SNAP 2023 Answer Key PDF

1. (c) The word 'moss' symbolizes inactivity and lack of progress. A rolling stone keeps moving, avoiding such stagnation.
2. (b) The phrasal verb 'narrowed down' means 'remove less important options to make it easier to choose. 'Opted for' means 'to choose'; 'nailed down' means 'succeed or achieve something'; 'passed out' means 'distribute' and 'passed away' means 'die. Hence, option (b) is the correct answer.
3. (a) Q will be the first sentence as it gives an introduction to the paragraph that talks about 'Time'. Only option (a) starts with Q; so, it will be the answer.
4. (d) In passive voice the focus shifts to object being acted upon. The construction of the sentence imphasizes the safety aspect and removes the agent (year) performing the action.
5. (a) 'Rushing river' completes the metaphor. It creates a vivid image of being overwhelmed by a constant flow of work, similar to being swept away by a strong current
6. (a) "If I were you" is the correct formation as per the conditional rules.
7. (d) The word **treacherous** means 'presenting hidden or unpredictable dangers'. **Perilous** means 'full of danger or risk'; **mutinous** means 'wilful or disobedient'; **seditious** means 'inciting or causing people to rebel against the authority of a state or monarch' and **secure** means 'certain to remain safe and unthreatened'. Thus, **secure** is the antonym of **treacherous**.
8. (c) Exemplary means commendable, ideal and admirable etc. thus, option (c) i.e. ideal is the correct answer.
9. (a) When we talk about a deadline for a future event, we use 'by'. We use 'until' when we talk about a continuous process that will stop in the future.
10. (c) isn't he
11. (a) 'Respectful' is the most appropriate choice because libraries are places where quiet is expected. It indicates consideration for others.
12. (a) The past participle "written" is needed because the action of writing happened before Sarah's exhaustion and satisfaction.
13. (a) panacea
14. (c) 'Although' is a conjunction used to introduce a contrasting clause.
15. (b) Hectic and fell are the correct options to be filled in here.
16. (b) Let Roy bought N number of articles.

$\therefore$ cost price = 20 N

$$\text{Total S.P. to get 40\% Profit} = 20\,N \times \frac{140}{100} = 28\,N$$

Now, $2+4+6+$----- Nth term $= 28N$

here, $N = 2 + (N-1)^2 = 2.N$

$$\therefore \text{Sum of S.P.} = \frac{N}{2}(2+2N) = N(N+1) = 28N$$

$N^2 = 27N = 0$

$\therefore N = 27$

17. (b) Let two bags A and B have x and (45–x) number of coins.

ATQ, $(x-5)(45-x-5) = 124$.

$(x-5)(40-x) = 124 \Rightarrow 45x - x^2 - 200 = 124$

$x^2 - 45x + 324 = 0$

$(x-9)(x-36) = 0$

$\therefore x = 9$ and 36

Product $= 9*36 = 324$.

Tricky way:

$124 = 2 \times 2 \times 31 = 4 \times 31$

so, number of coins in each buy after 5 coins dropped from each bag = 4 and 31.

$\therefore$ Number of coins in the bag initially

$= (4+5)$ and $(31+5) = 9$ and 36

Product $= 9 \times 36 = 324$

18. (c) Imran's mobile phone selling price = ₹17600

Discount = 12%

$$\therefore \text{Marked price} = 17600\,\frac{100}{(100-12)} = 20000$$

Profit = 12%

$$\therefore \text{Cost price} = 17600 + \frac{100}{(100+10)} = 16000$$

$$\therefore \text{Required profit\%} = \frac{(20000-16000)}{16000} \times 100 = 25\%$$

19. (a) Here, $m + f = 160$ ...(i)

and $7m + 12f = 1240$ ...(ii)

From (i) and (ii), we get that $(12-7)m = 1920 - 1240 = 680$.

$$\therefore m = \frac{680}{5} = 136$$

$\therefore$ Number of female present at the event = 16 – 136 = 24

20. (c) Milk : Water $= \frac{3}{4} : \frac{1}{4}$

When x ml mixture is replaced by x and water then,

Milk water $= \left(\frac{3}{4}-\frac{3x}{4}\right):\left(\frac{1}{4}-\frac{x}{4}+x\right)=50:50$

