

## RAJASTHAN NTSE STAGE-I (2017)

### CLASS-X [MAT]

# HINTS & SOLUTIONS

### ANSWER KEY

1. (2) 
$$\begin{array}{cccccc} \text{A,} & \text{D,} & \text{G,} & \text{J} & \text{M} \\ 1, & 4, & 7, & 10 & 13 \\ \hline & +3 & +3 & +3 & +3 \end{array}$$

2. (1) 
$$\begin{array}{cccccc} & +2 & & +2 & & +2 \\ \text{12} & \text{15} & \text{10} & \text{17} & \text{8} & \text{19} & \text{6} & \text{21} \\ \text{L} & \text{O,} & \text{J} & \text{Q,} & \text{H} & \text{S,} & \text{F} & \text{U} \\ \hline & -2 & & -2 & & -2 & & \end{array}$$

3. (4) 
$$\begin{array}{cccccc} 1 & 3 & 6 & 10 & 15 & 21 \\ \text{A,} & \text{C,} & \text{F,} & \text{J,} & \text{O,} & \text{U} \\ \hline & +2 & +3 & +4 & +5 & +6 \end{array}$$

4. (2) 
$$\begin{array}{cccc} \text{ZXV,} & \text{TRP,} & \text{NLJ,} & \text{HFD} \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 26 & 20 & 14 & 8 \\ \hline & -6 & -6 & -6 \end{array}$$

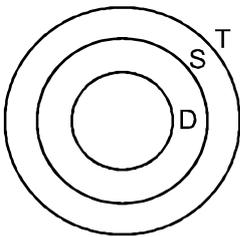
All are mines 6

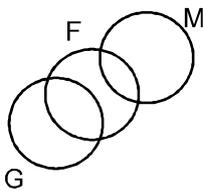
5. (1) 
$$\begin{array}{cccccc} 121, & 144, & 169, & \underline{196}, & 225, & 256 \\ 11^2 & 12^2 & 13^2 & 14^2 & 15^2 & 16^2 \end{array}$$

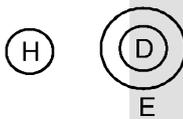
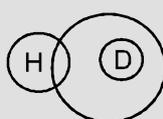
6. (2) 
$$\begin{array}{cccccc} 5, & 10, & 20, & \underline{40}, & 80 \\ \hline & \times 2 & \times 2 & \times 2 & \times 2 \end{array}$$

7. (4) 
$$\begin{array}{ccccccccc} 4, & 8, & 9, & 27, & 16, & \underline{64}, & 25, & 125 \\ \downarrow & \downarrow \\ 2^2 & 2^3 & 3^2 & 3^3 & 4^4 & 4^3 & 5^2 & 5^3 \end{array}$$

8. (2)  $2, 3, 5, 8, \underline{12}, 17$   
 $+1 \quad +2 \quad +3 \quad +4 \quad +5$

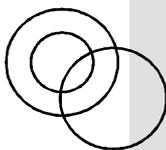
9. (3)  Both I & II are true

10. (4)  Neither (1) nor (2)

11. (2)  (a)  (b)

By looking at figures, we can say that some elephants are dog so option (2), only conclusion (ii) is true

12. (1)

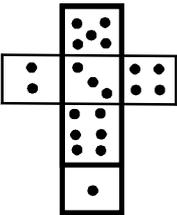
13. (3) 

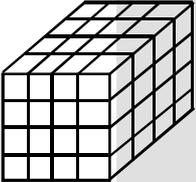
14. (2) Total 31 teachers

15. (1) 8

16. (4) MNOP  
 Sum of extremes = sum of middles = 29  
 In rest options, sum of extremes = sum of middles = 27

17. (4) 2000 – 2 (Rest all options are giving 1000)
18. (1) (Pacific Ocean)  
Rest all are continents
19. (4) Australia  
Rest all are neighbours of India or are located in Asia.
20. (4) 6  
2  $\longleftrightarrow$  5 from first two figures 2 is opposite 5 from 1st and 3rd figures 1 is opposite 4.  
Hence 3 is opposite to 6.

21. (2)  Opposite to 1 is 3.

