

MENTAL ABILITY

- Complete the series:
 D3Y104, G9U91, J27Q78, M81M65
 (A) P243I39 (B) Q243I52 (C) P243I52 (D) Q162J39
- Which of the following can replace the question mark?

0.8	0.512
0.04	?

- (A) 0.0064 (B) 0.0016 (C) 0.000064 (D) 0.000016

Directions (Q. No. 3 to 5): There are eight people A, B, C, D, E, F, G and H sitting around a circular table facing centre. B is sitting second to the left of G who is sitting third to the right of F. Only E is sitting between A and C. C is sitting third to the left of B. Only one person is sitting between E and H.

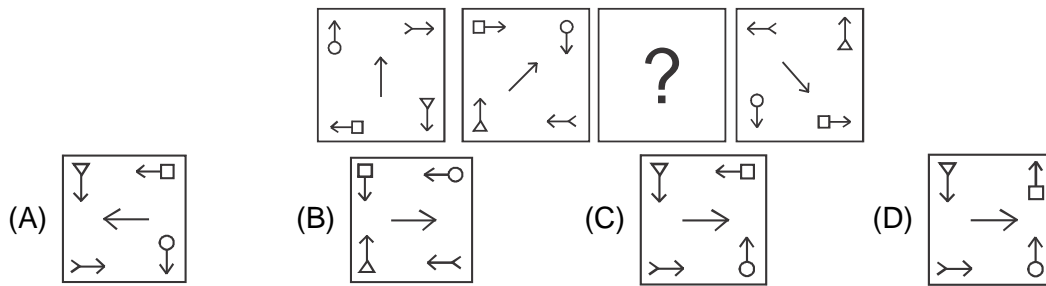
- Which of the following is correct?
 (A) D is sitting third to the left of H (B) F is sitting third to the left of G
 (C) C is sitting third to the left of D (D) H is sitting second to the right of C
- Based on the given information, which of the following is the correct position?
 (A) A and C are sitting next to each other (B) F and G are sitting next to each other
 (C) H and F are sitting next to each other (D) D is sitting next to H
- Which of the following is the correct order of sitting of persons right of A?
 (A) E C H D G B F (B) E C H F B D G
 (C) E B H D C F G (D) C H B E D G F
- Amita is standing at Point A facing north direction. She walks for 5 kilometers in the north east direction. Then she turns at an angle of 90° at her right and once again travels the same distance. She reaches at Point B. Now she takes a turn at 90° to her left and walks for 3 kilometers and once again takes right turn at 90° and travels 3 kilometers and reaches at Point C. What is the direction of Point B and C respectively with respect to Point A?
 (A) East, East (B) East, North east
 (C) North east, East (D) North east, North east
- In the question given below, there are three statements followed by three conclusions numbers I, II and III. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions, and then decide which of the given conclusions(s) logically follows from the given statements disregarding commonly known facts.

Statements: All teachers are professors.
 No professor is male.
 Some males are designers.

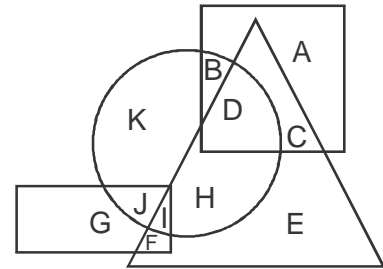
Conclusions: I. No designer is professor.
 II. Some designers are professors.
 III. No male is teacher.

- (A) Only III follows (B) Both I and II follows
 (C) Either I or II follows (D) Either I and III follows; or II and III follows

8. In the following question, there are four figures A, B, C and D called problem figures. A and B are related in the same way as C and D are related. Which figure out of four given options will come in place of figure C?



9. In the following figures, square represents professors, circle represents males, triangle represents cricketers and rectangle represents trainers. On the basis of information given in the above diagram, which of the following is correct?
- (A) C represents male professors who are cricketers too
 (B) I represents male trainers who play cricket
 (C) B represents male professors who are trainers
 (D) F represents male trainers who are not cricketers

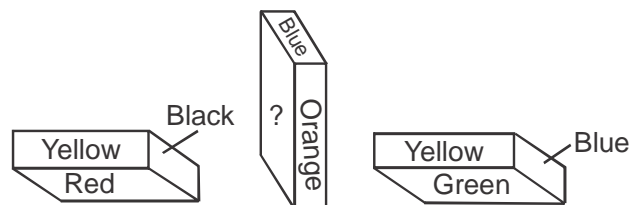


Directions (Q. No. 10 to 12): Five periods of Hindi, English, Science, Mathematics and Sanskrit are to be taken by five different teachers A, B, C, D and E in five different periods 1, 2, 3, 4 and 5. Each teacher will teach only one subject and takes only one period.

