

# SNAP 2022 : Mock Test 8

**Mock Test Questions & Solutions**

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## Mock Test Solutions in English

### Questions

1. Identify the correct parts of speech of the underlined word in the excerpt below.

Again the

day begins, only

no one wants its sanity

or its blinding clarity. Daylight is

not what we came all this way for.

A. Noun

B. Adjective

C. Adverb

D. Pronoun

2. Fill in the blank with the most appropriate option.

Amitesh needs a free hand \_\_\_\_\_ run the category in his way.

A. at

B. to

C. in

D. for

3. Four statements are given below as A, B, C, and D. There may be some errors in the given statements. Mark the incorrect statement as the answer.

A. And while conventional wisdom tells us we should eagerly embrace every opportunity that comes our way, playing a little hard to get has its advantages.

B. Playing a little hard to get has its advantages even though conventional wisdom dictates that we should eagerly embrace every opportunity that comes our way.

C. Instead of the fact that we should eagerly embrace every opportunity that comes our way as stated by conventional wisdom, playing a little hard to get has its advantages.

D. Despite the fact that we should eagerly embrace every opportunity that comes our way as stated by conventional wisdom, playing a little hard to get has its advantages.

4. Select the incorrectly spelt word.

A. Publicise

B. Proccesion

C. Boisterous

D. Procurement

5. After camping without running water and sanitation for two weeks, I am **glad to see the back of** this place.

What is the meaning of the highlighted phrase?

A. Being happy to see someone failing

B. Being happy when an unpleasant experience ends

C. Being sad when someone shifts to new place

D. Being jealous when someone get new opportunities to grow

6. Fill in the blank with the most appropriate phrase.

Environmental groups \_\_\_\_\_ and are increasing their campaign against the airport.

A. smell blood

B. bless one's cotton socks

C. breathe fire

D. go for broke

7. **Direction:** Read the passage given below and answer the questions that follow.

The trigger to legislate protection for personal data arises from Indian jurisprudence that identified the right to privacy as an inalienable right. Safeguards are needed because personal data is a valuable commodity, which attracts many shady players. To prevent this abuse, a draft digital personal data protection bill unveiled by GoI last week aims to establish a legal framework within which personal data can be collected and processed. The bill however restricts itself to just data scooped up through digital means. Its scope does not extend to offline collection.

Since the underlying principles of establishing legal safeguards to check unfair harvesting of personal data are the same regardless of the medium, there's a case to extend the scope of the draft digital personal data protection bill. Its core principles such as proper consent, purpose limitation and legal basis to collect data apply both online and offline. Linked to this issue is the scope of exemption government agencies get in the law's application. Giving the state overriding powers on security grounds is fair. But it needs to come with tight checks and balances.

Which of the following represents the central idea of the passage?

A. Offline data protection should be given more priority.

B. The personal digital data protection bill has many loopholes.

C. There is a need to make data laws cover physical

D. The states should do more to enforce privacy

data collections as well.

protection of offline data.

8. Which of the following can be inferred from the passage?
- A. The GOI has done the right thing by introducing a digital personal data protection bill.
- B. The digital personal data protection bill will ensure total protection of personal data.
- C. Personal data's value is overemphasised in today's digital world.
- D. Offline data collection faces insurmountable challenges.
9. What is the meaning of the word 'shady' as used in the passage?
- A. Animate
- B. Suspect
- C. Inculcate
- D. Profligate
10. Fill in the blank with the correct option.

The newly elected prime minister had a hard time trying to push progressive policies through a/an \_\_\_\_\_ bureaucracy entrenched in the old system.

- A. ossified
- B. vicious
- C. noisome
- D. pliant

11. Which of the following sentences uses a correct question tag?
- A. She owns a bicycle, doesn't she?
- B. He is not wrong, isn't he?
- C. I don't want him to leave, don't I?
- D. He aims for the stars, does he?
12. Pick out the correct active voice of the given sentence.

A standing ovation was received by the badminton players who participated in the Thomas Cup and won against the odds.

- A. The badminton players who participated in the Thomas Cup will be receiving a standing ovation and won against the odds.
- B. The badminton players who participated in the Thomas Cup had been receiving a standing ovation for winning against the odds.
- C. In the Thomas Cup the participating badminton players were receiving a standing ovation for winning against the odds.
- D. The badminton players who participated in the Thomas Cup and won against the odds received a standing ovation.

13. A sentence divided into three parts, I, II, and III, is given. There may be an error in one or more parts. Determine the part(s) which require/s correction and mark the relevant option as your answer.

Market prices for various mass crops such as grain, wheat and pulses are current close to the Minimum Support Price, (I)/ but this is largely because of government betting big on these prices as it believes (II)/

that export demand will rise due to the Russia-Ukraine war. (III)

- A. Only III
- B. Both I and II
- C. Both II and III
- D. Both I and III

14. Fill in the blank with the most appropriate option.

The Indian economy needs more durable solutions to deal with the \_\_\_\_\_ of the weather, especially the monsoon.

- A. vapidness
- B. vagaries
- C. copiousness
- D. tenuous

15. Identify the antonym of the given word.

Insolent

- A. Rude
- B. Offensive
- C. Polite
- D. Lazy

16. Which of the following should come in place of (?) to complete the series?

T5E S4F R6G Q3H (?)

- A. P7I
- B. K4J
- C. X6G
- D. None of the above

17. Find the missing number in the following series:

17, 28, 44, 75, 131, ?

- A. 191
- B. 201
- C. 211
- D. 222

18. If January 10, 2008 was a Thursday, what day of the week was January 1, 2000?

- A. Tuesday
- B. Monday
- C. Saturday
- D. Thursday

19. Three statements followed by two conclusions numbered I and II are given below. Consider the statement to be true, and decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

**Statements:**

Some trees are forests.

Some forests are houses.

Some houses are tents.

**Conclusions:**

I. Some tents are forests.

II. Some houses are trees.

A. Only conclusion I follow.

B. Only conclusion II follows.

C. Either conclusion I or II follows.

D. Neither conclusion I nor II follow.

20. Which of the following should come in place of (?) to complete the series?

F7QM, H8NN, J9KO, (?), N11EQ

A. J10IQ

B. L10HP

C. M10GP

D. F9QE

21. What will be the missing number in the following series?

32, 64, 61, 122, 119, (?)