$(3-3x):(1+3x)=1:1$

$\therefore\ 6x=2$ or $x=\frac{1}{3}$

21. (b) Let cost price of two types of sugar are y and z Rs. /kg.
Here, profit % = 10%

$\therefore\quad (3xy+2x.z)\times\frac{110}{100}=\text{S.P.}\ \ldots(i)$

Similarly, $(2xy+3xz)\times\frac{105}{100}=\text{S.P.}\quad\ldots(ii)$

From equation (i) and (ii), we get

$(3y+2z)\times\frac{110x}{100}=(2y+3z)\times\frac{105x}{100}$

$(3y+2z)\times 22=(2y+3z)\times 21.$

$66y-42y=63z-44z$

$24y=19z$

$\therefore\quad \frac{y}{z}=\frac{19}{24}$

22. (a) Average of first 3 number = 32
$\therefore$ Sum of first 3 numbers = $32\times 3=96.$
Let 4th number is d.

then, $\left(\frac{96+d}{4}\right)$ gives the average of those 4 numbers.

ATQ, $d-\left(\frac{96+d}{4}\right)\times\frac{1}{4}=24$

$16d-d=24+16+96$

$d=32.$

23. (a) (A + B) total working hours = $2\times 5=10$h.
(B + C) total working hours = $4\times 5=20$h.
(A + C) total working hours = $2\times 6=12$h.
Now, L.C.M. of 10, 20 and 12 = 60
$\therefore$ A+ B efficiency = 6
B + C efficiency = 3
C + A efficiency = 5
From this, A – B = 5–3 = 2
$\therefore$ A = 4

Hence, A will finish work in $\frac{60}{4}=15$ hours

If he work 5 hours a day, then, will finish

$=\frac{15}{5}=3$ days.

24. (c)

Sonu	:	Monu	:	Romu	
3	:	2	:		×3
		3	:	2	×2
9	:	6	:	4	

Total run scored = 342.

$(9+6+4)x=342\Rightarrow x=\frac{342}{19}=18.$

$\therefore$ Number of run scored by Romu = $4\times 18=72$

25. (b)

V	C	V	C	V	C
1st		3rd		5th	

Vowel → E, I, U

Consonant → M, N, T

Arrangement = Three vowels occupy three odd positions in 3! ways and remaining 3 consonant will occupy three positions in 3! ways.

$\therefore$ Total number of ways = $3!\times 3!=36$

26. (c) A B C

6 0 1 $\Rightarrow\frac{7!}{6!}\times 3!=42$

5 1 1 $\Rightarrow\frac{7!}{5!}\times\frac{3!}{2!}=126$

4 2 1 $\Rightarrow\frac{7!}{2!\times 4!}\times 3!=630$

3 3 1 $\Rightarrow\frac{7!}{3!\times 3!}\times\frac{3!}{2!}=420$

$\therefore$ Total number of ways of distribution
$=42+126+630+420=1218.$

27. (c) Probability of choosing a group x = $\frac{1}{6}$

Probability of choosing a group y = $\frac{2}{6}=\frac{1}{3}$

Probability of choosing a group z = $\frac{3}{6}=\frac{1}{2}$

Now, Probability of choosing a girl from group x = $\frac{3}{5}$

Probability of choosing a girl from group y = $\frac{3}{7}$

Probability of choosing a girl from group z = $\frac{4}{9}$

$\therefore$ Probability of choosing a girl

$$P(G)=\frac{3}{5}\times\frac{1}{6}+\frac{3}{7}\times\frac{1}{3}+\frac{4}{9}\times\frac{1}{2}$$

$$=\frac{1}{10}+\frac{1}{27}+\frac{2}{9}=\frac{63+90+140}{630}$$

$$=\frac{293}{630}$$

$\therefore$ Probability that she is choosen from group y

$$P\left(\frac{Y}{G}\right)=\frac{P(Y\cap G)}{P(G)}$$

$$=\frac{\frac{1}{7}}{\frac{293}{630}}=\frac{90}{293}$$

28. (a) Probability for Mohini speaks truth $P(M)=\frac{6}{9}=\frac{2}{3}$

Probability for Rohini speaks truth $P(R)=\frac{3}{6}=\frac{1}{2}$

$\therefore$ Probability that they contradict each other on certain facts $= P(M).P(R')+P(M').P(R)$

$$=\frac{2}{3}\times\left(1-\frac{1}{2}\right)+\left(1-\frac{2}{3}\right)\times\frac{1}{2}$$

