

SNAP 2022 : Mock Test 6

Mock Test Questions & Solutions

Mock Test Solutions in English

Questions

1. The given sentences have been divided into four parts that have been marked A, B, C, and D. Choose the option that contains the part with an error as your answer.

Prior to 2011, when the new takeover norms kicked in, an open offer got triggered if an acquirer owned more than 15 per cent of the public shareholding in a company.

- | | |
|---|---|
| A. Prior to 2011, when the new takeover norms kicked in | B. an open offer got triggered if an acquirer owned more than 15 per cent |
| C. of the public shareholding in a company. | D. No error |

2. A word has been underlined in the excerpt given below. Identify the part of speech of the underlined word.

Colour floods to the spot, dull purple.

The rest of the body is all washed out.

The colour of pearl.

- | | |
|-----------|--------------|
| A. Adverb | B. Adjective |
| C. Noun | D. Pronoun |

3. The given sentences have been divided into four parts that have been marked A, B, C, and D. Choose the option that contains the part with an error as your answer.

I got into finance in the first place to try to maximise amount I can donate to some of the most effective causes.

- | | |
|---|------------------------------------|
| A. I got into finance in the first place to try | B. to maximise amount I can donate |
| C. to some of the most effective causes | D. No error |

4. What is the meaning of the phrase 'frosty reception'?

- | | |
|-----------------------------------|----------------------------|
| A. Warm welcome | B. Unfriendly reception |
| C. Reception with a welcome drink | D. Reception with desserts |

5. A word has been underlined in the excerpt given below. Identify the part of speech of the underlined word.

Instead of dead furniture!

Straw mats, white walls

And these travelling

Globes of thin air, red, green,

- | | |
|-----------|--------------|
| A. Adverb | B. Adjective |
| C. Noun | D. Pronoun |

6. Which one of the following is not an antonym of 'alacrity'?

- | | |
|--------------|-----------------|
| A. Apathy | B. Indifference |
| C. Reticence | D. Celerity |

7. Choose the option with the correct spelling.

- | | |
|----------------|----------------|
| A. Acheivement | B. Achievment |
| C. Acheivment | D. Achievement |

8. Fill in the blank with the option that completes the sentence correctly.

MT Express runs _____ Madurai and Thiruvananthapuram.

- | | |
|-------|------------|
| A. on | B. between |
| C. in | D. towards |

9. Replace the underlined part with the most appropriate option.

William's manager was pleased with both his talent and was happy with his patience.

- | | |
|---|--|
| A. and was happy with his patience. | B. and he was happy with his patience. |
| C. and filled with happiness because of his patience. | D. and his happiness. |

10. Choose the option that corrects the underlined part of the sentence in the best way.

A wooden sculpture found in the remains of a 10th-century building proves that the people of that age know the art of sophisticated carving.

- | | |
|---|--|
| A. that the people of that age know the art of sophisticated carving. | B. that the people of that age knows the art of sophisticated carving. |
|---|--|

C. that the people of that age knew the art of sophisticated carving.

D. that the people of that age had known the art of sophisticated carving.

11. Which one of the following is not a synonym of the word 'coax'?

A. Cajole

B. Lure

C. Coerce

D. Wheedle

12. The given sentences have been divided into four parts that have been marked A, B, C, and D. Choose the option that contains the part with an error as your answer.

Such support, in the form of direct benefit transfers (DBT) on a per-acre or per-farmer basis, are seen as transparent and simple to administer.

A. Such support, in the form of

B. direct benefit transfers (DBT) on a per-acre or

C. per-farmer basis, are seen as

D. transparent and simple to administer.

13. The given sentences have been divided into four parts that have been marked A, B, C, and D. Choose the option that contains the part with an error as your answer.

On this day in 1964, the United States was launching the space probe Mariner 4 on a course towards Mars, which it flew past in July 1965, sending back pictures of the red planet.

A. On this day in 1964, the United States

B. was launching the space probe Mariner 4 on a course towards Mars,

C. which it flew past in July 1965,

D. sending back pictures of the red planet.

14. Pick the right phrase to fill in the blank in the sentence given below.

The bike _____ after it crashed into the truck.

A. backed up

B. blew up

C. broke in

D. called up

15. Fill in the blanks with the correct option.

Most of the peninsula's volcanoes are surrounded by _____ populated forest and tundra, so they pose little risk to local people, but big eruptions can _____ glass, rock, and ash into the sky, thereby threatening aircraft.

A. densely, release

B. hardly, fly

C. sparsely, spew

D. densely, eject

16. In a certain language, 'BOLD' is written as '81'. If 'MALE' is written as '68', then what will be the code for 'GRAB'?
- A. 54
B. 57
C. 62
D. 67
17. Direction: Given below is a statement followed by two assumptions. Consider the statement to be true, and find out whether the given assumptions are implicit or not.
- Statement: Indian companies no longer have to depend on imports of solar cells from China and other countries.
- Assumption I: There is a requirement of solar cells in India.
- Assumption II: There are solar cell manufacturers in India.
- A. Only Assumption I is implicit.
B. Only Assumption II is implicit.
C. Both assumptions are implicit.
D. Neither assumption is implicit.
18. In a certain code language, 'I will get selected' is written as '5 3 2 7', 'You did get' is written as '1 4 3', and 'We will follow' is written as '6 7 9'. Out of the given options, How can 'You will get' be written in that language?
- A. 4 3 7
B. 1 5 6
C. 7 5 2
D. 2 4 6
19. Direction: Given below is a statement followed by two conclusions. Consider the statement to be true and find out whether the given conclusions are implicit or not.
- Statement: India and Pakistan share a history of mutual respect and honour.
- Conclusions:
- I. India is one of the foremost friends of Pakistan.
- II. India should focus on increasing trade with Pakistan.
- A. Only Conclusion I follows.
B. Only Conclusion II follows.
C. Both conclusions I and II follow.
D. Neither Conclusion I nor Conclusion II follows.
20. Anil's birthday is on 27th June, which falls on a Saturday of a year. On which day of the week in the same year will Alok's birthday fall if Alok was born on 16th November?

- A. Sunday
B. Monday
C. Wednesday
D. None of the above

21. Direction: Consider the given statement to be true, and figure out whether the following arguments are strong.

Statement: Should people stop emigrating to the US in view of the racial violence?