A. 238

B. 342

C. 267

D. 118

22. One statement is given below, and it is followed by two conclusions that are numbered I and II. Read the statements, and mark the correct answer as per the options given below.

**Statement:**

Russia's invasion of Ukraine triggered global condemnation and tough sanctions that were aimed at denting Moscow's war chest. Yet Russia's revenues from fossil fuels, by far its biggest export, soared to record highs in the first 100 days of its war on Ukraine, which was driven by a windfall from oil sales amid surging prices, an analysis shows.

**Conclusions:**

I. Russia's economy is thriving due to the war in Ukraine.

II. Russia has, so far, managed to survive the fallout of the war by successfully leveraging the power of its fossil fuel reserves.

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I. The suggestion might be considered.

II. Someone might have smoked in the office.

III. Some people might stop smoking after reading the slogans.

A. Only assumption I is implicit.

B. Only assumptions I and II are implicit.

C. Only assumptions II and III are implicit.

D. All assumptions are implicit.

27. There are 6 children, U, V, W, X, Y, and Z, in a park. They want to make two teams of three each and play a game. U and Z do not want to be a part of the same team. V and Y must be together in any team. Which of the following is not a possible combination of three children in the same team?

I. Z, W, and X

II. U, W, and X

III. Z, V, and Y

IV. U, V, and Y

A. None of the above

B. I, II, and III only

C. I, II, and IV only

D. I, II, III, and IV

28. **Direction:** A statement followed by some assumptions is given below. Consider the statement to be true, and mark the best possible answer.

Statement:

My boss said to me, 'It is a warning to you. Please inform me before you take leave.'

Assumptions:

I. I will pay heed to her warning.

II. I need to learn discipline.

III. I have taken a leave before without informing my boss.

A. Only assumptions I and II are implicit.

B. Only assumptions II and III are implicit.

C. Only assumptions I and III are implicit.

D. All assumptions are implicit.



29. N is 23 m to the west of M. P is 11 m to the north of N. Q is 30 m to the east of P. V is to the south of Q. L is 10 m to the east of V.

A person is going from L to V. After he reaches V, he takes a right turn from V and walks for 15 m, then takes a left turn and walks for 7 m and he reaches M. What is the shortest distance between Q and V?

- A. 81 m  
B. 30 m  
C. 18 m  
D. 26 m

30. Find the missing number in the following series:

380, 188, 92, 44, 20, ?, 2

- A. 12  
B. 10  
C. 8  
D. 6

31. Which of the following combination of dates represent all Fridays of April, 2001?

- A. 1<sup>st</sup>, 8<sup>th</sup>, 15<sup>th</sup>, 22<sup>nd</sup>, 29<sup>th</sup>  
B. 3<sup>rd</sup>, 10<sup>th</sup>, 17<sup>th</sup>, 24<sup>th</sup>  
C. 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup>, 27<sup>th</sup>  
D. 4<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>, 25<sup>th</sup>

32. It may seem straightforward to look at an association between a diet and specific health problems and assume that the former is causing the latter via some form of nutritional deficiency. However, a new analysis took into account a wide range of nutritional factors, including total calorie intake, protein intake, micronutrient intake, and the level of food processing. This suggests that the higher rates of depression among vegetarians are not caused by the nutritional content of their diet.

Which of the following conclusions follow?

- A. There is a link between vegetarianism and depression, but one does not know the cause.  
B. There is no link between vegetarianism and depression.  
C. Vegetarianism causes depression.  
D. Depression leads people to adopt vegetarianism.

33. Directions: Study the following information carefully and answer the questions given below.

Seven people, M, N, O, P, Q, R, and S, attend a meeting on seven different days of the week. The week starts from Thursday and ends on Wednesday. One person attends a meeting on one day of the week. Three people attend meetings between R and N. One person attends a meeting between O and N. One person attends the meeting between O and R, who does not attend the meeting after O. Three people attend the meeting between M, and O. M does not attend the meeting after Saturday. P attends the meeting just after M. One person attends the meeting between P and S.

N attends the meeting on \_\_\_\_\_.

- A. Monday  
B. Tuesday  
C. Wednesday  
D. Sunday

34. How many times are the minute hand and hour hand of a clock at right angles to each other in the month of February in 2020?

- A. 1232  
B. 1276  
C. 1320  
D. Can't be determined

35. Consider the given statement to be true and figure out whether the given assumptions are implicit or not.

**Statement:** Advertisement outside a shop: Buy Epic brand shoes for durable shoes at affordable prices.

**Assumption I:** People desire to buy durable shoes.

**Assumption II:** People are price conscious when they buy shoes.

- A. Assumption I is implicit.  
B. Assumption II is implicit.  
C. Both assumptions are implicit.  
D. Neither assumption is implicit.

36. In a row, all people are facing in the north direction, M is 12<sup>th</sup> to the left of N, who is 20<sup>th</sup> from the right end. If R is 11<sup>th</sup> from the left end and 5<sup>th</sup> to the right of M, how many people are there in that row?

- A. 32  
B. 35  
C. 37  
D. 39

37. Americans are not the only players who can exert economic pressure. Russia, losing on the battlefield, is trying to blackmail Europe by cutting off its supply of natural gas. But the big surprise on the economic side of the Ukraine war was the early success of the United States and its allies in strangling Russian access to crucial industrial and capital goods. Russian imports have begun to recover, but sanctions probably dealt a crucial blow to Russia's war-making ability.

Which of the following points does the passage not assume?

- A. Trade can be a tool to exert pressure on nations.  
B. The US and its allies' success in strangling Russia's access to goods was not expected.  
C. Economic sanctions can be effective against a nation's war-making machinery.  
D. Russia has been successful in winning through unfair means.

38. **Directions:** A question and two statements that are numbered I and II are given. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both statements

and give the answer.

There are five friends (A, B, C, D, and E) who participated in a 100 m race. Who among them was the last person to finish the race?

**Statement I:** Both B and D finished the race after A as well as C

**Statement II:** C finished the race just after B and just before D

- |   |  |
|---|--|
| A. The data in Statement I alone is sufficient to answer the question, while the data in Statement II alone is not sufficient to answer the question. | B. The data in Statement II alone is sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question. |
| C. The data either in Statement I alone or in Statement II alone is sufficient to answer the question.  | D. The data in both statements, I and II, together are necessary to answer the question.   |

39. The given statement is followed by two assumptions. Identify which of the assumptions are implicit and mark the answer according to the given code.