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

29. (b) $y=(x+1)$ and $z=(x+2)$

$\log(1+xz)=2A.$

$\log(1+x(x+2))=2A$

$\log(1+x^2+2x)=2A$

$\log(1+x)^2=2A$

$2\log(1+x)=2A$

$\therefore A=\log(1+x)=\log(y)$

30. (c) Let first term $= a$ and let term $= l$

and common difference $= d$.

Difference between 9th and 13th term $= 20$

$a+(9-1).d-\{a+(13-1).d\}=20$

$-4d=20\Rightarrow d=-5$

Now for a series of n terms (says)

Now, first term (a) $-75=$ Sum (s)

$\Rightarrow \quad s=a-75$

and sum $= 0+$ last term (l) $\Rightarrow$ sum $= l$

$\therefore a-75=l=a+(n-1)(-5)$

$\therefore n-1=15\Rightarrow n=16$

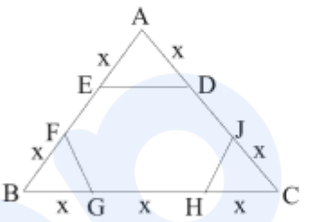
sum of the series except last term $= 0$

$$\left(\frac{n-1}{2}\right)[2a+(n-1-1)d]=s$$

$$\left(\frac{16-1}{2}\right)[2\times a+(16-2(-5)=0$$

$x=35$

31. (b)



Let the side of the equilateral Δ is 3x units then, Area of

equilateral $\Delta=\frac{\sqrt{3}}{4}\times(\text{side})^2$

$$240=\frac{\sqrt{3}}{4}(\text{side})^2=\frac{\sqrt{3}}{4}(3x)^2$$

Again, when this triangle converted into regular hexagon of each side x unit.

then, In ΔADE, $AE=AD=DE=x$ unit

$\therefore$ By symmetry, $\Delta ADE=\Delta BFG=\Delta CJH$ are equilateral triangle of same area.

Area of $\Delta ADE=\frac{\sqrt{3}}{4}(x)^2$.

$$\therefore \quad \text{Area of hexagonal}=\frac{9\sqrt{3}}{4}(x)^2-\frac{3\sqrt{3}}{4}(x)^2$$

$$6\times\frac{\sqrt{3}}{4}(x)^2=\frac{6\times240}{9}=160\text{ unit}$$

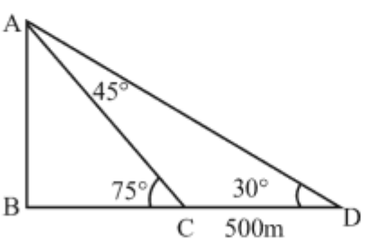
32. (a) Maximum number of flower $=\left[\frac{125}{3}\right]=41$

Maximum number of flower $=\left[\frac{375}{3}\right]=125$

Maximum number of flower $=\left[\frac{250}{3}\right]=83$

$\therefore$ Maximum rows of flower $= 41+125+83=249$

33. (a) Let height of the building AB $= h$ m and BC $= x$ m.



