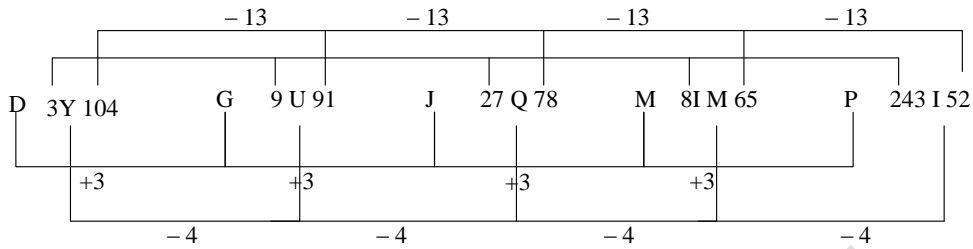


NTSE STAGE II
CODE: 13 – 15
MAT
HINTS & SOLUTIONS

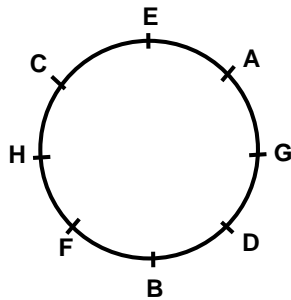
1. **3**
 Sol.



2. **3**
 Sol.

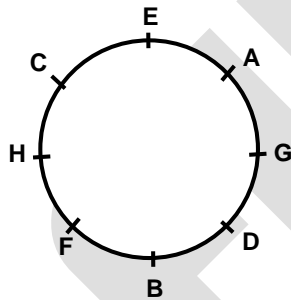
$0.8 \rightarrow (0.8)^3 = 0.512$
 $0.04 \rightarrow (0.04)^3 = 0.000064$

3. **2**
 Sol.



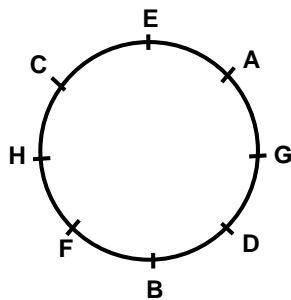
F is sitting third to the left of G.

4. **3**
 Sol.



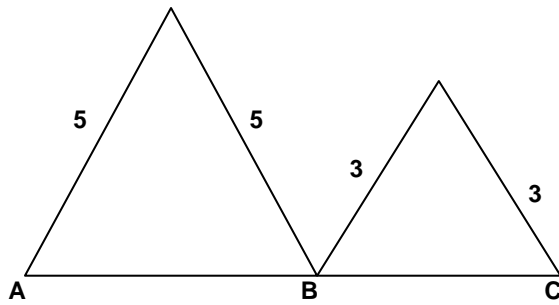
H and F are sitting next to each other.

5. **2**
 Sol.



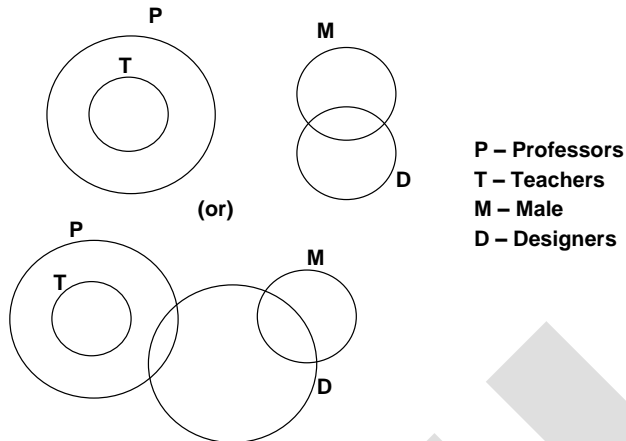
ECHFBDG are sitting to the right of A in the same order.

6. 1
Sol.



Clearly, B, C are to the east of A.

7. 4
Sol.



Here, from conclusions we can verify that either I or II and III are the possible conclusions, which is nothing but either I and III follows, or II and III follows.

8. 3
Sol. By observation.

9. 2
Sol. From options we can verify that I represents male trainers who play cricket.

10. 1
Sol. Hindi – C – 2
English – D – 5
Science – B – 1
Maths – A – 3
Sanskrit – E – 4
C teachers Hindi in 2nd period.