**Statement:**

Notice outside a library: Cell phones and bags are not allowed.

**Assumptions:**

Assumption 1: People carry cell phones into the library.

Assumption 2: There is a separate locker available to safely keep cell phones.

- |                                    |                                   |
|------------------------------------|-----------------------------------|
| A. Only assumption 1 is implicit.  | B. Only assumption 2 is implicit. |
| C. Neither assumption is implicit. | D. Both assumptions are implicit. |

40. There are six people A, B, C, D, E, and F in a family of six generations. D is the grandfather of E who is the sister of B and daughter of F. A is the mother-in-law of F who is not a male. How many male members are there in this family of six people?
- |      |                  |
|------|------------------|
| A. 1 | B. 2             |
| C. 3 | D. Either 2 or 3 |
41. A person borrowed a sum of Rs. 25000 at a rate of 25% p.a., compounded annually for 3 years. However, after 2 years, he paid Rs. 15600, and after the third year, he cleared the remaining balance. How much



and black pens bought by Vijay if the profit earned by Vijay on selling these is 9%, 10%, and 12% respectively.

- A. 300, 400, 200  
B. 300, 300, 300  
C. 400, 300, 200  
D. 350, 350, 200

48. How many integral ordered pairs of  $(x, y)$  satisfy the relation  $|x| + |y| = 6$ ?

- A. 16  
B. 20  
C. 24  
D. 28

49. During sunset time, two friends, Meena and Reeta, were talking while facing each other. If Meena's shadow was towards her left side, then in which direction is Reeta facing?

- A. South  
B. South-east  
C. North-west  
D. North

50. Nayak sells 3 types of toys, P, Q, and R, with the same selling price. He sells P at a loss of 20%, Q at a profit of 25%, and C at a loss of 33.33%. Find the overall profit or loss percentage approximately.

- A. 10.5% loss  
B. 15.5% profit  
C. 10.5 % profit  
D. 15.5% loss  
E. None of the above

51. If no repetition of digits is allowed, then how many numbers can be formed between 3000 and 4500?

- A. 690  
B. 715  
C. 728  
D. 684

52. Find the difference (in  $\text{cm}^2$ ) between the areas of the circumscribed and inscribed circles of a regular hexagon whose sides have a length of 18 cm.

- A.  $64\pi$   
B.  $72\pi$   
C.  $81\pi$   
D.  $100\pi$   
E.  $121\pi$

53. Pihu takes 20 minutes more to complete her project than when she and her brother are working together. Her brother takes 45 minutes more to complete the same project than when both are working together. What percentage of the project work is completed in 12 minutes while both are working together?

- A. 54.54%  
B. 40%  
C. 62.62%  
D. 70%

54. If  $\log_{3\sqrt{5}}(x^2 - 2x - 3) = 2$ , then find the product of all the possible values of  $x$ .

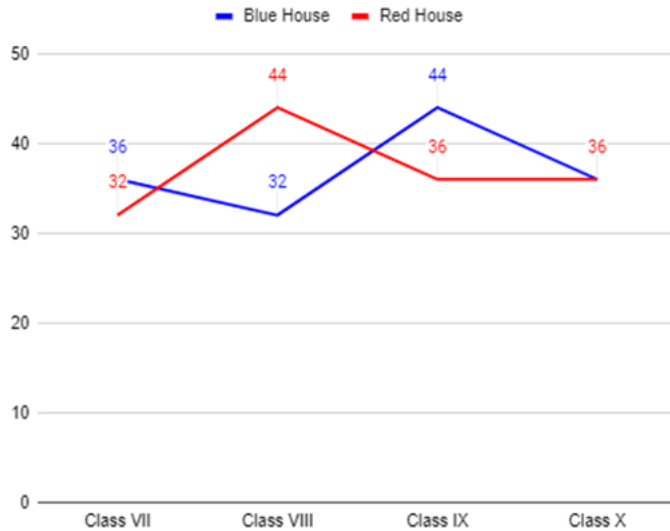
- A. -48  
B. 64

- C. -30  
D. There is no possible value of x.
55. Find what comes next in the following series:  
9, 13, 44, 171, 860,...
- A. 3120  
B. 4152  
C. 5155  
D. 6183
56. The number of boys and girls in a school are in the ratio of 3 : 1 respectively. Next year, 240 students left the school with the same gender ratio as above, and 140 new boys and 40 new girls enrolled in the school. Find the initial number of students in the school if the new ratio is 16 : 5.
- A. 500  
B. 480  
C. 450  
D. 400
57. The length of the floor of Chiku's drawing room is 15 m more than the breadth of the floor. If a total of 25 pieces of marbles of size 8 m  $\times$  5 m are required to cover the floor of the room, then find the length (in m) of the floor.
- A. 32  
B. 35  
C. 40  
D. 44
58. Three students appear in a test. The probability of their clearing the cut off are  $\frac{1}{4}$ ,  $\frac{1}{6}$  and  $\frac{1}{8}$ , respectively. Find the probability that at least two of them clear the cut off.
- A.  $\frac{1}{10}$   
B.  $\frac{1}{12}$   
C.  $\frac{1}{24}$   
D.  $\frac{1}{16}$
59. A runner is running parallel to the railway tracks with a speed of 8 km/h. He is 300 metres ahead of the front portion of the train. The length of the train is 90 metres, which is also running in the same direction as the runner. Find the time (in seconds) in which the train will pass him if the speed of the train is 44 km/h.
- A. 35  
B. 39  
C. 42  
D. 46
60. Read the following directions carefully and answer the given questions.

A school has two groups in their school viz. Blue house and red house. The Blue House ensures that the students maintain cleanliness and promotes hygiene.

The Red House ensures that the students adhere to the rules and regulations of the school. Each student in the school must be a part of either of the houses. The following graphs represent the number of

students representing the Blue House and the Red House from class VII to X in a school in 2018.



In the month of July 19, one-fourth of the total students from class VIII were promoted to class IX; and their house (group) was also changed (i.e., the students of red house in class VIII were promoted to students of blue house in class IX and the students of Blue house in class VIII were promoted to students of red house in class IX).

