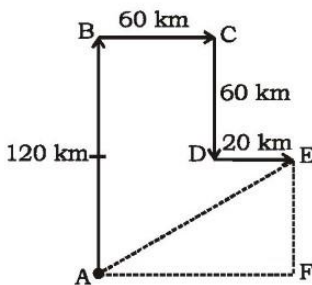


# ANSWER SET - 01

01. (3) 02. (3) 03. (3) 04. (2) 05. (2)  
 06. (1) 07. (4) 08. (3) 09. (4) 10. (4)  
 11. (3) 12. (4) 13. (2) 14. (3) 15. (4)  
 16. (2) 17. (1) 18. (2) 19. (2) 20. (3)  
 21. (1) 22. (2) 23. (4) 24. (1) 25. (1)  
 26. (4) 27. (1) 28. (4) 29. (2) 30. (2)  
 31. (4) 32. (3) 33. (3) 34. (1) 35. (3)  
 36. (4) 37. (1) 38. (2) 39. (2) 40. (1)  
 41. (3) 42. (3) 43. (2) 44. (4) 45. (3)  
 46. (3) 47. (2) 48. (3) 49. (2) 50. (3)  
 51. (4) 52. (1) 53. (2) 54. (4) 55. (4)  
 56. (1) 57. (4) 58. (4) 59. (1) 60. (1)  
 61. (1) 62. (3) 63. (1) 64. (2) 65. (3)  
 66. (1) 67. (2) 68. (3) 69. (2) 70. (2)  
 71. (1) 72. (4) 73. (3) 74. (3) 75. (1)  
 76. (1) 77. (2) 78. (3) 79. (3) 80. (2)  
 81. (1) 82. (4) 83. (1) 84. (3) 85. (1)  
 86. (3) 87. (1) 88. (4) 89. (4) 90. (3)  
 91. (2) 92. (2) 93. (2) 94. (4) 95. (3)  
 96. (3) 97. (4) 98. (3) 99. (1) 100. (3)

# EXPLANATION - 01

1. (3)  
 2. (3)  
 3. (3)  $6 : 432 :: 10 : 2000$   
 $\frac{6}{10} = \frac{432}{2000}$   
 $\frac{3}{5} = \frac{216}{1000}$   
 $\frac{3}{5} = \frac{3 \times 720}{5 \times 1000}$   
 $\frac{3}{5} = \frac{3 \times 720}{5 \times 1000}$   
 $\frac{3}{5} = \frac{3 \times 720}{5 \times 1000}$   
 $\frac{3}{5} = \frac{3 \times 720}{5 \times 1000}$   
 6. (1) MISCONDUCT  
 7. (4) According to dice I and III  
 $1 \xrightarrow{\text{Clockwise}} 5 \xrightarrow{\text{Clockwise}} 3$   
 $1 \xrightarrow{\text{opp}} 6 \xrightarrow{\text{Clockwise}} 4 \xrightarrow{\text{opp}} 2$   
 8. (3) L M L / L M L / L M L / L M  
 L  
 9. (4)  
 10. (4)  $30 \div 5 \times 4 + 3 - 2 = 25$   
 $6 \times 4 + 3 - 2 = 25$   
 $24 + 3 - 2 = 25$   
 $27 - 2 = 25$   
 $25 = 25$   
 11. (3) Required distance



$$AE = \sqrt{80^2 + 60^2}$$

$$= \sqrt{6400 + 3600}$$

$$= \sqrt{10000}$$

$$= 100 \text{ km}$$

12. (4)  $3 \times 5 - 6 = 9$   
 $9 \times 2 - 1 = 17$

$$7 \times 4 - 8 = 20$$

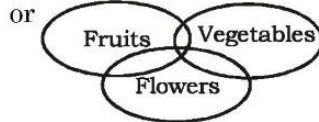
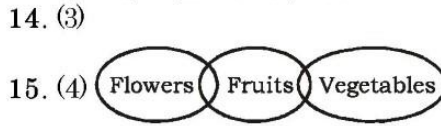
$$13. (2) (2 + 6) \times (6 - 2 \times 2) = 16$$