11. 2
Sol. Hindi – C – 2
English – D – 5
Science – B – 1
Maths – A – 3
Sanskrit – E – 4
Sanskrit – 4 – E is the correct sequence.

12. 4
Sol. Hindi – C – 2
English – D – 5
Science – B – 1
Maths – A – 3
Sanskrit – E – 4

Mathematics, Science, Hindi, English, Sanskrit is the correct order.

13. **3**

Sol. By observation.

14. **3**

Sol. After interchanging symbols the expression will be:

$$- 33 + 11 - 9 + 28 \div 4 \times 5 = 4$$

15. **1**

Sol. R E A S O N
 -2 +2 -2 +2 -2 +2
 P G Y U M P

Similarly, DIRECT is coded as BKPGAV.

16. **2**

Sol. Given, Age of C = 12

So, age of Husband = 65

Hence, Age of Ram = 50

17. **3**

Sol.

Anu	Joy	Pritam	Zeba
Mon (1)	Tues (1)	Wed (1)	Thurs (1)
Fri (1)	Mon (2)	Tues (2)	Wed (2)
Thurs(2)	Fri (2)	Mon (3)	Tues(3)
Wed (3)	Thurs(3)	Fri(3)	

Least number of days = Zeba, 3 days.

18. **1**

Sol.

Anu	Joy	Pritam	Zeba
Mon (1)	Tues (1)	Wed (1)	Thurs (1)
Fri (1)	Mon (2)	Tues (2)	Wed (2)
Thurs(2)	Fri (2)	Mon (3)	Tues(3)
Wed (3)	Thurs(3)	Fri(3)	

Pritam, Zeba and Anu is the required order.

19. **4**

Sol. Required price = $(0.6)(0.4)(1000) = \text{Rs } 240$.

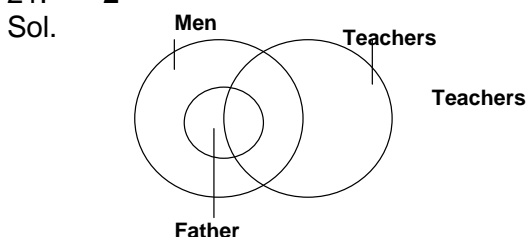
20. **2**

Sol. $(4 \times 5) - (2 + 5) = 13$

$$(6 \times 4) - (7 + 2) = 15$$

Similarly, $(8 \times 3) - (4 + 6) = 14$

21. **2**



22. **4**

Sol. From Guitar comes music as knowledge comes from book.

23. **2**

Sol. Given, Reena = (2 + Rita) = (5 + Zoha)
Reena + Zoha = 3 (Rita - 5)
After solving we get \rightarrow Rita = 14.

24. **3**

Sol. Butter scotch + Vanila = 8 cubes
Chocolate + Butter scotch = 4 cubes
Hence, total 12 cubes are there.

25. **2**

Sol. 8 cubes are there with only butter scotch on them.

26. **3**

Sol. Cube with chocolate coating = 8
Required, answer = $24 - 8 = 16$

27. **1**

Sol. From the question, it was clear that Monica's shadow was to the right of Tanya. Hence, Tanya was facing south. So Monica was facing north.

28. **3**

Sol. By using 2 given statements we get the sequence as:
B/D, A/C, E, A/C, B/D
So, E is sitting between A and C.

29. **2**

Sol. From each race, we are selecting 2 \Rightarrow eliminating 2.
We need to eliminate 14. Hence, 7 races are required.

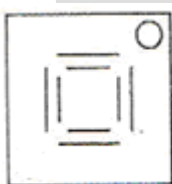
30. **2**

Sol.

b	c	e	g	k	m	q	s
2	3	5	7	11	13	17	19

31. **None**

Sol.. Required answer must be



Hence, none of the options is correct.

32. **4**

Sol. From the given dices we can observe that:
3 is opposite to 4.
2 is opposite to 6.
5 is opposite to 1

Hence, option 4.

33. **2**

Sol.