22. (1)  Total 64 cubes  $n = 4$

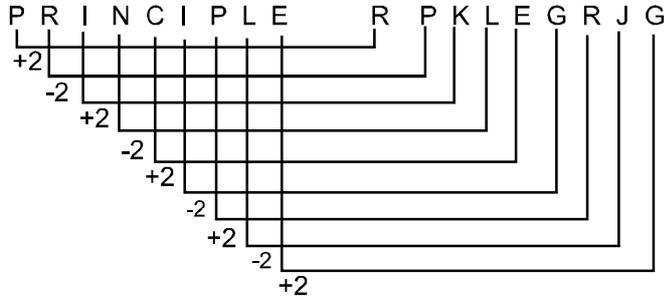
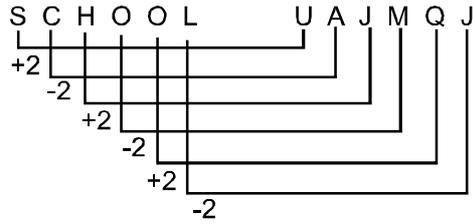
no. of cubes not painted on any face  
 $(n - 2)^3 =$   
 $(4 - 2)^3 = 8$

23. (3)  
One face painted only  
 $(n - 2)^2 \times 6$   
 $(4 - 2)^2 \times 6 = 24$

24. (4)  
 R A M E S H  $\rightarrow$  A E H R M S  
 1 2 3 4 5 6      2 4 6 1 3 5  
  
 P O E T  $\rightarrow$  O T P E  
 1 2 3 4      2 4 1 3

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25. Option (3)



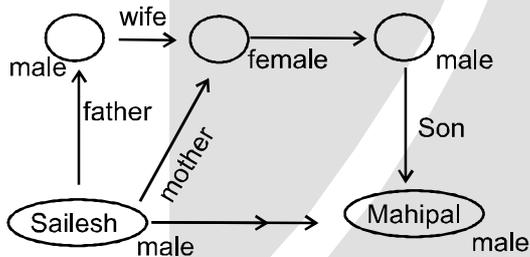
26. Option (3)

6 2 8 3 0  
H A T C B

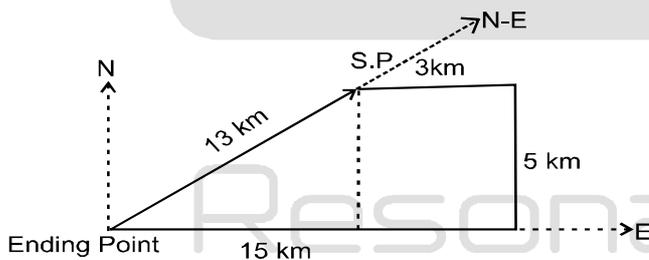
27. Option (1)

B H I C K  
0 6 7 3 4

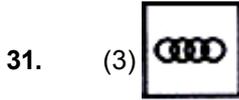
28. Option (1)



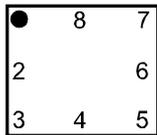
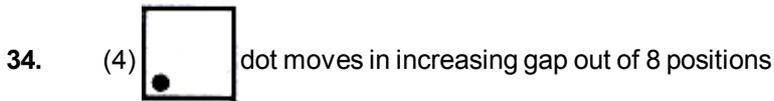
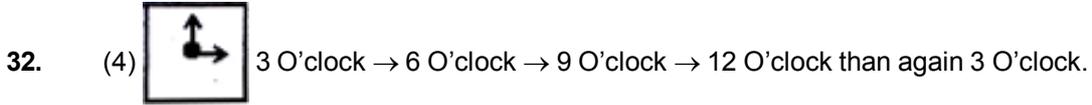
29.



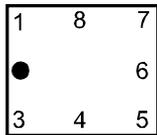
30. Option (2) Only one "353"



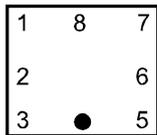
(Hint → Horizontal Rings → Vertical Rings alternate with increasing rings)



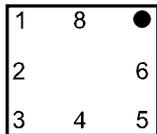
dot at position 1.



dot at position 2.