Arguments:

(I) Yes, when foreigners, especially Asians, do not go to the US, racial intolerance will decrease and there will be less violence and fewer killings.

(II) No, we must allow everyone to carry guns and protect themselves.

- A. Only argument I is strong.
B. Only argument II is strong.
C. Both arguments are strong.
D. Neither argument is strong.

22. A watch that gains 4 minutes every 24 hours shows the correct time at 9:00 a.m. on Wednesday. When the watch shows the time as 9:10 p.m. on Friday, then what will be the correct time?

- A. 9:00 a.m. on Thursday
B. 9:00 p.m. on Thursday
C. 9:00 a.m. on Friday
D. 9:00 p.m. on Friday

23. Seven people, P, Q, R, S, T, U, and V, are facing north. They are sitting in a row in which there are eight seats, so one seat is vacant. R and T sit at the ends of the row. There are two seats between T and V. P sits to the immediate right of V. One person sits between P and S, who is not third to the right of R. U is a neighbour of T. No one sits to the right of Q.

Which of the following statements is true?

- A. U is between V and S.
B. V is to the immediate left of S.
C. S is between U and V.
D. R is on the seat which is to the immediate right of Q.

24. Eight friends are sitting in two rows, one row behind the other. All the friends are facing north. Each row has four friends. Jay is sitting between Vijay and Suraj, who is at the right end of a row. Sachin is sitting just behind Vijay. Raj is to the immediate right of Rohit. Neeraj is seated just behind Goutam. Which three friends are sitting in the same line?

- A. Goutam, Sachin, and Raj
B. Jay, Suraj, and Neeraj
C. Jay, Goutam, and Rohit
D. Neeraj, Sachin, and Raj

25. Direction: Consider the given statement to be true, and figure out whether the following arguments are strong or not.

Statement:

Is the cricket craze in India working to the detriment of all other sports?

Arguments:

(I) Yes, because of the monopoly of cricket, youngsters are not playing other sports and India lags behind in all sports.

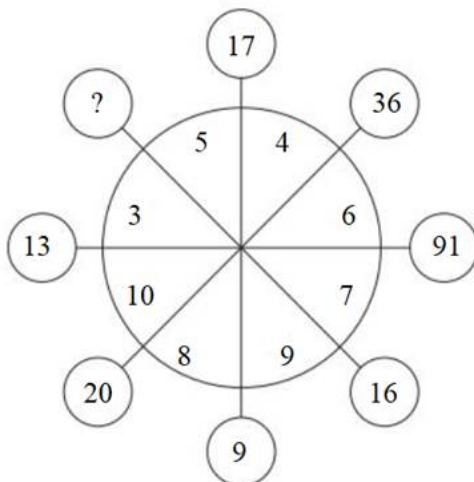
(II) No, cricket deserves the money and publicity it is getting.

- A. Only argument I is strong.
- B. Only argument II is strong.
- C. Both arguments are strong.
- D. Neither argument is strong.

26. P is the father of R. P has only two children. R, who is unmarried, is the brother of N. N is the daughter of K. G is the granddaughter of P. C is the father of P. How is N related to C?

- A. Daughter
B. Wife
C. Granddaughter
D. Grandmother

27. Which number will replace the question mark in the following figure?



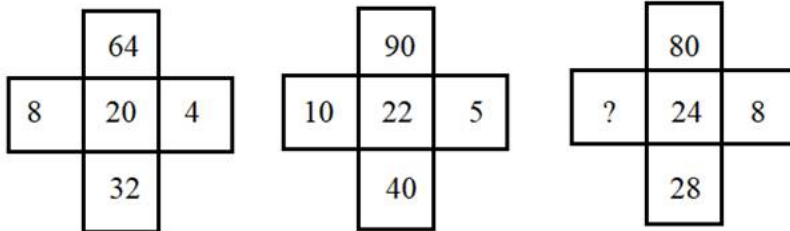
- A. 23
C. 24
- B. 32
D. 42

28. Which number will replace the question mark (?) in the series given below?

800, 412, 216, 116, 64, 36, ?

- A. 16
B. 18
C. 20
D. 22

29. Find the missing number in the question given below.



- A. 14
B. 8
C. 4
D. 2

30. Select the cluster of letters among the given options that can replace the question mark (?) in the following series.

WVT, TQP, QLL, NGH, KBD, ?

- A. HXA
B. GWA
C. HWZ
D. HXZ

31. **Directions:** Study the following information carefully, and answer the given question.

A word rearrangement machine rearranges the input sequence of words following some logic. The input and the various steps in the sequence are shown below.

Input: worm peace male rail nest bronze

Step I: peace worm male rail nest bronze

Step II: rail peace worm male nest bronze

Step III: male rail peace worm nest bronze

Step IV: worm male rail peace nest bronze

Step V: nest worm male rail peace bronze

Step VI: bronze nest worm male rail peace

Step VI is the last step of the above input. As per the rules, answer the question for the following input.

Input: hotel best arcane grammar world emend

Which of the following will be the third word in Step VI from the right end?

- | | |
|----------|------------|
| A. Best | B. Grammar |
| C. World | D. Arcane |

32. Which of the set following characters in the same sequence are the missing characters in the series given below:

z x _ _ y z _ _ x z _ _

- | | |
|----------------|----------------|
| A. y x y x x y | B. y z y x x y |
| C. y x y z x y | D. y x y x z y |

33. There were 200 guests at a party. Only two types of beverages were being served at the party. 60 guests liked only tea and 88 guests liked only coffee. Which of the following is the number of guests who liked none of tea and coffee or both of tea and coffee?

- | | |
|--------|--------|
| A. 140 | B. 52 |
| C. 112 | D. 148 |

34. A team of 5 players has to be selected out of 8 players A, B, C, D, E, F, G, and H. B and F cannot be part of any team together. D and E must be part of the team. Either C or H must be part of any team. If D is selected F must be selected. Who among the following can never be selected?

- | | |
|------|------|
| A. F | B. C |
| C. H | D. B |

35. Direction: Two statements have been given, and these are followed by two conclusions that are based on them. Consider the statements to be true, and answer which of the given conclusions logically follow the statement.

Statements:

Some pots are bottles. All bottles are big.