From ΔACD, $\angle ACB=\angle CDA+\angle CAD$

$75° = (30°) + (\angle CAD)$

$\therefore (\angle CAD) = 75 - 30 = 45°$

From sine rule in ΔACD,

$$\frac{AC}{\sin 30°} = \frac{CD}{\sin 45°} \Rightarrow \frac{AC}{\frac{1}{2}} = \frac{500}{\frac{1}{\sqrt{2}}}$$

$\therefore AC = 250\sqrt{2}$

From ΔABC,

$$\sin 75° = \frac{AB}{AC} = \frac{h}{250\sqrt{2}}$$

$$\sin(45° + 30°) = \frac{h}{250\sqrt{2}}$$

$\sin 45°, \cos 30° + \cos 45°$

$$\sin 30° = \frac{h}{250\sqrt{2}}$$

$$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{3}}{2} + \frac{1}{\sqrt{2}} \cdot \frac{1}{2} = \frac{h}{250\sqrt{2}}$$

$$\frac{\sqrt{3}+1}{2\sqrt{2}} = \frac{h}{250\sqrt{2}}$$

$\therefore \quad h = 125\left(\sqrt{3}+1\right)$

37. (b) Tuesday, Wednesday, Friday, Monday, Friday, Wednesday

+1 days +2 days +3 days +4 days +5 days

38. (d)

Letter	B	O	S	Z	E	R	A
Code	8	0	5	2	3	9	4

$\therefore$ Code of LEETS = 13375.

39. (c) Suresh Bhai

↓ FIL

Mahesh ⇔ Mahesh wife —Paresh

↓ SON

Ramesh

$\therefore$ Paresh is Ramesh maternal uncle

40. (c) Logical order:

Age khan palace, Pune, Maharashtra, India, World

(2) (1) (5) (4) (3)

41. (b) Value of P at 6:00 = 90°

Value of P at 18:00 = 270°

Value of P at 12:00 = 180°

$$\therefore \frac{90° + 270°}{180°} = \frac{360°}{180°} = 2$$

34. Let total population of U.P. = N.

then, population above education index = $N \times \left(\frac{100-16}{100}\right)$

$= 0.84N$

Male population above education Index

$$= \frac{5}{6} \times 0.84N = 0.7N$$

$$\therefore N \frac{1.6}{0.7} \approx 2.28 \text{ lakhs}$$

35. (c) Pattern is: 3 + 2

$= 3 + (2)^2 = 7$

$32 - 8 = 32 - (8)^2 = 32 - 64 = -32.$

$12 + 3 = 12 + (3)^2 = 12 + 9 = 21.$

$51 + (?)^2 = 76 \Rightarrow \sqrt{76-51} = ?$

$\therefore ? = 5$

36. (b) Series is:

1, 3, 7, 13, 21, 31, 43

+2 +4 +6 +8 +10 +12

42. (a) Probability of Mohini speaking truth $P(m) = \frac{6}{9} = \frac{2}{3}$

Probability of Mohini not speaking truth $P(M) = 1 - \frac{2}{3} = \frac{1}{3}$

Probability of rohini speaking truth $P(R) = \frac{3}{6} = \frac{1}{2}$

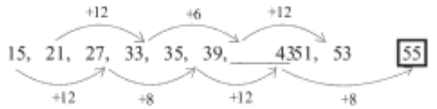
Probability of rohini speaking truth = $= P(R°) = \frac{1}{2}$

Required Probability = P(M) . P(R') + P(R) R'(M)

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

$= \frac{1}{3} + \frac{1}{6}$

$= \frac{1}{2}$

43. (a) 

$35 + 12 = 47$

$47 + 8 = 55$

44. Head Tounge, Neck Elbows, Knees, Foot.

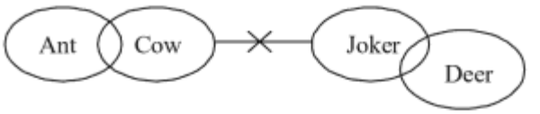
45. (b) 2032, 2028 will be leap years, so the calendar of 2023 won't be same

Also 2023 = 2020 (leap year) + 3

so 2023 would repeat itself in 2034.

Sol. (46-47):

46. (a) 

47. (d) 

48. (d) With reference to the given statement Only assumption II is implicit i.e. One of the major goals of sustainability is to preserve biodiversity. All life on Earth is onnected through the flow of energy(planetry food web), and each time a species becomes endangered or lost to extinction, one more part of that energy flow is lost.