$$(1 + 4) \times (4 - 1 \times 2) = 10$$

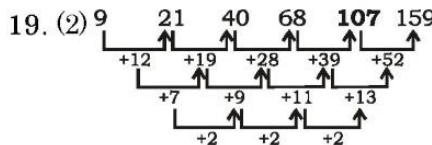
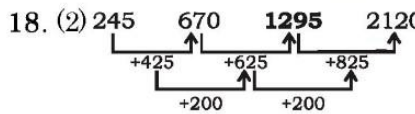
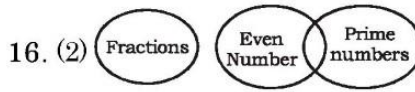
$$(4 + 9) \times (9 - 4 \times 2) = 13$$

Similarly,

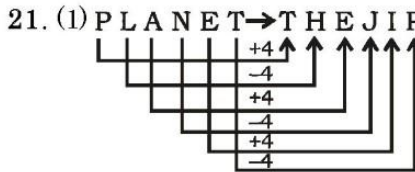
$$(3 + 8) \times (8 - 3 \times 2) = 22$$



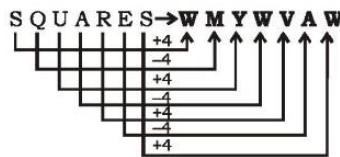
Conclusions - I - ×  
 II - ×



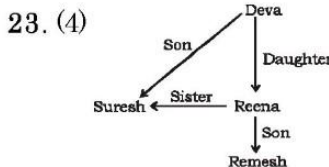
## 20. (3) TOURNAMENTS



Similarly,



22. (2)



24. (1) Except option (3), all are Kharif crops.

25. (4) (1)  $729 \downarrow 9^3 + 0$   
 (2)  $344 \downarrow 7^3 + 1$   
 (3)  $126 \downarrow 5^3 + 1$   
 (4)  $217 \downarrow 6^3 + 1$

27. (1)  $x + y \frac{3}{2} \xrightarrow{\quad\quad\quad} 4$   
 $-\frac{x}{y} \frac{6}{6} \xrightarrow{\quad\quad\quad} -\frac{1}{3}$

Time taken by y to complete the work

$$= \frac{6}{3} = 2 \text{ days}$$

28. (4) Let work done by a boy = 2  
 So, work done by a man =  $2 + 2 \times$

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

Let total work =  $8 \times 20 \times 3 = 480$  units

Work done by (4 men + 9 boys) =  $4 \times 3 + 9 \times 2 = 30$  units

Total time required =  $\frac{480}{30} = 16$  days

29. (2) Interior angle - Exterior Angle =  $120^\circ$

Interior angle + Exterior Angle =  $180^\circ$

So, Exterior angle =  $\frac{180^\circ - 120^\circ}{2}$

=  $30^\circ$

The number of sides of polygon

$$= \frac{360^\circ}{30^\circ} = 12$$

30. (2) Let side of cubical box = x unit  
 So, volume of box =  $x^3$  cubic units

Height of pyramid = 2x units  
 So, volume of pyramid

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

$$= \frac{2}{3} x^3 \text{ cubic units}$$

Required ratio =  $\frac{\left(x^3 + \frac{2}{3}x^3\right)}{x^3} = \frac{5}{3}$

31. (4)

$$\frac{\text{Curved surface area of cone}}{\text{Circular area of cone}} = \frac{\sqrt{5}}{1}$$

$$\frac{\pi r l}{\pi r^2} = \frac{\sqrt{5}}{1}$$

$$\frac{l}{r} = \sqrt{5}$$

$$l = \sqrt{5}r$$

$$l = \sqrt{r^2 + h^2} = \sqrt{5}r$$

$$r^2 + h^2 = 5r^2$$

$$\frac{h^2}{r^2} = 4$$

$$\frac{h}{r} = \frac{2}{1}$$

33. (3) Marked price = ₹

$$\left(600 \times \frac{120}{100} \times \frac{100}{90}\right) = ₹800$$

34. (1) Required ratio = (12250 - 8125)  
: 8125  
= 4125 : 8125  
= 33 : 65

38. (2) A.T.Q.