Find the ratio of the number of students in the Blue House to that in the Red House in class IX, if the ratio of blue house and red house students in class VIII remains the same after the transfer and no students of class IX were promoted to the next class.

- A. 4 : 5                                      B. 5 : 4  
C. 7 : 6                                      D. 6 : 5

### Solutions

1. B

Sol. The underlined word here is an adjective. Adjectives are words that describe the qualities or state of being of nouns. They can also describe the quantity of nouns. And here, the underlined word is highlighting the state of the noun 'clarity'.

2. B

Sol. 'To' (infinitive marker) is used to show purpose or intention

Here, in the given sentence, it is used for the purpose of giving a free hand, i.e., 'to run' the category. Thus, 'to' becomes the correct word to fill in the blank.

3. C

Sol. All the four options have two parts—one part talks about what 'conventional wisdom' states and the second part describes an action that is against that statement. Thus, the contrast present is there in expectation (despite, even though) or comparison (while). 'Instead' has been used only in option C, conveying contrast in action. Thus, option C is the correct answer.

4. B

Sol. Option B has the incorrectly spelt word. The correct spelling is 'Procession', meaning 'a number of people or vehicles moving forward in an orderly fashion, especially as part of a ceremony.' 'Boisterous' refers to someone rowdy or energetic, whereas 'procurement' means to acquire something.

5. B

Sol. 'Glad to see the back of' means to be glad or happy when you no longer have to face bad or unpleasant situations. Hence, option B is the correct response.

6. A

Sol. 'Smell blood' refers to discern weakness or vulnerability in an opponent. Here, environmental groups are looking to increase their campaign against airports. Hence, option A is contextually accurate.

Bless one's cotton socks: used as an expression of endearment

Breathe fire: be extremely angry

Go for broke: risk everything in an all-out effort

7. C



Sol. Passage summary: The passage highlights the need for a personal data protection bill to extend its scope to offline data collection.

Genre: Law

Number of words: 182

Type of question: Main idea-based question

Throughout the passage, the author has talked about the need for a data law that covers physical data as well. However, the digital data protection bill that aims at protecting online data is not enough to provide any cover to offline data collection. This has been the issue that the author has tried to address in the second paragraph of the passage in these lines:

‘Linked to this issue is the scope of exemption government agencies get in the law’s application. Giving the state overriding powers on security grounds is fair. But it needs to come with tight checks and balances.’

The given ideas are best expressed in option C. Hence, it is the correct answer.

Option A highlights the need to protect offline data more, which is the opposite of the main idea. Option B talks about many loopholes, but these loopholes are not discussed in the passage. Option D puts the responsibility of the data protection bill on the states, which is not true contextually.

8. A

Sol. Passage summary: The passage highlights the need for a personal data protection bill to extend its scope to offline data collection.

Genre: Law

Number of words: 182

Type of question: Inference-based question

Consider the following lines from the passage:

‘To prevent this abuse, a draft digital personal data protection bill unveiled by GoI last week aims to establish a legal framework within which personal data can be collected and processed.’

The given excerpt indicates that the author is in favour of the introduction of the digital personal data protection bill. Besides, the prevention of the abuse of someone’s personal data is a good initiative. Hence, option A can be inferred.

Option B is too certain in the given context because we cannot be sure that the bill will ensure safeguarding of personal data. Option C contradicts the tone of the passage which is about protection of data. Option D is incorrect because it has not been discussed in the passage.

9. B

Sol. Passage summary: The passage highlights the need for a personal data protection bill to extend its scope to offline data collection.

Genre: Law

Number of words: 182

Type of question: Vocabulary-based question

Shady: of doubtful honesty or legality

Suspect: doubt the genuineness or truth of

Animate: bring to life

Inculcate: instil (an idea, attitude, or habit) by persistent instruction

Profligate: recklessly extravagant or wasteful in the use of resources

Clearly, option B is the right answer.

10. A

Sol. Ossified means rigid or fixed. It fits best in the context that the prime minister had a hard time implementing policies as the bureaucracy was rigid and unable to change from the old system.

Vicious: deliberately cruel or violent

Noisome: having an extremely offensive smell

Pliant: easily influenced or directed; yielding

11. A

Sol. Since the positive sentence is always followed by a negative question and vice versa, we can easily reject options B, C, and D. Hence, option A is the right answer.

12. D

Sol. The given sentence is the passive form of an assertive sentence. The sentence is in the past indefinite tense.

The structures for active/passive voices are:

Active voice: Subject + V2 + Object

Passive voice: Object + was/were + Verb (V3 form) + by + Subject

So, with the help of the above instructions, we can convert the given sentence into the active voice. Hence, option D is the correct answer.

13. D

Sol. In the first segment, replace the adjective 'current' with the adverb 'currently' as we need an adverb 'currently' to modify the adjective 'close'. It is correct. In the third segment, replace 'risen' with 'rise' as we need the base form of the verb to follow the modal verb 'will'. Thus, option D is the correct answer.

14. B

Sol. Vagaries means uncertainties. It fits best here.

The other options cannot complete the sentence meaningfully

Copiousness means abundance, vapidness means without meaning or intelligence, and tenuous means thin or fragile.

15. C

Sol.

Insolent means rude or impolite. Hence, its antonym is polite.

16. A

Sol. There are three series to look for here.

The first letters of each term are in the reversed alphabetical order: T, S, R, Q, **P**. The second letters of each term are in alphabetical order, beginning with E. The number series is as follows:

$$(5 - 1) = 4$$

$$(4 + 2) = 6$$

$$(6 - 3) = 3$$

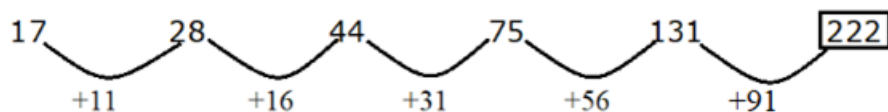
$$(3 + 4) = 7$$

Therefore, the required answer is P7I.

Hence, option A is the correct Ans

17. D

Sol. The pattern of the given series is as follows:



Also,  $11 + 1 \times 5 = 16$

$16 + 3 \times 5 = 31$

$31 + 5 \times 5 = 56$

$56 + 7 \times 5 = 91$

Therefore, 222 is the required missing number in the given series.