Science is not the 3rd period. 5th period is taken by D who does not teach Hindi or Sanskrit. A takes 3rd period. The one who teaches Sanskrit takes 4th period. There are two periods after and two periods before Mathematics period. Hindi period is between Science and Mathematics period. B teaches Science. E takes period just before D's period.

After reading the above information, answer the following questions.

10. Who teaches Hindi and in which period?
- (A) C teaches Hindi in 2nd period (B) E teaches Hindi in 1st period
 (C) C teaches Hindi in 4th period (D) Data is inadequate
11. Which of the following is the correct sequence of subject period teacher?
- (A) Mathematics – 3 – D (B) Sanskrit – 4 – E
 (C) Mathematics – 2 – A (D) Hindi – 2 – E
12. The subject taught by teachers A, B, C, D and E respectively are
- (A) Mathematics, Science, Hindi, Sanskrit, English
 (B) Mathematics, Science, English, Hindi, Sanskrit
 (C) Mathematics, Hindi, English, Sanskrit, Science
 (D) Mathematics, Science, Hindi, English, Sanskrit
13. A cuboid is painted in 6 colours, i.e., red, green, blue, yellow, orange and black, one colour on each side. Three position are shown below:



What is the colour of the side having question mark?

- (A) Red (B) Yellow (C) Green (D) Blue

14. If \times stands for $+$, \div stands for $-$, $+$ stands for \div and $-$ stands for \times , then what is the value of following expression?
 $\div 33 \times 11 \div 9 \times 28 + 4 - 5$
 (A) 16 (B) 8 (C) 4 (D) 2
15. If REASON is coded as PGYUMP, then DIRECT will be coded as?
 (A) BKPGAV (B) FKTGEV (C) FGTCER (D) BGPCAR
16. Read the information carefully and answer the following question.
 A family has husband, wife and three children A, B and C. The present age of husband is 5 years more than the wife's present age. Wife's present age is twice the present age of A.
 The present age of A is 12 years more than the present age of B. B's present age is $1\frac{1}{2}$ times the present age of C. If C is 12 years old at present, what is the present age of husband's friend Ram who is 15 years younger than husband (him)?
 (A) 30 years (B) 50 years (C) 60 years (D) 80 years
- Directions (Q. No. 17 to 18):** Pritam, Zeba, Joy and Anu were assigned duties in the English language alphabetical order of their names. Only one of them is assigned a duty on a day. This assignment is repeated in the same sequence. Working week starts from Monday and ends on Friday. Answer the following:
17. Who worked for least number of days and for how many days if the duties are assigned for 3 weeks?
 (A) Anu, 3 days (B) Anu, 4 days (C) Zeba, 3 days (D) Zeba, 4 days
18. Who were assigned duties on Wednesday in 1st, 2nd and 3rd weeks respectively?
 (A) Pritam, Zeba, Anu (B) Pritam, Anu, Zeba
 (C) Pritam, Joy, Anu (D) Joy, Zeba, Anu
19. In a showroom, 60 percent discount is given to everybody on all the articles. The successive discount of 40 percent is offered to female students. If printed price of an article of Rs 1000/- is bought by a female student, how much she will have to pay for that article?
 (A) Inconclusive (B) Zero (C) Rs 160/- (D) Rs 240/-
20. From among the four alternatives given below, which number replaces the question mark?

4	5	= 13
2	5	

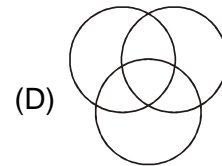
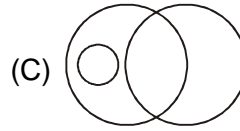
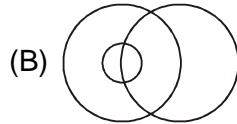
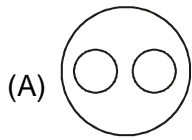
6	4	= 15
7	2	

9	3	= 18
4	5	

8	3	= ?
4	6	

- (A) 11 (A) 14 (C) 16 (D) 17

21. Which of the following diagrams indicates the best relation among men, fathers and teachers?



22. Guitar : Music : : Book : ?

(A) Pages (B) Writer (C) Publisher (D) Knowledge

23. Reena, Rita and Zoha are three friends. Reena is the eldest followed by Rita and Zoha. Reena is 2 years elder to Rita and 5 years elder to Zoha. The sum of the present age of Reena and Zoha is 3 times the age of Rita 5 years ago. What is the current age of Rita?