49. (b) Course of action I follows because with a graded approach to the use of antibiotics, under which some medicines are reserved for the most resistant microbes, the WHO list can stop their misuse as broad-spectrum treatments. Course of action II also follows because a close inspection is also needed of the national supervisory programmes to help people to get rid out of it.

Sol. (50-51):

Let the six professors be denoted as P, Q, R, S, T and U.

The first thing we should focus on doing is to identify which professors are in the North facing flats and which professors are in the South facing flats.

From the last two statements, viz: "R gets a south facing flat which is next to U's flat" and "T's flat is North Facing".

At this point we also know that "S and U get flats which are diagonally opposite to each other" and since we know that U faces South, S would naturally face North; and we can also deduce that both S and U must be occupying corner flats.

Further from the statement: "Q gets a North facing flat and it is not next to S's flat" we realise two things:

T, S, Q are in the three North facing flats and since S and Q are not adjacent to each other, they must be both occupying corner flats while T would be occupying the middle flat in the North facing flats.

Consequently P would be in a South facing flat and the three people in South facing flats would be P, R, U. Also since R is next to U and we have alrady deduced that U is in the corner flat, we know that R would be in a middle flat.

The figure changes to the following:

Flat Direction	Corner Flat	Middle Flat	Corner Flat	Professors facing South and North
South Facing Flats				R (corner flat), R (middle falt), U (corner flat)
North Facing Flats				T (in middle flat), S & Q (corner flat)

Consequently we also realise that there are essentially the following 2 ways of arranging the 6 people:

Possibility 1:

Flat Direction	Corner Flat	Middle Flat	Corner Flat	Professors facing South and North
South Facing Flats	P	R	U	R (corner flat), R (middle falt), U (corner flat)
North Facing Flats	S	T	Q	T (in middle flat) S & Q (corner flat)

Possibility 2:

Flat Direction	Corner Flat	Middle Flat	Corner Flat	Professors facing South and North
South Facing Flats	U	R	P	P (corner flat), R (middle falt), U (corner flat)
North Facing Flats	Q	T	S	T (in middle flat) S & Q (corner flat)

Based on these reactions and deductions we can solve the questions.

50. (c) P, R and U get South facing flats as deduced above and hence, option (c) is the correct answer.

51. (a) From the final conclusions above, it is quite clear that there is no change in U's neighbour if P and T interchanged their flats. Option (a) is correct.

52. (a) All the three causes will effect the sales of four wheelers.

53. (d)

54. (a) Government decision to construct super highway shows that Government has sufficient resources to construct it.

55. (c) (i) is not an appropriate course of action as it not known from the statement weather the protest are violent or peaceful. (ii) is preventive measure not a corrective action. As it is mentioned in the statement that the given state has faced several drought like situations over the recent years, so (iii) is an appropriate course of action.

56. (b) Each person get his next duty after the gap of 3 days.

As on 10^{th} July 2020, Gaurav was on duty. So, his next duty was on 14^{th}, 18^{th}, 22^{th} ..... July.

Now, number of days between 10^{th} July to 26^{th} Sept.

$= 21 + 31 + 26 = 78$ days.

$= (4 \times 19 + 2)$ days.

$\therefore$ On 24^{th} September Gaurav was on duty and on 26^{th} September Sahil was on duty.

57. (a) As February 2020 is 29 days (Leap year)

Then, person having duty on 1^{st} February, must have their duty on 29^{th} February 2020.

Now, number of days between 1^{st} and $14^{th} = 13$ days.

$= 4 \times 3 + 1$ odd day.

So, Amir was on duty since on 1^{st} February and 29^{th} February.

Hence, Amir did the maximum number of duties.

58. (a) Clearly option (a) is the cause.

59. (c) As per the question, we can easily from the word

E X P A N D

↓ ↓ ↓

5^{th} 24^{th} 16^{th}

First three letters are – S H R | I N K |

↑

as suffix

Hence, option (c).

60. (a) "SHRINK" is the word the was the answer formed in the previous question.

As per the question,

C O N T R | A C T |

↓ ↓ ↓ ↓ ↓

3^{rd} 15^{th} 14^{th} 20^{th} 18^{th}

Hence option (a).