Hence, option D is the correct answer.

18. C

Sol. Number of odd days from January 2, 2000 to January 10, 2008  
 $= 1 + 1 + 1 + 1 + 2 + 1 + 1 + 1 + 3 = 1 \text{ week } 5 \text{ days} = 5 \text{ odd days}$   
So, the day on January 1, 2000 = Thursday  $- 5 =$  Saturday

19. D

Sol. Neither of the conclusions can be seen below.



Hence, the answer is option D.

20. B

Sol. The first letter F shifts two letters ahead in terms of alphabetical order in subsequent terms.

F – H – J – L – N

The second letter Q shifts three letters behind ahead in terms of alphabetical order in subsequent terms.

Q – N – K – H – E

The third letter is in alphabetical order, beginning with M.

The number series is in ascending order beginning with 7. Therefore, L10HP is the required Answer.  
Hence, option B is the correct Answer.

21. A

Sol.

This is an alternating multiplication and subtraction series. First, multiply by 2 and then subtract 3.  
Thus, the required answer is  $119 \times 2 = 238$ .  
Hence, option A is the correct answer.

22. B

Sol.

It has been mentioned that Russia has managed to generate handsome revenue from its fossil fuel reserves despite tough sanctions. Thus, it was able to evade the fallouts of the war and the sanctions that were aimed at depleting its treasury. Hence, conclusion II follows.

On the other hand, conclusion I is a sweeping statement. While the statement has mentioned how Russia's revenues have increased, we cannot say its economy is thriving.

23. C

Sol. Each letter moves four places forward.

For instance:

J → N; U → Y; N → R; I → M; O → S; R → V

After that, the code of the word is reversed.

NYRMSV is reversed to VSMRYN.

The same logic is applied to code PICTURE.

Hence, STUDENT is coded as XRIHYXW.

So, option C is the correct answer.

24. D

Sol. Both arguments are not a strong enough reason for India to support Sri Lanka. India looking to contain China's influence is out of scope here, whereas conclusion I is more of a moral obligation rather than a strong argument.

25. C

Sol. The first letter moves one step forward as in the English alphabet, and the second letter moves one step backward as in the English alphabet and so on. So, the word DESTRUCTION is written as EDTSSTD SJNO.

26. D

Sol. The HR's suggestion relies on a few assumptions. The HR obviously assumed that their suggestion will be taken into consideration. If not, then they would not have made this suggestion. The second is that there is at least one person who must have smoked in the premises, otherwise the HR would not have suggested this. Also, the suggestion comes after an assumption that it will have an impact. Thus, assumption III will also follow.

27. A

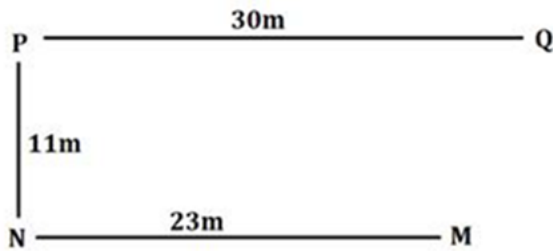
Sol. All the given combinations (I, II, III, and IV) are possible.

28. C

Sol. The assumptions need to be made by the boss. Since she has warned me about taking leaves without informing, the warning must have been given on a prior mistake. Thus, assumption III will follow. The question does not talk of discipline. So, assumption II will not follow. Assumption I is correct because any suggestion or warning is given on the assumption that it will be followed.

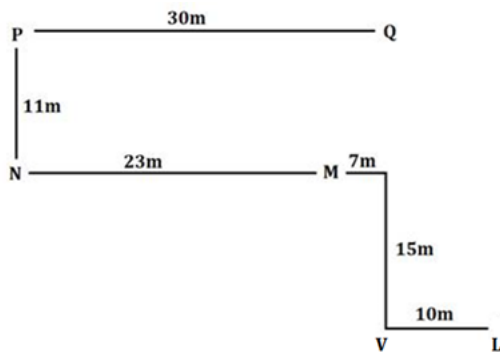
29. D

Sol. N is 23 m to the west of M.  
P is 11 m to the north of N.  
Q is 30 m to the east of P.



V is in the south of Q.

L is 10 m to the east of V. A person is going from L to V. After he reaches V, he takes a right turn from V and walks for 15 m, then takes a left turn and walks for 7 m and he reaches M.



This is the final diagram.

Therefore, the shortest distance between Q and V is  $(11 + 15) = 26$  m.

Hence, option D is the correct answer.

30. C

Sol. The pattern of the given series is as follows:

$$(380 \div 2) - 2 = 188$$

$$(188 \div 2) - 2 = 92$$

$$(92 \div 2) - 2 = 44$$

$$(44 \div 2) - 2 = 20$$

$$(20 \div 2) - 2 = 8$$

$$(8 \div 2) - 2 = 2$$

Thus, 8 is the missing number.

Hence, option C is the correct answer.

31. C

Sol. 1<sup>st</sup> April, 2001 = (2000 years + the period from 1.1.2001 to 1.4.2001)

Odd days in 400 years = 0

Odd days in 2000 years = 0

Number of odd days in January, February, March, April 2001

= (31 + 28 + 31 + 1)

= 91 days

= 0 odd days

On 1<sup>st</sup> April, 2001 was a Sunday.

In April, 2001, Friday fell on the 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup>, and 27<sup>th</sup>.

Hence, option C is the correct Ans

32. A

Sol. The passage says that when a diet is linked to a health problem, one assumes that the diet causes the health problem. But this is not the case with vegetarianism. Though there are higher rates of depression among vegetarians, the nutritional content is not a cause. From these lines, we can conclude that A is the correct answer. Option B is the exact opposite to the given context. Option C is too extreme whereas option D is false because no causality has been established in the paragraph.

33. B

Sol. Three people attend meetings between R and N. One person attends a meeting between O and N. One person attends the meeting between O and R, who does not attend the meeting after O.

So, the sequence should be:

R \_ O \_ N

Three people attend the meeting between M, and O.



So, the sequence can be either M \_ R \_ O \_ N or R \_ O \_ N \_ M.

M does not attend the meeting after Saturday.