Conclusions:

I. Some pots are big.

II. No bottle is a pot.

A. Only A follows.

B. Only B follows.

C. Neither A nor B follows.

D. Both A and B follow.

36. If the month of March in a year has exactly four Tuesdays and four Saturdays, then what day of the week will be 16th April in that year?
- A. Monday
B. Wednesday
C. Friday
D. Sunday
37. Direction: Consider the given two statements, and figure out the cause and effect relationship between the two statements.

Statements:

- I. The WHO said that it would hold an emergency meeting next week to determine whether to classify the global monkeypox outbreak as a public health emergency of international concern.
- II. There has been a rise in the number of monkeypox cases around the world.
- A. If Statement I is the cause, and Statement II is the effect
B. If Statement II is the cause, and Statement I is the effect
C. If both are independent causes
D. If both are independent effects

38. A clock gains 7 minutes every hour, and another clock slows down 5 minutes every hour. Both the clocks are 12-hour clocks. If these two clocks show the correct time at 5:00 p.m. on Monday, when will they show the correct time again?
- A. 5:00 p.m. on Tuesday
B. 5:00 p.m. on Wednesday
C. 5:00 a.m. on Thursday
D. 5:00 a.m. on Friday
39. Direction: Consider the given two statements and figure out the cause and effect relationship between the two statements.

Statements:

- I. Analysis by various economic experts, billionaires, investors, players in the stock market, and even officials in the government indicate that the US economy is going into a tailspin.

II. Growing volatility around the world, which has further been exacerbated by the Russia-Ukraine war, has slowed down economic progress in most countries.

A. If Statement I is the cause, and Statement II is the effect
B. If Statement II is the cause, and Statement I is the effect

C. If both are independent causes
D. If both are independent effects

40. In a family, there are eight members, i.e., A, B, C, D, E, F, G, and H. C is the son of G, who is the brother of B. D is the wife of B. E is the sister-in-law of B. A is the daughter of D. H is the son-in-law of B. F is the brother-in-law of H. How many male members are there?
- A. Three
B. Four
C. Five
D. Cannot be determined
41. A milkman sells milk after mixing water to it to such an extent that the mixture contains 25% of water. If he sells it at a marked up rate of 10%, find his actual profit percentage. (Assume that water is free of cost.)
- A. 37.5%
B. 40.34%
C. 46.66%
D. 50.22%
42. Kishore has Rs. 129 in denominations of 2 rupees and 5 rupees coins. The number of 5 rupee coins is 75% more than the number of 2 rupee coins. Find the number of 5 rupee coins.
- A. 25
B. 21
C. 18
D. 15
43. In a class, the number of students who like mathematics, science, and social studies are in the ratio of 3 : 7 : 7, respectively. These students comprise the entire class. If the probability of picking two students who like science is $\frac{1}{6}$, then find the number of students in the class.
- A. 65
B. 85
C. 102
D. 95
44. A father divides an amount of Rs. 6565 among his three sons, A, B, and C, such that their shares are in the ratio $\frac{1}{4} : \frac{1}{5} : \frac{1}{9}$, respectively. Find the share (in Rs.) of C.
- A. 1300
B. 1450
C. 1575
D. 1620
45. The lengths of the sides of a triangle are 42 cm, 26 cm, and 64 cm. Find the length (in cm) of the median drawn to the longest side.
- A. 10
B. 12
C. 14
D. 16

46. If p and q are the roots of the equation $x^2 - 4x + 6 = 0$, find the equation whose roots are $(p + 6)$ and $(q + 6)$.
A. $x^2 - 12x + 64 = 0$
B. $x^2 - 16x + 66 = 0$
C. $x^2 - 12x - 64 = 0$
D. $x^2 - 16x - 66 = 0$
47. Ajay and Bijay can finish a piece of work in 12 days. Bijay and Cherry can finish the same work in 15 days. Ajay will take 5 days less than Cherry to complete the entire task. If all the three work together, then in how many days will the work be completed?
A. 7.5 days
B. 7 days
C. 6.5 days
D. 6 days
48. The square of a two-digit number less than 50 is in the form $xyyy$. Find the two digit number.
A. 35
B. 32
C. 38
D. 42
49. In an adventure club, there are 100 members and each one likes at least one out of the three adventures, viz., trekking, snorkelling, and skydiving. The number of members who like all the three adventures is 10. The number of members who like only snorkelling is 16, and the number of members who like only trekking and skydiving is 14. The number of members who like only snorkelling and skydiving is 12. The number of members who like skydiving is 60. The number of members who like only trekking is 6 less than the number of members who like only skydiving. The number of people who prefer trekking is what percent more/less than the number of people who prefer snorkelling?
A. 9.09% more
B. 10% more
C. 11.11% less
D. 8.33% less
50. If $8^{\log_{64} 4} + 11^{\log_5 25} = 10^{\log_x 123}$, then find the value of x .
A. 7
B. 8
C. 9
D. 10
51. Find a single discount equivalent to the discount series of 25%, 20%, and 10%.
A. 66%
B. 46%
C. 54%
D. 34%
52. Find the number of diagonals of a polygon if the sum of all the interior angles of the polygon is 2160° .
A. 66
B. 77
C. 54
D. 63

53. The following table represents the total sales of 2 types (Model M and Model P) of cars in 5 consecutive years and the ratio of the distribution of the two types of cars in these years. Some data is missing from the table.

	Total sales	Ratio (M : P)
2014	23000	9 : 14
2015	-	4 : 5
2016	44000	6 : 5
2017	36000	11 : 7
2018	-	4 : 5
Total	130000	

Find the ratio of the total sales of M to the total sales of P.

- A. $\frac{63}{67}$ B. $\frac{67}{63}$
C. $\frac{61}{69}$ D. $\frac{69}{61}$

54. The average mark of 8 students is 73. Out of these 8, 4 students with the marks of 60, 70, 78, and 82 are excluded, and the marks of two new students with the average of 90 is added to the list. What is the approximate percentage increase in the average with respect to the initial average?