$$\text{Relative speed} = \frac{100}{18} \times 5 \text{ m/s}$$

$$= \frac{500}{18} \times \frac{18}{5} = \text{km/hr}$$

$$= 100 \text{ km/hr}$$

$$\text{So, speed of train} = 100 - 6 = 94 \text{ km/hr}$$

$$39. (2) \text{ S.I.} = \frac{73}{365} \times 7.5 \times 1820$$

$$= ₹ 27.30$$

40. (1)  $x = \sqrt{5} + 2$

$$\frac{1}{x} = \frac{1}{\sqrt{5} + 2} = \sqrt{5} - 2$$

$$x + \frac{1}{x} = 2\sqrt{5} \text{ and } x - \frac{1}{x} = 4$$

$$\frac{x^4 - 1}{x^2} = \left(x^2 - \frac{1}{x^2}\right) = \left(x + \frac{1}{x}\right) \left(x - \frac{1}{x}\right)$$

$$= 8\sqrt{5}$$

41. (3)  $\frac{1}{(2^2 - 1)} + \frac{1}{(4^2 - 1)} + \frac{1}{(6^2 - 1)} +$

$$\dots + \frac{1}{20^2 - 1}$$

$$= \frac{1}{1 \times 3} + \frac{1}{3 \times 5} + \frac{1}{5 \times 7} + \dots +$$

$$\frac{1}{19 \times 21}$$

$$= 1$$

42. (3)  $(\sqrt{6} + \sqrt{10} - \sqrt{21} - \sqrt{35})$

$$(\sqrt{6} - \sqrt{10} + \sqrt{21} - \sqrt{35})$$

$$= [(\sqrt{6} - \sqrt{35}) + (\sqrt{10} - 221)]$$

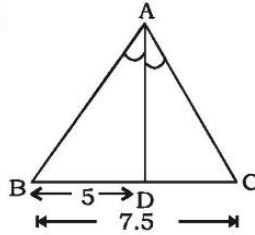
$$[(\sqrt{6} - \sqrt{35}) - (\sqrt{10} - \sqrt{21})]$$

$$= (\sqrt{6} - \sqrt{35})^2 - (\sqrt{10} - \sqrt{21})^2$$

$$= \sqrt{6} + 35 - 2\sqrt{210} - (10 + 21 - \sqrt{210})$$

$$= 10$$

43. (2)



$$AB : AC = (5) : (7.5 - 5)$$

$$= 2 : 1$$

44. (4)  $\sin \theta \cos \theta = \frac{1}{2}$

$$-2 \sin \theta \cos \theta = -1$$

$$\sin^2 \theta + \cos^2 \theta - 2 \sin \theta \cos \theta - 1$$

$$= -1$$

$$(\sin \theta - \cos \theta)^2 = 0$$

$$\sin \theta - \cos \theta = 0$$

45. (3)  $2y \cos \theta - x \sin \theta = 0$

$$\tan \theta = \frac{2y}{x} \dots (i)$$

$$2x \sec \theta - y \operatorname{cosec} \theta = 3$$

$$2x \tan \theta - y = 3 \sin \theta$$

$$2x \cdot \frac{2y}{x} - y = \frac{3}{\sqrt{1 + \left(\frac{x}{2y}\right)^2}}$$

$$y - y = \frac{3}{\frac{1}{2y} \sqrt{x^2 + 4y^2}}$$

$$\sqrt{x^2 + 4y^2} = \frac{3 \times 2y}{3y} = 2$$

$$x^2 + 4y^2 = 4$$

46. (3)  $\theta + \phi = 90^\circ$

$$\sec^2 \theta - \cos^2 \phi = \operatorname{cosec}^2 \phi - \cot^2 \phi$$

$$= 1$$