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Person	M		R		O		N

P attends the meeting just after M. One person attends the meeting between P and S.

Day	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Person	M	P	R	S	O	Q	N

So, Q attends the meeting on Tuesday.

Thus, option B is the correct Ans

34. B

Sol. In 12 hours, the hands of the clock are at right angles 22 times.

In 24 hours, the hands of the clock are at right angles 44 times.

The February month in 2020 will have 29 days as 2020 is a leap year.

In 29 days, the clock is at right angles  $44 \times 29 = 1276$  times.

35. C

Sol. The advertisement urges people to buy Epic shoes by citing two features: durability and affordability. So, the implicit assumption is that people desire these two features in shoes.

Hence, the correct answer is option C.

36. C

Sol. Here, R is 11<sup>th</sup> from the left end and 5<sup>th</sup> to the right of M; it means M is 6<sup>th</sup> from the left end.

Again, M is 12<sup>th</sup> to the left of N, who is 20<sup>th</sup> from the right end. So, M is 32<sup>nd</sup> from the right end.

Therefore, total number of people in the row = M's position from the right end + M's position from the left end – 1

$$= 32 + 6 - 1 = 37$$

37. A

Sol. Option A is implicit in the first sentence. Americans are not the only players who can exert

economic pressure. This means nations exerting economic pressure, trade embargoes, and more are nothing but economic pressure. So, option A is implicit.

Option B is implicit in the claim, but the big surprise on the economic side of the Ukraine war was the early success of the United States and its allies in strangling Russian access to crucial industrial and capital goods.

Option C is implicit in the following claim, but sanctions probably dealt a crucial blow to Russia's war-making ability.

Option D cannot be assumed. The author does mention that Russia is trying to blackmail Europe by cutting off its supply of natural gas. But from this, we cannot infer that it has succeeded.

Hence, option D is the correct answer.

38. D

Sol. Statement I:

Position	Person
1	×B ×D
2	×B ×D
3	
4	×A ×C
5	×A ×C

It is not sufficient to decide who was the last person to finish the race.

Statement II:

C finished the race just after B and just before D.

It is not sufficient to decide who was the last person to finish the race.

By combining I and II, we get the following:

Position	Person	Person
1	×B ×D	A/E
2	×B ×D	E/A
3		B
4	×A ×C	C
5	×A ×C	D

Hence, option D was the last person to finish the race.

Statements I and II together are necessary to answer the question.

Hence, option D is the correct answer.

39. A

Sol. The statement says that cell phones are not allowed. The basis of the statement is the assumption that people carry cell phones into the library.

Hence, assumption 1 is implicit.

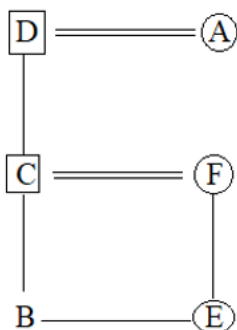
Assumption 2 cannot be assumed as there is nothing in the statement that mentions anything about cell phone storage.

Hence, the correct answer is option A.

40. D

Sol. The symbols that are used in this table represent the relation between the family members.

Symbol in diagram	Meaning
○	Female
□	Male
==	Married Couple
—	Siblings
	Difference of a generation



Since the gender of B is not given (B may be the son or the daughter of C and F), there may be either 2 or 3 male members in the family.

41. C

Sol. Amount after 2 years =  $25000 \left(1 + \frac{25}{100}\right)^2 = 25000 \times \frac{5}{4} \times \frac{5}{4} = \text{Rs. } 39062.5$

After 2 years, he returned Rs. 15600.

So, the remaining balance =  $39062.5 - 15600 = \text{Rs. } 23462.5$

At the end of the third year, he has to pay:  $23462.5 \times \frac{5}{4} = \text{Rs. } 29328.1 \approx \text{Rs. } 29328$

Hence, option C is the correct answer.

42. A

Sol. For the quadratic equation  $ax^2 + bx + c = 0$ , the sum of the roots is  $\frac{-b}{a}$ , and the product of the roots is  $\frac{c}{a}$ .

When the sum of the roots and the product of the roots are equal, then  $-\frac{b}{a} = \frac{c}{a}$

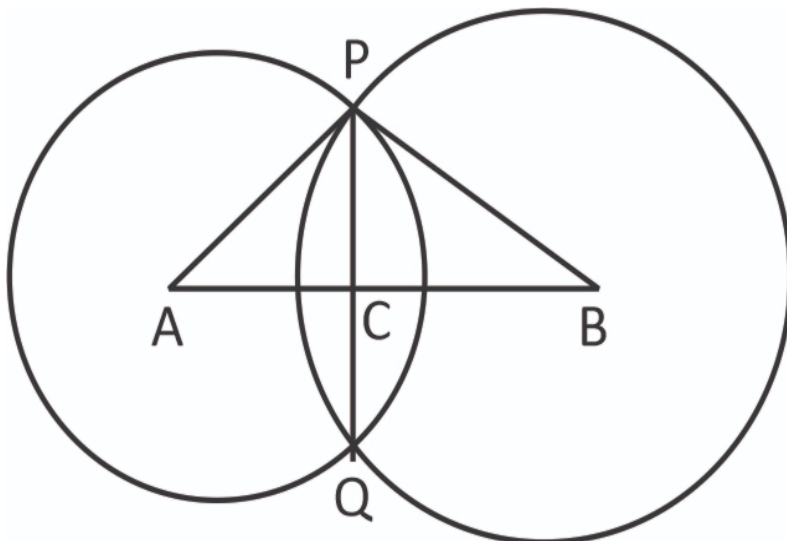
$$-(-(p-6)) = 4p$$

$$p-6 = 4p \text{ or } p = -2$$

Hence, option A is the correct answer.

43. B

Sol.



Let the centre of the circles be A and B having radii 15 and 20, respectively. PQ is the common chord to the two circles.

Since the two circles intersect orthogonally,  $\angle APQ = 90^\circ$ . Let PQ touch AB perpendicularly at C.

Using pythagorean theorem,  $AB = \sqrt{15^2 + 20^2} = \sqrt{625} = 25$  cm

Here, PC = height to hypotenuse =  $\frac{PA \times PB}{AB} = \frac{15 \times 20}{25} = 12$

Length of the common chord =  $2PC = 2 \times 12 = 24$  cm

Hence, option B is the correct answer.