- [illegible]

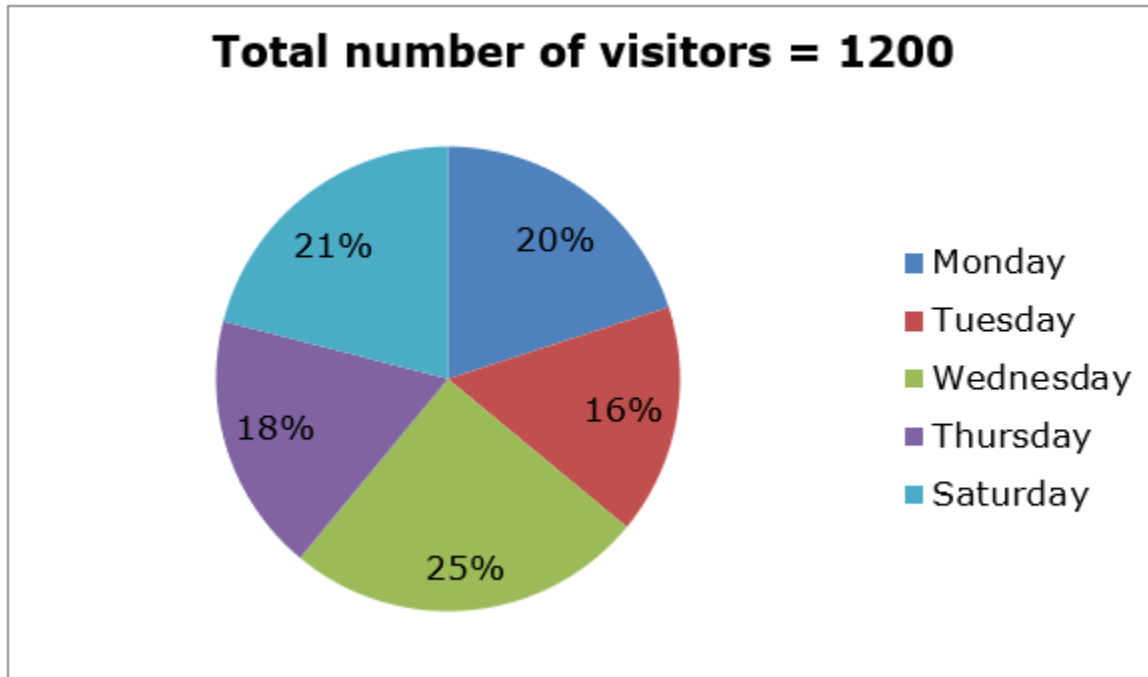
55. Find the missing number in the following series:

2592, 1296, 432,, 72, 36, 12, 6

- A. 216
B. 218
C. 222
D. 236

56. **Direction:** Study the following information carefully, and answer the given question.

In the pie chart given below, the percentage of the number of visitors who visited a magic show in a week is given.



If the number of visitors on Friday is 114 more than the number of visitors on the previous day, then the number of visitors on Friday is what percentage more than the number of visitors on Wednesday?

- A. 10% B. 12%
C. 14% D. 15%

57. Ruhan travels for four stretches of time in the ratio of 2 : 4 : 6 : 9 at speeds of 18 km/h, 22 km/h, 28 km/h, and 33 km/h, respectively. If he covers a total distance of 7068 km, then find the total time for which he is travelling.
- A. 212 B. 252
C. 264 D. 286
58. x is a number that on being divided by 6 and 12 leaves a remainder of 5 in each case. Find the value just greater than 6666 that x can assume.
- A. 6671 B. 6680
C. 6677 D. 6669
59. What is the smallest possible integral value of x such that $x^3 - 13x^2 + 40x - 36 > 0$?
- A. 2 B. 3
C. 9 D. 10
60. Kaif borrowed Rs. 2101707 at the rate of 22.22% p.a. compounded annually. He then repaid a certain

amount at the end of the first year. Then, he paid Rs. 1901405 at the end of the 2nd year to completely discharge the loan. What amount did he pay at the end of the 1st year?

A. 998050

B. 1013058

C. 1124652

D. 1245862

Solutions

1. D

Sol.

Option D is the correct answer as there is no error in the given sentence.

2. C

Sol. The underlined word here is the subject and, therefore, a noun. Hence, option C is the correct answer.

3. B

Sol.

Here, the errors lie in option B. These are as follows:

- The article 'the' is missing before 'amount'.

4. B

Sol.

'Frosty reception' is used to refer to an unfriendly or cold reception. Hence, option B is the correct answer.

5. B

Sol. The word 'straw' here is describing the noun 'mats'. Hence, 'straw' is an adjective here. Hence, option B is the correct answer.

6. D

Sol. 'Alacrity' means 'cheerful readiness to do something'. A, B, and C are antonyms. Option D is similar in meaning as 'celerity' means 'a high rate of movement or performance'. Hence, option D is the correct answer.

7. D

Sol. Option D is the correct answer as it gives the correct spelling of 'achievement'. Hence, option D is the correct answer.

8. B

Sol.

'Between' is the correct preposition to be used here because the train connects two cities. Hence, option B is the correct answer.

9. D

Sol.

The words 'both' and 'and' act as a correlative conjunction when used in a pair. In simpler terms, whatever comes after 'both' and 'and' should be similar in form and structure. This condition is satisfied in only option D, where 'his talent' and 'his happiness' are both noun phrases. In options A, B, and C, the parts that come after 'and' are clauses. Hence, option D is the correct answer.

10. C

Sol.

The underlined part is about the knowledge of the people who existed in the 10th century. The correct tense to be used in this case is the simple past tense. Option D is in the past perfect tense, which is to be used in the case of an action that had already been completed by the time another one took place in the past. Hence, option C is the correct answer.

11. C

Sol.

'Coax' means 'to get (someone) to do something by gentle urging, special attention, or flattery'. Options A, B, and D are synonyms. Option C is the opposite of 'coax'. Hence, option C is the correct answer.

12. C

Sol.

The usage of 'are' in option C is incorrect as it refers to 'support', which is used as singular.

The correct sentence is as follows:

Such support, in the form of direct benefit transfers (DBT) on a per-acre or per-farmer basis, is seen as transparent and simple to administer.

Hence, option C is the correct answer.

13. B

Sol. There is an error in option B. Simple past tense should be used as we are talking about an event that occurred in the past at a particular time. The correct sentence is as follows:

On this day in 1964, the United States launched the space probe Mariner 4 on a course towards Mars, which it flew past in July 1965, sending back pictures of the red planet.

Hence, option B is the correct answer.

14. B

Sol. The phrase 'blew up' means 'to explode', which is appropriate in the context. Hence, option B is the correct answer.