(A) 12 years (B) 14 years (C) 16 years (D) 18 years

Directions (Q. No. 24 to 26): Lata was cutting a cuboid shaped cake at her birthday party which has 12 inches length, 8 inches breadth and 2 inches height.

Two faces measuring 8 inches x 2 inches are coated with chocolate cream.

Two faces measuring 12 inches x 2 inches are coated with vanilla cream.

Two faces measuring 12 inches x 8 inches are coated with butter scotch cream.

The cake is cut into 24 cubes of size, 2 inches each side.

24. How many cake pieces are there which have only two types of coatings of cream (any two out of chocolate, vanilla and butter scotch)?

(A) 4 (B) 8 (C) 12 (D) 16

25. How many cake pieces will have only one type of coating of cream?

(A) 4 (B) 8 (C) 12 (D) 20

26. Kasim, Rajni, Pema and Gurpreet loved the chocolate cream and they decided to take all pieces with chocolate coating for them. How many cake pieces will be available for others?

(A) 8 (B) 12 (C) 16 (D) 20

27. During her morning walk in the park, Tanya saw Monica coming from the opposite direction. They greeted each other and had a face to face chatting. If Monica's shadow was to the right of Tanya, then which direction was Monica facing?

(A) North (B) East (C) West (D) South

28. Given below is a question and two statements I and II. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both statements carefully and give the answer.

Question: A, B, C, D and E are sitting in a row, not in that order. A is sitting next to E. Is E sitting between A and C?

Statements:

I. B and D are sitting at the two ends of the row.

II. C is not sitting next to A.

(A) I alone is sufficient. (B) II alone is sufficient.
(C) Both I and II together are sufficient. (D) Both I and II together are not sufficient.

29. A person needs to find the fastest two horses from 16 horses. Only a race of 4 horses can be conducted at a time. What is the minimum number of races to be conducted to determine the fastest two? Assume that horses will not get tired at all, and time cannot be measured.

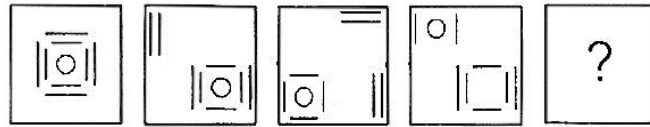
(A) 6 (B) 7 (C) 8 (D) 15

30. Which letter replaces the question mark?

b c e g k ? q s

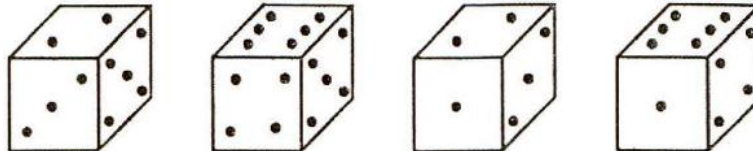
(A) ℓ (B) m (C) n (D) o

31. From among the four alternatives given below, which figure replaces the question mark?



- (A) (B) (C) (D)

32. How many points will be on the face opposite to the face which contains 2 points?



- (A) 1 (B) 5 (C) 4 (D) 6

33. Identify the missing number in the following sequence.

2, 10, 30, 68, ____, 222

- (A) 120 (B) 130 (C) 134 (D) 150

34. $A + B$ means A is the daughter of B, $A \times B$ means A is the son of B and $A - B$ means A is the wife of B. If $T - S \times B - M$, which of the following is NOT true?

- (A) M is the husband of B (B) B is the mother of S
(C) S is the daughter of B (D) T is the wife of S

35. In the question below, there are three statements followed by four conclusions numbered I, II, III and IV. You have to consider every given statement as true, even if it does not conform to the well known facts. Read all the conclusions and then decide which of the conclusions can be logically derived from the given statements.

Statements: All frogs are snakes.
Some snakes are birds.
All birds are apples.