44. B

Sol. Total initial cost of the laptop and the mobile together =  $60000 + 38000 = \text{Rs. } 98000$

So, the new cost of the laptop after 3 years =  $60000 \times 0.9 \times 0.85 \times 0.8 = \text{Rs. } 36720$

New cost of the mobile after 3 years =  $38000 \times 1.1 \times 1.12 \times 1.14 = \text{Rs. } 53370.24$

So, total new cost of both the laptop and the mobile together after 3 years =  $\text{Rs. } 90090.24$

So, the change =  $98000 - 90090.24 = \text{Rs. } 7909.76$

Hence, option B is the correct answer.

45. B

Sol. Now, we have to look for the 12<sup>th</sup> prime number, i.e., 37, whose factorial, when broken down, will have 12 prime factors.

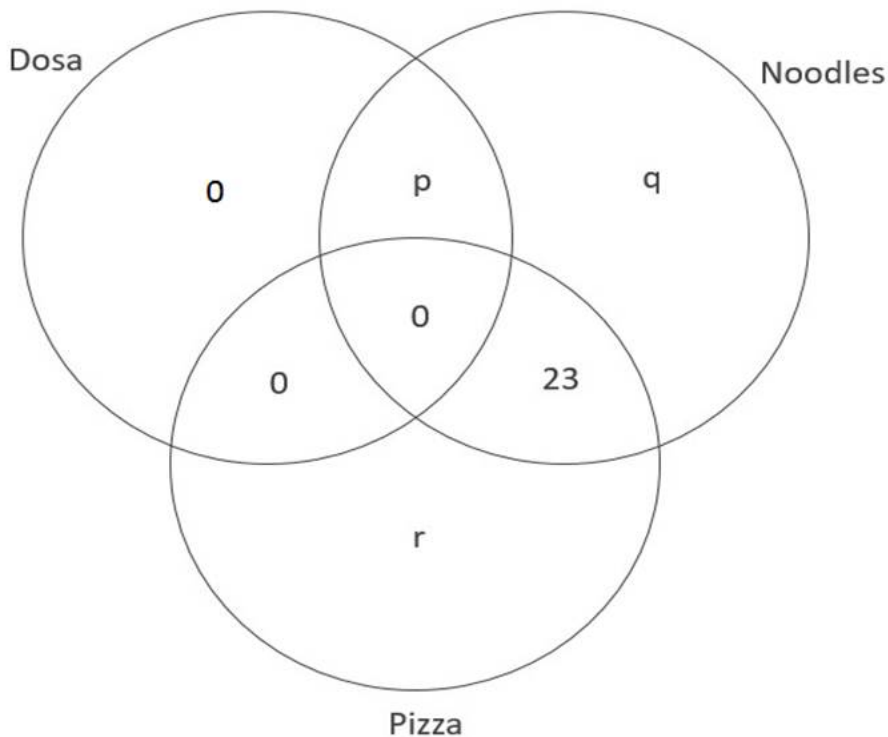
This will be true till we get the 13<sup>th</sup> prime number, i.e., 41. (41! will have 13 prime factors.)

Thus, the factorial of all the numbers from 37 to 40, i.e., 4 numbers will have 12 prime factors.

Hence, option B is the correct answer.

46. C

Sol. We can draw the following figure:



According to the question, we can write the following:

$$q + r > p + 23 \quad \dots(1)$$

Also, from the figure, we get the following:

$$p + q + r + 23 = 80$$

$$\Rightarrow r = 57 - (p + q)$$

In order to find the maximum value of r, put both p and q equal to 0.

$$\Rightarrow r = 57$$

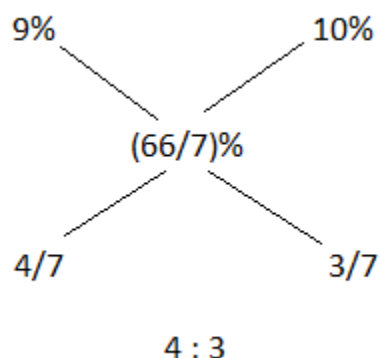
On putting these values of q, r, and p in equation (1), we get LHS > RHS.

$$\text{So, } r_{\max} = 57$$

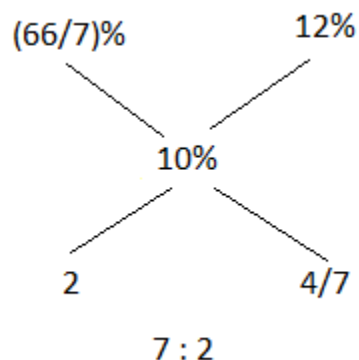
Hence, option C is the correct answer.

47. C

Sol. Given: the overall profit of red pens and blue pens is as follows:



The combined profit will be as follows:



Thus, the ratio of red pens, blue pens, and black pens = 4 : 3 : 2

Thus, the number of red pens, blue pens, and black pens will be 400, 300, 200, respectively.

Hence, option C is the correct answer.

48. C

Sol. Let us take the first pair as  $(1, 5)$ .

Since  $x$  and  $y$  are integers, we can deduce seven more pairs from it as under:

 $(-1, -5), (-1, 5), (1, -5), (5, 1), (-5, -1), (-5, 1), \text{ and } (5, -1)$ 

So, there are 8 possibilities.

Similarly, (2, 4) will also have 8 possibilities.

But for  $(0, 6)$  and  $(3, 3)$ , there are 4 possibilities as below:

$$(0, 6), (0, -6), (6, 0), (-6, 0), (3, 3), (-3, -3), (-3, 3), (3, -3)$$

Thus, we have 24 possibilities in all.

Hence, option C is the correct answer.

49. D

Sol. As it is sunset time, the sun is towards the west.

The shadow always falls behind the object.

It is given that Meena's shadow is towards her left, which means she is facing towards the south. So, Reeta, who is facing Meena, is facing towards the north.

Hence, option D is the correct answer.

50. D

Sol. Let the SP of each article be Rs. 100.