15. C

Sol. In the first blank, we need a word that suggests that the area is not densely populated as there is little risk. So, 'sparsely' is the correct word to be used in the 1st blank. 'Spew' is the correct word for the 2nd blank as 'spew' means 'to come forth in a flood or gush'.

Hence, option C is the correct answer.

16. B

Sol. Here, each consonant is multiplied by 2 with its positional value in alphabetical order, whereas vowels are multiplied by 3 with their positional value in alphabetical order; after that, all numbers are added.

For example, for BOLD, B ($2 \times 2 = 4$), O ($15 \times 3 = 45$), L ($12 \times 2 = 24$), and D ($4 \times 2 = 8$).

Then, $4 + 45 + 24 + 8 = 81$

So, the code for 'BOLD' is '81'. The coding is done in a similar way for 'MALE', which is coded as '68'.

Therefore, the code for GRAB is as follows:

G ($7 \times 2 = 14$), R ($18 \times 2 = 36$), A ($1 \times 3 = 3$), and B ($2 \times 2 = 4$)

Then, $14 + 36 + 3 + 4 = 57$

Hence, option B is correct.

17. C

Sol. Both the assumptions here are implicit. Dependence shows that there is a requirement, and the diminishing dependence is based on the assumption that there are manufacturers in India now.

18. A

Sol. 'I will get selected' \rightarrow '5 3 2 7' ... (i)

'You did get' \rightarrow '1 4 3' ... (ii)

'We will follow' \rightarrow '6 7 9' ... (iii)

From (i) and (ii), we find that 'get' = 3.

From (i) and (iii), we find that 'will' = 7.

Code for I will be either 2 or 5.

Code for You will be either 1 or 4.

So, the possible code for 'You will get' can be either '1 3 7' or '4 3 7'. Hence, option A is correct.

19. D

Sol. A history of mutual respect does not mean India and Pakistan are friends. Thus, A cannot be concluded. Neither can B be concluded as it is merely a suggestion.

20. B

Sol. 27th June falls on a Saturday.

The table given below shows the number of odd days (days left as remainder after dividing the number of days in a month by 7).

For example, in July, for 31 days, 3 days are the remainder(odd days) for July and so on.

Month	June	July	August	September	October	November
Remaining days	3	3	3	2	3	2

Total number of remaining days = $3 + 3 + 3 + 2 + 3 + 2 = 16 = 2$ (odd days)

Thus, the day on 16th November will be (Saturday + 2) = Monday.

Hence, option B is correct.

21. D

Sol. Neither of the arguments follows as the reasoning is not strong. Not going to the US is no way to deal with racial violence. Without reforms, the issue of racial reforms will persist. Hence, I is weak. On the other hand, if everyone is allowed to carry guns, violence is likely to emerge. Hence, II is also a weak argument.

22. D

Sol. The watch gains 4 minutes in a day.

From 9:00 a.m. on Wednesday to 9:00 p.m. on Friday = 60 hours = 2.5 days

So, the time gained will be $4 \times 2.5 = 10$ minutes and the correct time will be 9:00 p.m. on Friday.

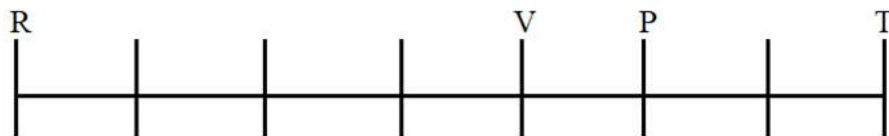
Hence, option D is correct.

23. C

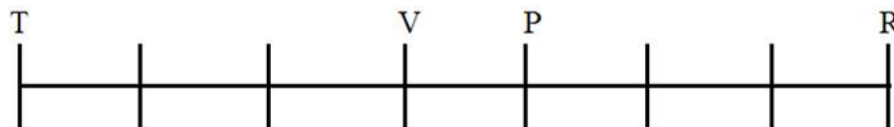
Sol. R and T sit at the ends of the row.

There are two seats between T and V.

P sits to the immediate right of V.



Case - 1



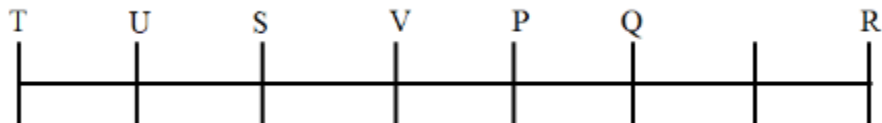
Case - 2

One person sits between P and S, who is not third to the right of R.

[Here, Case 1 will get eliminated and will continue with Case 2.]

U is a neighbour of T.

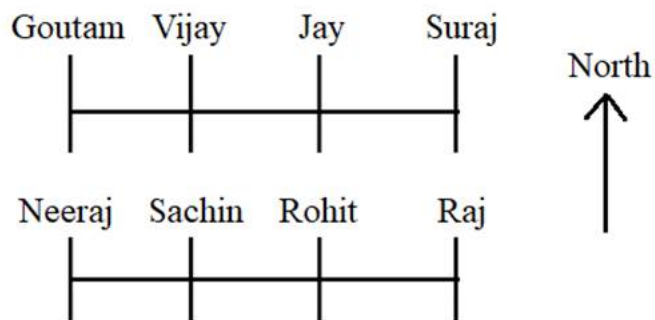
No one sits to the right of Q.



Therefore, S is between U and V.

24. D

Sol. According to the given information, the arrangement will be as follows:







Therefore, Neeraj, Sachin, and Raj are seated in a row.

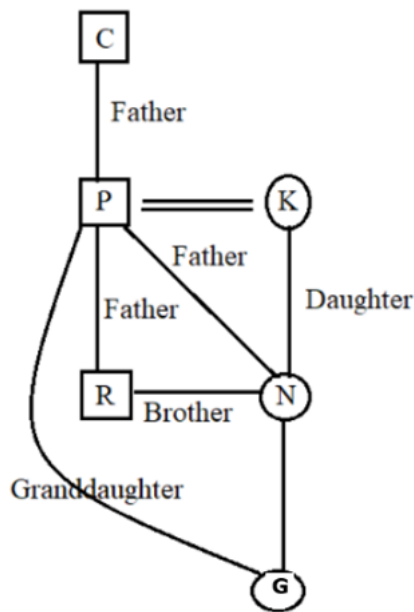
25. D

Sol. Option D is the answer as neither of the arguments is strong. Popularity of one sport can't be linked to the other, and the money and publicity associated with cricket can't be associated with other sports.

