष्ट लाभ प्रतिशत

$= \frac{(520 - 400)}{400} \times 100 = \frac{120}{400} \times 100 = 30\%$

57. (3) Dog is called as Elephant.

58. (3)

I.  $2\sqrt{3} > 3\sqrt{2} \Rightarrow 3.46 > 4.24$  (x)

II.  $4\sqrt{2} > 2\sqrt{8} \Rightarrow 5.65 > 5.65$  (x)

59. (2)

D R E A M and T R Y  
 $\downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow \downarrow$   
 23 9 22 26 14 7 9 2  
 (Alphabetic position from last to first)

Similarly,

S K Y  
 $\downarrow \downarrow \downarrow$   
 8 16 2

60. (1) माना कार्य x दिन में पूरा हुआ था.

तब, प्रश्नानुसार,

$\frac{x}{30} + \frac{(x-4)}{40} + \frac{x}{50} = 1$   
 $\frac{20x + 15x - 60 + 12x}{600} = 1$

$47x = 600 + 60$

$x = \frac{660}{47}$  दिन

61. (2) Set of three letters are horizontally reversed.

62. (1) गोले की सतह का क्षेत्रफल = 5544

$4\pi r^2 = 5544$

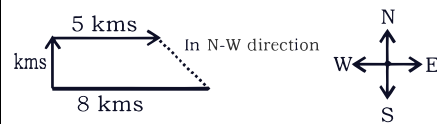
$4 \times \frac{22}{7} \times r^2 = 5544$

$r^2 = \frac{5544 \times 7}{4 \times 22} = 441$

$r = \sqrt{441} = 21$  सेमी.

अभीष्ट व्यास =  $2 \times 21 = 42$  सेमी.

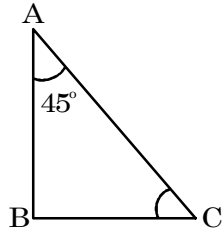
63. (2)



64. (4)  $m\angle C = 180^\circ - 45^\circ - 90^\circ$

तब,

$\operatorname{cosec} C + \frac{1}{\sqrt{13}} = \operatorname{cosec} 45^\circ + \frac{1}{\sqrt{3}}$



$$= \sqrt{2} + \frac{1}{\sqrt{3}} = \frac{(\sqrt{6} + 1)}{\sqrt{3}}$$

66. (2)  $\operatorname{cosec} U = \frac{13}{12} = \frac{\text{कर्ण}}{\text{लम्ब}} = \frac{UW}{VW}$

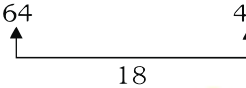
माना कर्ण = 13x सेमी.

67. (4) Number of students who play cricket = 25 + 16 = 41

68. (1)

69. (1)

70. (3) Right Wrong



$\therefore$  Total marks decreased = 18  
Total average marks decreased

$$= \frac{18}{200} = 0.9$$

So, actual average of 200 students is = 57 + 0.9 = 57.09

71. (3)

72. (3) Let downstream speed = x km/hr

Let upstream speed = y km/hr

$$\therefore \frac{12}{y} + \frac{8}{x} = 3 \quad \dots(i)$$

$$\text{and } \frac{18}{y} + \frac{32}{x} = 7 \quad \dots(ii)$$

Subtract equation (ii) from [eq<sup>n</sup> (i) × 4]

$$\frac{30}{y} = 12 - 7 = 5$$

$$\Rightarrow y = 6 \text{ km/hr}$$

Put this value in eq. (i)

$$\frac{12}{6} + \frac{8}{x} = 3 \Rightarrow x = 8 \text{ km/hr}$$

So, speed of current down stream speed

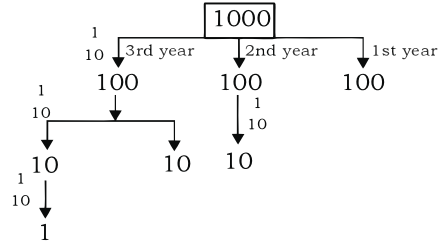
$$= \frac{-\text{up stream speed}}{2}$$

$$\Rightarrow \frac{8-6}{2} = 1 \text{ km/hr}$$

73. (2)