For burger A, the loss is 20%.

$$\text{Thus, } CP_P = \frac{100}{80} \times 100 = 125$$

Similarly, in the second case, the selling price is 25% more than the cost price.

$$\text{So, } CP_Q = \frac{100}{125} \times 100 = 80$$

$$\text{Similarly, } CP_R = \frac{100}{66.66} \times 100 = 150$$

$$\text{Hence, total CP} = 125 + 80 + 150 = 355$$

$$\text{Total SP} = 300$$

As  $CP > SP$ , there is loss.

$$\text{So, the loss percentage} = \frac{355 - 300}{355} \times 100 = \frac{5500}{355} = 15.5\%$$

Hence, option D is the correct answer.

51. C

Sol. First, find the possible numbers between 3000 and 4000 with no digits repeated.

So, the thousands digit will be 3.

Then, for the hundreds place, the possible number of digits is 9, i.e., from 0 to 9 except 3.

Then, for tens place, the possible number of digits is 8, and for the units place, it will be 7.

$$\text{Hence, numbers possible in this range} = 1 \times 9 \times 8 \times 7 = 504$$

Now, find the possible numbers between 4000 and 4500.



So, the thousands digit will be 4.

And the possible digits that can come at hundreds place are only 0, 1, 2, and 3, i.e., 4 possibilities.

Then, at the tens place, the possible number of digits is 8, and for the units place, it is 7.

So, the numbers possible here =  $1 \times 4 \times 8 \times 7 = 224$

So, the total numbers that can be formed =  $504 + 224 = 728$

Hence, option C is the correct answer.

52. C

Sol. The regular hexagon is made up of 6 equilateral triangles.

So, the circumradius of the hexagon is equal to its side.

So, circumradius,  $R = 18$  cm

Area of the circumscribed circle =  $\pi(18)^2 = 324\pi$  sq cm

And the inradius is equal to the height of each equilateral triangle.

Inradius of the hexagon,  $r = \frac{\sqrt{3}}{2}(18) = 9\sqrt{3}$  cm

So, area of the inscribed circle =  $\pi(9\sqrt{3})^2 = 243\pi$

So, required difference =  $324\pi - 243\pi = 81\pi$

Hence, option C is the correct answer.

53. B

Sol. Let Pihu and her brother take 'n' minutes to complete the project together.

So, Pihu alone takes  $(20 + n)$  minutes to complete the project.

And her brother takes  $(45 + n)$  minutes to complete the project.

$$\Rightarrow \frac{1}{20 + n} + \frac{1}{45 + n} = \frac{1}{n}$$

$$\Rightarrow \frac{65 + 2n}{(20 + n)(45 + n)} = \frac{1}{n} \Rightarrow 65n + 2n^2 = 900 + 65n + n^2$$

$$\Rightarrow n^2 = 900$$

$$\Rightarrow n = 30 \text{ minutes}$$

So, in 30 minutes, they completed 100% work together.

$$\text{So, in 12 minutes, they complete } \frac{100}{30} \times 12 = 40\%$$

Hence, option B is the correct answer.

54. A

Sol. Given:  $\log_{3\sqrt{5}}(x^2 - 2x - 3) = 2$

$$\Rightarrow (x^2 - 2x - 3) = (3\sqrt{5})^2$$

$$\Rightarrow x^2 - 2x - 3 = 45$$

$$\Rightarrow x^2 - 2x - 48 = 0$$

$$\Rightarrow (x - 8)(x + 6) = 0$$

$$\Rightarrow x = 8 \text{ or } x = -6$$

Now, for both the values of  $x$ , the value of  $(x^2 - 2x - 3)$  becomes positive.

So, the product is  $-48$ .

Hence, option A is the correct answer.

55. C

Sol. The pattern of the series is as follows:

$$9 \times 2 - 5 = 13$$

$$13 \times 3 + 5 = 44$$

$$44 \times 4 - 5 = 171$$

$$171 \times 5 + 5 = 860$$

$$860 \times 6 - 5 = 5155$$

Hence, option C is the correct answer.

56. B

Sol. Let the initial number of students be  $4x$ .

The number of boys and girls who left the school will be 180 and 60, respectively.

Thus, the new ratio:

$$\frac{3x - 180 + 140}{x - 60 + 40} = \frac{16}{5}$$

$$15x - 200 = 16x - 320$$

$$x = 120$$

Thus, the initial number of students =  $4x = 480$

Hence, option B is the correct answer.

57. C

Sol. Let the breadth of the floor of Chiku's drawing room be 'b'.

So, the length of the floor =  $15 + b$

So, the area of the floor =  $(15 + b)b$

According to the question:

$$(15 + b)b = 25 \times 8 \times 5$$

$$\Rightarrow 15b + b^2 = 1000$$

$$\Rightarrow b^2 + 15b - 1000 = 0$$

$$\Rightarrow (b - 25)(b + 40) = 0$$

$$\Rightarrow b = 25 \text{ or } -40 \text{ (But } b \text{ cannot be negative)}$$

$$\text{So, } l = 15 + b = 15 + 25 = 40 \text{ m}$$

Hence, option C is the correct answer.

58. B

Sol. There is a possibility that exactly two or all of them clear the cut off

Case 1: When two of them clear the cut off:

$$P = \frac{1}{4} \times \frac{1}{6} \times \frac{7}{8} + \frac{1}{8} \times \frac{1}{6} \times \frac{3}{4} + \frac{1}{4} \times \frac{1}{8} \times \frac{5}{6} = \frac{15}{192}$$

Case 2: When all of them clear the cut off:

$$P = \frac{1}{4} \times \frac{1}{6} \times \frac{1}{8} = \frac{1}{192}$$

So, the required probability =  $\frac{15}{192} + \frac{1}{192} = \frac{16}{192} = \frac{1}{12}$

Hence, option B is the correct answer.

59. B

Sol. Total distance =  $300 + 90 = 390$  m

Relative speed =  $44 - 8 = 36$  km/h =  $36 \times \frac{5}{18} = 10$  m/s

So, the time taken =  $\frac{390}{10} = 39$  seconds

Hence, option B is the correct answer.

60. B

Sol. As the ratio remains the same for class VIII:

The number of students promoted from the Blue House and the Red House will be 8 and 11, respectively.

As they change their house colour:

Number of students in Blue House in IX =  $44 + 11 = 55$

Number of students in Red House in IX =  $36 + 8 = 44$

So, the ratio is 5 : 4

Hence, option B is the correct answer.