26. C

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



Therefore, N is the granddaughter of C.

27. B

Sol. Here, the pattern is as follows:

$$5^2 - 4^2 = 25 - 16 = 9 \text{ (which is written in the opposite quadrant)}$$

$$\text{Similarly, } 6^2 - 4^2 = 36 - 16 = 20 \text{ (which is written in the opposite quadrant)}$$

$$\text{Similarly, } 9^2 - 7^2 = 81 - 49 = 32 \text{ (which will come in the place of question mark (?), i.e., opposite quadrant.)}$$

28. C

Sol. The pattern is as follows:

$$800 \div 2 = 400 + 12 = 412$$

$$412 \div 2 = 206 + 10 = 216$$

$$216 \div 2 = 108 + 8 = 116$$

$$116 \div 2 = 58 + 6 = 64$$

$$64 \div 2 = 32 + 4 = 36$$

$$36 \div 2 = 18 + 2 = \mathbf{20}$$

Hence, 20 will come in the place of question mark (?).

29. D

Sol. The pattern is as follows:

$$(64 \div 4) + (32 \div 8) = 16 + 4 = 20$$

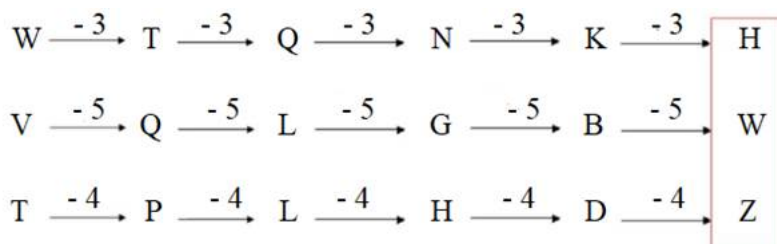
$$(90 \div 5) + (40 \div 10) = 18 + 4 = 22$$

$$(80 \div 8) + (28 \div \mathbf{2}) = 10 + 14 = 24$$

Hence, 2 is the required number.

30. C

Sol. The pattern is as follows:



Therefore, HWZ will replace the question mark (?).

31. C

Sol.

In each step, the words are arranged from the left end alphabetically according to the second last letter in each word.

For example, in the word 'peace', 'c' comes first. So, it is written first in Step I. Then, in the word 'rail', 'i' comes after 'c'. So, it is written in Step II, and so on. According to this, the given input arrangement will be as follows:

Input: hotel best arcane grammar world archive

Step I: grammar hotel best arcane world archive

Step II: hotel grammar best arcane world archive

Step III: world hotel grammar best arcane archive

Step IV: arcane world hotel grammar best archive

Step V: best arcane world hotel grammar archive

Step VI: archive best arcane world hotel grammar

'World' will be the third word in Step VI from the right end.

32. C

Sol. The series is:

$z \ x \ y \ x \ y \ z \ y \ z \ x \ z \ x \ y$

so, the missing characters in that sequence are $y \ x \ y \ z \ x \ y$

33. B

Sol. $200 = \text{Only tea} + \text{Only coffee} + \text{None} + \text{Both}$

Number of guests who liked none of tea and coffee or both of tea and coffee

$$= 200 - 60 - 88 = 52$$

34. D

Sol. D and E must be part of the team.

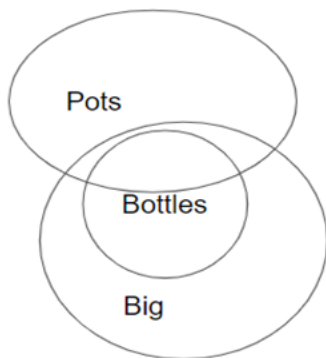
If D is selected F must be selected.

B and F cannot be part of any team together.

So, B cannot be selected.

35. A

Sol. Option A is the answer as only Conclusion I follows, which can be seen in the figure given below. Also, Conclusion II does not follow because a negative conclusion is not possible from 2 positive premises.



36. D

Sol. March consists of 31 days in any year.

After the completion of four weeks, the 29th day of that month should be Wednesday because if it will be any other day, then the number of either Tuesdays or Saturdays will be five in that month (March), which is not acceptable.

So, the 29th day will be Wednesday, the 30th day will be Thursday, and the 31st day will be Friday.

Therefore, 1st April will be Saturday, 8th April and 15th April will also be Saturdays. So, 16th April must be Sunday. Hence, option D is correct.

37. B

Sol. Since the WHO is assessing whether to declare monkeypox as a public health emergency or not, it is clear that such steps are taken in the wake of monkeypox being on the rise around the world. So, the rise in cases is the cause and the WHO meeting on whether to declare it an emergency or not is the effect.

Hence, option B is the correct answer.

38. C

Sol. The difference in time shown by the two clocks in 1 hour

$$= 7 + 5 = 12 \text{ minutes} = 0.2 \text{ hours}$$

The clocks will show the same time again when the time difference between the times shown by them is 12 hours.

As 0.2 hours time difference is there in 1 hour,

$$\text{So, 12 hours time difference will happen in } \frac{1}{0.2} \times 12 = 60 \text{ hours}$$

So, required time = 5:00 p.m. on Monday + 60 hours = 5:00 a.m. on Thursday

Hence, option C is correct.

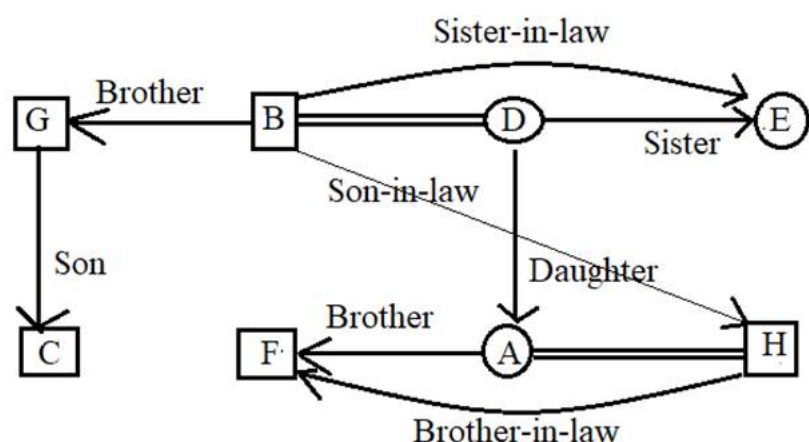
39. B

Sol. Since it is clearly mentioned that growing volatility around the world has been the reason behind slow economic progress, It can be considered as the reason why the US economy is in a tailspin. Hence, option B is the correct answer.