74. (3)  $10\% = \frac{1}{10}$

Let principal = 1000



$\therefore$  Interest of 3rd year = 100 + 10 + 10 + 1

$$\Rightarrow 121 \times 6 \rightarrow 72.60$$

$\therefore$  Principal = 1000 × .6 = Rs. 600

75. (1)

76. (3)  $\sin \theta = 1 - \sin^2 \theta \Rightarrow \sin = \cos^2 \theta$

$$\therefore \cos^{12} \theta + 3\cos^{10} \theta + 3\cos^8 \theta + \cos^6 \theta - 1$$

$$\Rightarrow \sin^6 \theta + 3\sin^5 \theta + 3\sin^4 \theta + \sin^3 \theta - 1$$

$$\Rightarrow (\sin \theta + \sin^2 \theta)^3 - 1$$

$$\Rightarrow (1)^3 - 1 = 0$$

77. (2)

78. (1)  $\tan(5x - 10^\circ) = \cot(5y + 20^\circ)$

$$\tan(5x - 10^\circ) = \tan[90^\circ - (5y + 20^\circ)]$$

$$\therefore 5x - 10^\circ = 90^\circ - 5y - 20^\circ$$

$$\Rightarrow 5x - 10^\circ = 70^\circ - 5y^\circ$$

$$\Rightarrow 5x + 5y = 70 + 10 = 80^\circ$$

$$\Rightarrow x + y = \frac{80}{5} = 16^\circ$$

79. (1)

80. (4)  $a^2 + b^2 + c^2 = 2a - 2b - 2c - 1 - 1 - 1$

$$\Rightarrow a^2 - 2a + 1 + b^2 + 2b + 1 + c^2 + 2c + 1 = 0$$

$$\Rightarrow (a - 1)^2 + (b + 1)^2 + (c + 1)^2 = 0$$

$$\therefore (a - 1)^2 = 0 \Rightarrow a = 1$$

$$(b + 1)^2 = 0 \Rightarrow b = -1$$

$$(c + 1)^2 = 0 \Rightarrow c = -1$$

$$\therefore a + b + c \Rightarrow 1 + (-1) + (-1)$$

$$\Rightarrow -1$$

81. (4)

82. (3)  $x + y + z = 6 = 1 + 2 + 3$

$$(x - 1) + (y - 2) + (z - 3) = 0$$

We know that if  $a + b + c = 0$

Then

$$a^3 + b^3 + c^3 = 3abc$$

$$\therefore (x - 1)^3 + (y - 2)^3 + (z - 3)^3 = 3(x - 1)(y - 2)(z - 3)$$

83. (4)

84. (2) a, b, c तथा d का ल.स.-

$$2^5 \times 7^4 \times 13^5$$

$$2^4 \times 7^5 \times 13^4$$

$$2^6 \times 7^3 \times 13^4$$

$$2^7 \times 7^2 \times 13^6$$

$$(2)^7 \times 7^5 \times (13)^6$$

$$\therefore \text{ल.स.} = 2^2 \times 13 \times (2^5 \times 7^5 \times 13^5)$$

ल.स. =  $52 \times (182)^5$  Ans.