2	10	30	68	130	222
\downarrow	\downarrow	\downarrow	\downarrow	\downarrow	\downarrow

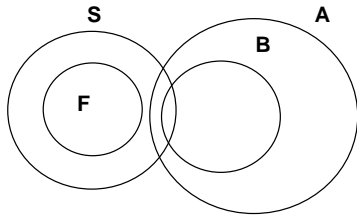
$$1^3+1 \quad 2^3+2 \quad 3^3+3 \quad 4^3+4 \quad 5^3+5 \quad 6^3+6$$

34. **3**

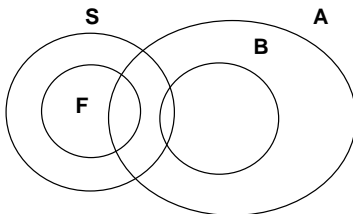
Sol. We have,
 T is the wife of S
 S is the son of B
 B is the wife of M
 Hence, option '3' is the answer.

35. **1**

Sol.



(oo)



S – Snakes
 F – Frogs
 B – Birds
 A – Apples

So, either I or II follows and III follows.

36. **None**

Sol. 9^{+14} , 23^{+28} , 51^{+56} , $\frac{107^{+112}}{106}$, 219^{+224} , 443

Here, 107 has to be there in the place of 106.

Note: In the question it was given 643 but it must be 443.

37. **4**

Sol. By observation

38. **4**

Sol. Shree, Amilia > Parul > Ronald > Veena
 Hence, Option 4.

39. **3**

Sol. $1^2 + 5^2 + 7^2 = 75$

$$9^2 + 7^2 + 8^2 = 194$$

Similarly, $8^2 + 3^2 + 4^2 = 89$

40. **1**

Sol. By observation.

41. **2**

Sol. Let 'x' seconds be the gap between two consecutive chimes.

$$\text{So, } 7x = 8$$

$$\Rightarrow x = 8/7 \text{ seconds.}$$

Required answer, $10x = 80/7 = 11.43 \text{ seconds}$

42. **3**

Sol. ABCD, ABDF, ABDH, ABDE
 AFED, FAGD, FACD, AHDG

EDGA, EDCA, CDHA
Hence, option 3.

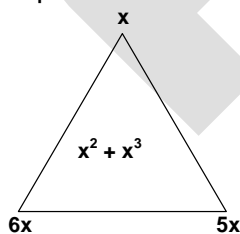
43. **4**
Sol. Umesh > Kamal > Tarun > Prem > Shyam > Ramesh
Football – Tarun
Cricket – Data not sufficient
Tennis – Insufficient data
Kabaddi – Umesh
Squash – Insufficient data
Volleyball – Ramesh
Umesh plays kabaddi.

44. **1**
Sol. Umesh > Kamal > Tarun > Prem > Shyam > Ramesh
Football – Tarun
Cricket – Data not sufficient
Tennis – Insufficient data
Kabaddi – Umesh
Squash – Insufficient data
Volleyball – Ramesh
Prem is in the fourth place.

45. **4**
Sol. Umesh > Kamal > Tarun > Prem > Shyam > Ramesh
Football – Tarun
Cricket – Data not sufficient
Tennis – Insufficient data
Kabaddi – Umesh
Squash – Insufficient data
Volleyball – Ramesh
Clear, option 4.

46. **3**
Sol. $1218199 \quad 1006480 \quad 814963 \quad 643648 \quad \underline{492535}$
 $\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$
 $11^2 9^2 (11 \times 9) \quad 10^2 8^2 (10 \times 8) \quad 9^2 7^2 (9 \times 7) \quad 8^2 6^2 (8 \times 6) \quad 7^2 5^2 (7 \times 5)$

47. **3**
Sol. The pattern followed is:

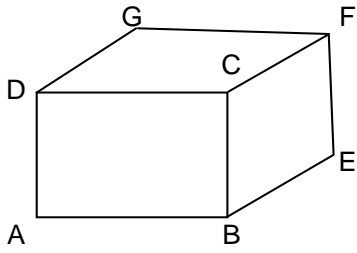


48. **3**
Sol. T – θ
R – β
A – δ
Y – ϵ
Hence, option 3.

49. **2**
Sol. $(20)(25) = (10)5 + (15)5 + (20)5 + (25)5 + (30)5$

Total days = 25

50. 3
Sol.



The maximum length of the rod = AF

We have, $AF^2 = AE^2 + EF^2$

$$AF = \sqrt{(\sqrt{2})^2 + (1)^2} = \sqrt{3}$$