40. C

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



Therefore, there are five male members in the family.

41. C

Sol. Let the quantity of the mixture be 100 litres.

So, amount of water = 25 litres and amount of milk = 75 litres

Let the rate of milk be Re. 'x' per litre.

So, the shopkeeper sells the mixture at $\frac{110}{100} \times 100x = 110x$

But the actual cost price of the mixture = $75x$

So, profit% = $\frac{110x - 75x}{75x} \times 100 = \frac{35}{75} \times 100 = 46.66\%$

Hence, option C is the correct answer.

42. B

Sol. Let the number of 2 rupee coins be 'x'.

Let the number of 5 rupee coins be 'y'.

$$\text{Given: } 2x + 5y = 129$$

$$y = x(1 + 75\%), y = 1.75x$$

$$2x + 5(1.75x) = 129$$

$$2x + 8.75x = 129$$

$$\text{Then, } x = 12 \text{ and } y = 21$$

So, the number of 5 rupee coins is 21.

Hence, option B is the correct answer.

43. B

Sol. Let the number of students who like mathematics, science, and social studies be $3x$, $7x$, and $7x$, respectively.

$$\text{Probability of picking two students who like science} = \frac{{}^{7x}C_2}{{}^{(17x)}C_2} = \frac{1}{6}$$

$$\Rightarrow \frac{7x(7x-1)}{17x(17x-1)} = \frac{1}{6}$$

$$\Rightarrow 42(7x-1) = 17(17x-1)$$

$$\Rightarrow 294x - 42 = 289x - 17$$

$$\Rightarrow 5x = 25$$

$$\Rightarrow x = 5$$

$$\text{Total number of students in the class} = 17x = 85$$

Hence, option B is the correct answer.

44. A

Sol. To convert the fractions into natural numbers, multiply the common multiple of the

denominators.

So, $\text{LCM}(4, 5, 9) = 180k$

So, share of A = $\frac{1}{4} \times 180k = 45k$

Share of B = $\frac{1}{5} \times 180k = 36k$

Share of C = $\frac{1}{9} \times 180k = 20k$

Thus, total amount = $45k + 36k + 20k = 101k$

So, $101k = 6565$

$\Rightarrow k = 65$

So, share of C = $20k = 20(65) = \text{Rs. } 1300$

Hence, option A is the correct answer.

45. C

Sol. Let the length of the median be 'x' cm.

As the median is drawn to the longest side, i.e., 64 cm, this side will be opposite to the vertex from where this median is drawn.

So, using Apollonius theorem:

$$42^2 + 26^2 = 2\left\{x^2 + \left(\frac{64}{2}\right)^2\right\}$$

$$\Rightarrow 1764 + 676 = 2x^2 + 2048$$

$$\Rightarrow 2x^2 = 392$$

$$\Rightarrow x^2 = 196 \Rightarrow x = 14 \text{ cm}$$

Hence, option C is the correct answer.

46. B

Sol. We need to find the equation whose roots are $(p + 6)(q + 6)$.

So, the equation can be written as:

$$x^2 - (p + 6 + q + 6)x + (p + 6)(q + 6) = 0$$

$$\Rightarrow x^2 - (p + q + 12)x + (pq + 6p + 6q + 36) = 0 \dots(1)$$

p and q are the roots of $x^2 - 4x + 6 = 0$

So, $p + q = 4$ and $pq = 6$

Putting these values in equation (1), we get:

$$\Rightarrow x^2 - (4 + 12)x + \{6 + 6(4) + 36\} = 0$$

$$\Rightarrow x^2 - 16x + 66 = 0$$

Hence, option B is the correct answer.

47. A

Sol. Let A, B, and C be the number of days taken by Ajay, Bijay, and Cherry, respectively.

Using unitary method, we get the following:

$$\frac{1}{A} + \frac{1}{B} = \frac{1}{12} \dots (1)$$

$$\frac{1}{B} + \frac{1}{C} = \frac{1}{15} \dots (2)$$

$$A = C - 5$$

Substituting in (1) and subtracting B, we get:

$$\frac{1}{C - 5} + \frac{1}{B} - \frac{1}{B} - \frac{1}{C} = \frac{1}{12} - \frac{1}{15}$$
$$\frac{C - C + 5}{c^2 - 5c} = \frac{5 - 4}{60} \text{ or } c^2 - 5c - 300 = 0$$

$$\text{Or } C = 20 \text{ or } C = -15$$

As the number of days cannot be negative, only $C = 20$ is considered.

Thus, $A = 15$, $C = 20$, and $B = 60$

$$\left[\frac{1}{A} + \frac{1}{B} + \frac{1}{C} \right] = \left[\frac{1}{15} + \frac{1}{60} + \frac{1}{20} = \frac{4 + 1 + 3}{60} = \frac{2}{15} \right]$$

So, Arun, Barun, and Chetan will take 7.5 days to complete the work together.

Hence, option A is the correct answer.

48. C

Sol. The square of a number ends in 0, 1, 4, 5, 6, and 9.

Thus, $y = 0$ or 1 or 4 or 5 or 6 or 9

$$\Rightarrow xy = x000 \text{ or } x111 \text{ or } x444 \text{ or } x555 \text{ or } x666 \text{ or } x999$$

Only $x444$ and $x000$ is possible because the square of a number cannot end with 11, 55, 66, and 99.

As the number is less than 50, the square must be less than 2500.

Thus, the possible values are 0444, 1444, 2444, 1000, and 2000.

Out of these, only 1444 is the square of 38.

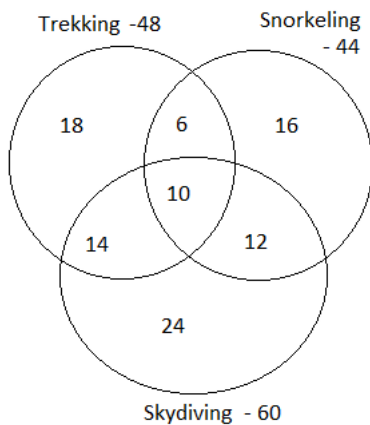
Alternate method:

Using options, $35^2 = 1225$, $32^2 = 1024$, $38^2 = 1444$, and $42^2 = 1764$

Hence, option C is the correct answer.