85. (4)

86. (1)  $16 - [5 - 2\{14 \text{ of } 2 - (8 \div 4 \times 2 - 1 + 3)\}]$   
 $= 16 - [5 - 2\{14 \text{ of } 2 - (2 \times 2 - 1 + 3)\}]$   
 $= 16 - [5 - 2\{14 \times 2 - (4 - 1 + 3)\}]$   
 $= 16 - [5 - 2\{14 \times 2 - 6\}]$   
 $= 16 - [5 - 2\{28 - 6\}]$   
 $= 16 - [5 - 2 \times 22]$   
 $= 16 - [5 - 44]$   
 $= 16 - [-39]$   
 $= 16 + 39 = 55$

87. (2)

88. (4)  $\therefore 50 - 30 = 20\%$   
 $42 + 42 = 84$

$\Rightarrow \frac{20}{84} = \frac{100}{x}$

$\therefore x = 420$

तथा  $30\% = \frac{420 \times 30}{100} = 126$

$\therefore$  उत्तीर्ण अंक =  $126 + 42 = 168$

$\therefore$  उत्तीर्ण % =  $\frac{168 \times 100}{420} = 40\%$

89. (3)

90. (1) Z (जिंक को लेकर)-

$$\frac{2}{13} \searrow \frac{1}{6} \swarrow \frac{5}{26}$$

$$\frac{5}{26} - \frac{1}{6} = \frac{4}{156}, \frac{1}{6} - \frac{2}{3} = \frac{1}{78}$$

$\frac{1}{39} \qquad \frac{1}{78} \Rightarrow 2:1$

91. (4)

92. (4) माना दूरी  $2x$  किमी. है।

A  $\frac{2x \text{ Km}}{\text{दूरी}} = \text{चाल} \times \text{समय}$  B

समय =  $\frac{\text{दूरी}}{\text{चाल}}$

$\frac{x}{21} + \frac{x}{24} = 10$

$\frac{24x + 7x}{168} = 10$

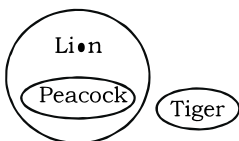
$15x = 1680$

$x = 112$

कुल दूरी =  $2x = 2 \times 112 = 224$

93. (2)

94. (4)



- I. ×
- II. ×
- III. ×
- IV. ✓

95. (4) Both the conclusions do not have relation with the statement.

96. Budget on clothing and grocery

$\Rightarrow 8\% + 20\% \qquad \Rightarrow 28\%$

$100\% = \text{Rs. } 32000$

$28\% = \text{Rs. } 320 \times 28$

$= \text{Rs. } 8960$

97.  $100\% = \text{Rs. } 32000$

$20\% = \text{Rs. } 320 \times 20 = \text{Rs. } 6400$

So, difference =  $\text{Rs. } 6400 -$

$\text{Rs. } 4672$

$= \text{Rs. } 1728$

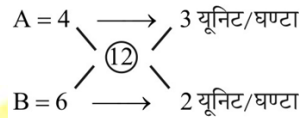
98. Difference =  $19\% - 6\% = 13\%$

So,  $100\% = 32000$

$13\% = 320 \times 13$

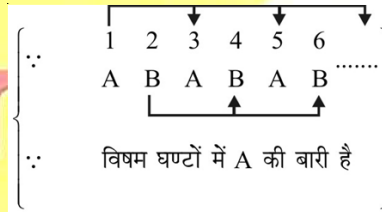
$= \text{Rs. } 4160$

99. (3) Trick :



$\therefore$ A + B	A
2 घण्टा $\times$ 2	$\frac{2}{3}$ घण्टा
$5 \times 2 = 10$ यूनिट	शेष 2 यूनिट

$\Rightarrow$  कुल समय =  $4 \frac{2}{3}$  घण्टे



100. (4) दोनों ट्रेनों की सापेक्ष गति =  $68 - 50 = 18 \text{ km/h}$

$= 18 \times \frac{5}{18} = 5 \text{ m / sec}$

प्रश्नानुसार,

समय =  $\frac{\text{पहले ट्रेन की ल.} + \text{दूसरे ट्रेन की ल.}}{\text{सापेक्ष गति}}$

$= \frac{200 + 150}{5}$

$= \frac{350}{5} = 70 \text{ से.}$