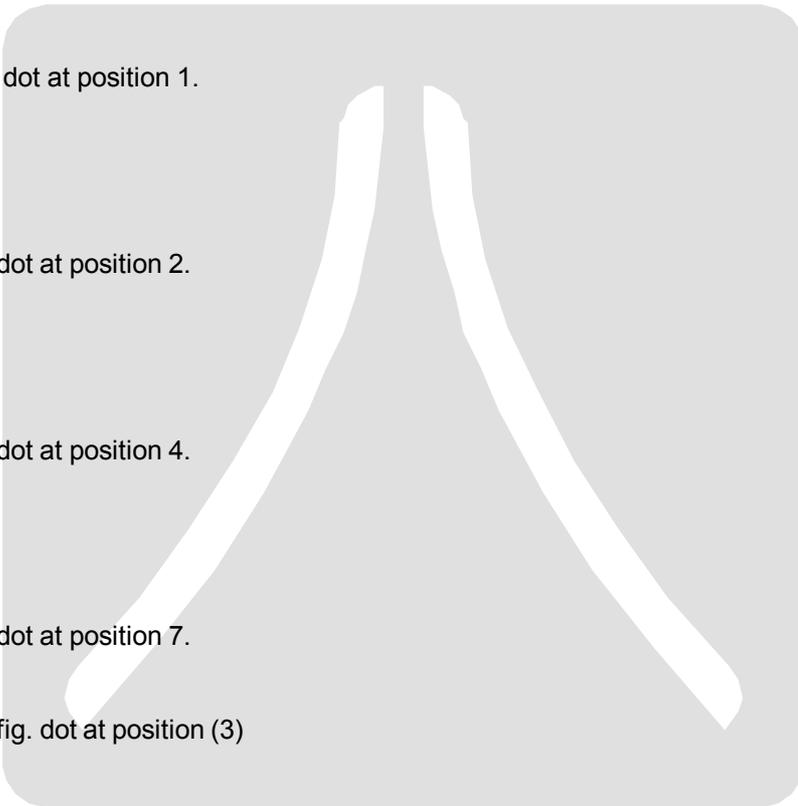
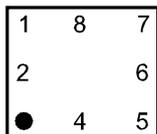


dot at position 4.



dot at position 7.

So in Answer fig. dot at position (3)



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35. (3) 

J      F      M      T  
10    6      13    20

only M at odd / Prime number rest are even / composite number.

36. (3)  (Hint : line is not diameter)

37. (3)  (Hint : dot is missing and arrow 's direction is opposite)

38. (4)  (Hint : Outer fig. appear in next fig as a internal figure)

39. (2) 

40. (2) 

45. (2) 

46. (3) 

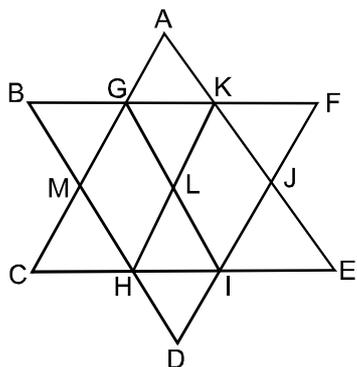
47. (3)  &  are opposite to each other and according to option only 3 is correct.

48. (4) No. which are divisible by 7 between 11 to 50 are  
14, 21, 28, 35, 42, 49

Here 21 & 42 are divisible by 3 and rest are divisible by 7.

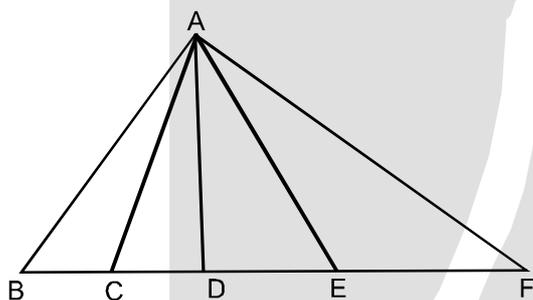
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49.



- Ans. (6)  
 (1) AMHIJA  
 (2) FGMHIF  
 (3) EKGMHE  
 (4) DMGKJD  
 (5) CGKJIC  
 (6) BHIJKB

50.



- Ans. (10) ABC, ACD, ADE, AEF, ABD, ACE, ADF, ABE, ACF, ABF.