49. A

Sol. The following vein diagram can be formed using the given data:



The required percentage $= \frac{48 - 44}{44} \times 100 = \frac{4}{44} \times 100 = 9.09\%$

50. D

Sol. $8^{\log_6 4} + 11^{\log_5 25} = 10^{\log_x 123}$

$$\Rightarrow 8^{\frac{1}{3} \log_4 4} + 11^{\log_5 5^2} = 10^{\log_x 123}$$

$$\Rightarrow 8^{\frac{1}{3}} + 11^2 = 123^{\log_x 10}$$

$$\Rightarrow 2 + 121 = 123^{\log_x 10}$$

$$\Rightarrow 123 = 123^{\log_x 10}$$

$$\Rightarrow \log_x 10 = 1 \Rightarrow x = 10$$

Hence, option D is the correct answer.

51. B

Sol. Let the initial value on which the first discount is applied be 100.

$$\text{So, } 100 \times \frac{75}{100} = 75 \text{ (after 25\% discount)}$$

Then $75 \times \frac{80}{100} = 60$ (after 20% discount)

And $60 \times \frac{90}{100} = 54$ (after 10% discount)

So, the final value is 54 instead of 100.

So, the single discount = $\frac{100 - 54}{100} \times 100 = 46\%$

Thus, the single discount would be equivalent to 46%.

Hence, option B is the correct answer.

52. B

Sol. The sum of the interior angles of the polygon = $(n - 2)180 = 2160$

$$\Rightarrow n - 2 = 12 \Rightarrow n = 14$$

So, the number of diagonals in the polygon having 'n' sides = $\frac{n(n-3)}{2} = \frac{14(14-3)}{2}$
 $= 7 \times 11 = 77$

Hence, option B is the correct answer.

53. B

Sol. Let the sales in the years 2015 and 2017 be 'x' and 'y', respectively.

$$\text{Thus, } x + y = 130000 - 23000 - 44000 - 36000 = 27000 \dots(1)$$

$$\text{Total sales of M} = \frac{9}{23} \times 23000 + \frac{4}{9} \times x + \frac{6}{11} \times 44000 + \frac{11}{18} \times 36000 + \frac{4}{9} \times y$$

$$\text{Total sales of M} = 9000 + 24000 + 22000 + \frac{4}{9} \times 27000 = 67000 \quad [\text{from (1)}]$$

$$\text{Total sales of P} = 130000 - 67000 = 63000$$

$$\text{Required ratio} = \frac{67000}{63000} = \frac{67}{63}$$

Hence, option B is the correct answer.

54. B

Sol. Let the sum of the marks of the 4 unchanged students be equal to 'X'.

$$\text{Then, } X = 8 \times 73 - (60 + 70 + 73 + 82)$$

$$\Rightarrow X = 294$$

When the marks of a new student is added, the sum of marks of 6 students = $294 + 180 = 474$

$$\text{New average} = \frac{474}{6} = 79$$

$$\text{Percentage increase in average} = \frac{79 - 73}{73} \times 100 = 8.21\%$$

Hence, option B is the correct answer.

55. A

Sol.

$$2592 \div 2 = 1296$$

$$1296 \div 3 = 432$$

$$432 \div 2 = 216$$

$$216 \div 3 = 72$$

$$72 \div 2 = 36$$

$$36 \div 3 = 12$$

$$12 \div 2 = 6$$

So, the missing number is 216.

Hence, option A is the correct answer.

56. A

Sol.

Number of visitors on Friday = Number of visitors on Thursday + 114

$$\text{Number of visitors on Friday} = \frac{18}{100} \times 1200 + 114 = 330$$

$$\text{Number of visitors on Wednesday} = \frac{25}{100} \times 1200 = 300$$

$$\text{Required percentage} = \frac{30}{300} \times 100 = 10\%$$

Hence, option A is the correct answer.

57. B

Sol.

Let the given time intervals be $2t$, $4t$, $6t$, and $9t$, respectively.

So, according to the question:

$$18 \times 2t + 22 \times 4t + 28 \times 6t + 33 \times 9t = 36t + 88t + 168t + 297t$$

$$\Rightarrow 589t = 7068$$

$$\Rightarrow t = 12 \text{ hours}$$

$$\text{So, the total time for which he is travelling} = 2t + 4t + 6t + 9t = 21t$$

$$= 252 \text{ hours}$$

Hence, option B is the correct answer.

58. C

Sol.

$$\text{LCM}(6, 12) = 12$$

Since the remainder is constant for all the divisors, x is of the form $12y + 5$.

Now, dividing 6666 by 12, we find the remainder to be 6.

Thus, 6672 will be completely divisible by 12, and the required answer is $6672 + 5 = 6677$.

Hence, option C is the correct answer.

59. D

Sol.

Let a , b , and c be the roots of the equation $x^3 - 13x^2 + 40x - 36 = 0$

Then, $a + b + c = 13$, $ab + bc + ca = 40$, and $abc = 36$

The only values of a, b, and c that satisfy the above equation are 2, 2, and 9.

Thus, $x^3 - 13x^2 + 40x - 36 > 0$ can be written as $(x - 2)^2(x - 9) > 0$ as $(x - 2)^2$ is always > 0 .

Hence, $x > 9$

The smallest possible integral value of x is 10.

Hence, option D is the correct answer.

60. B

Sol. At the end of the 1st year, the amount of Rs. 2101707 will become:

$$2101707 \left(1 + \frac{2}{9}\right) = 2101707 \times \frac{11}{9} = \text{Rs. } 2568753$$

Let 'y' be the amount he repaid at the end of the 1st year.

Then, the balance $2568753 - y$ will become the principal for the 2nd year.

$$\Rightarrow (2568753 - y) \left(1 + \frac{2}{9}\right) = 1901405$$

$$\Rightarrow 3139587 - \frac{11}{9}y = 1901405$$

$$\Rightarrow \frac{11}{9}y = 1238182$$

$$\Rightarrow y = 1013058$$

Hence, option B is the correct answer.