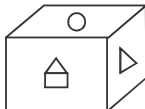
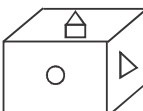
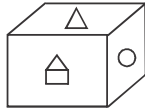
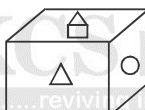
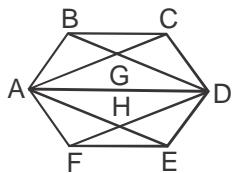
Conclusions: I. Some apples are frogs.
II. No apple is frog.
III. Some snakes are apples.
IV. All birds are snakes.

- (A) Either I or II; and III follows (B) III and IV follows
(C) Either I or II follows (D) Either I or II; and either III or IV follows

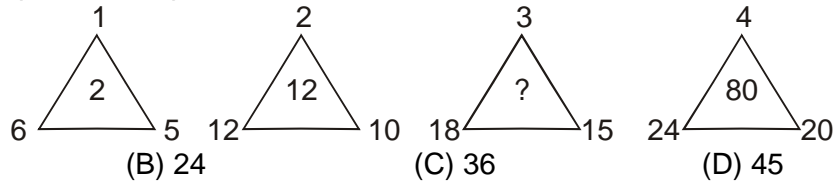
36. In the following sequence, one number is wrong. Find the wrong number.

9, 23, 51, 106, 219, 643

- (A) 23 (B) 51 (C) 106 (D) 219

37. Which option shows the correct water image of the characters given below?
SUPE2547DLR
(A) 20NB3Z23†ΔDΓΒ (B) 20†E522‡ΔDΓΒ
(C) 20NBES22‡ΔDΓΒ (D) 20NBES22‡ΔDΓΒ
38. Ronald is elder to Veena while Amilia and Shree are elder to Parul who lies between Ronald and Amilia. If Amilia is elder to Veena, then which one of the following statements is necessarily true?
(A) Ronald is elder to Amilia (B) Amilia is elder to Shree
(C) Parul is elder to Shree (D) Parul is elder to Veena
39. In the following question, a matrix of certain numbers is given. These numbers follow a certain trend, either row-wise or column-wise. Find this trend and choose the missing number from the given alternatives.
(A) 20 (B) 43
(C) 89 (D) 96
- | | | | |
|---|---|---|-----|
| 1 | 5 | 7 | 75 |
| 8 | 3 | 4 | ? |
| 9 | 7 | 8 | 194 |
40. The figure given below is the unfolded position of a cubical dice. Select the option figure which is same as the figure, when it is folded.
- (A)  (B) 
- (C)  (D) 
41. A wall clock is placed in a room. It chimes 8 times at 8 o' clock. A person 'X' present outside the room listens the 8 beats of chimes in 8 seconds. Assume that each chime of the wall clock takes equal time. To listen 11 chimes at 11 o' clock how much time will be required by person 'X'
(A) 11 seconds (B) 11.43 seconds (C) 12 seconds (D) 12.43 seconds
42. A geometrical design has been drawn below. Find out the total number of quadrilaterals.
(A) 8 (B) 10
(C) 11 (D) 12
- 
- Directions (Q. No. 43 to 45):** Study the following information and answer the questions given below it.
- Six boys Prem, Kamal, Ramesh, Shyam, Tarun and Umesh go to University Sports Center and play a different game of football, cricket, tennis, kabaddi, squash and volleyball.
- (i) Tarun is taller than Prem and Shyam.
(ii) The tallest among them plays kabaddi.
(iii) The shortest one plays volleyball.
(iv) Kamal and Shyam neither play volleyball nor kabaddi.
(v) Ramesh plays volleyball.
(vi) If all six boys stand in order of their height then Tarun is in between Kamal and Prem; and Tarun plays football.
43. Who among them plays kabaddi?
(A) Kamal (B) Ramesh (C) Shyam (D) Umesh
44. Who will be at fourth place if they are arranged in the descending order of their heights?
(A) Prem (B) Kamal (C) Tarun (D) Shyam

45. Who plays tennis?
 (A) Kamal (B) Prem (C) Tarun (D) Information insufficient
46. What comes next in the following sequence of codes?
 1218199, 1006480, 814963, 643648, ____
 (A) 366478 (B) 1442560 (C) 492535 (D) 253634
47. What value replaces the question mark?



48. A coding language writes English words in the coded form as

STAT $\theta \delta \theta \gamma$

RAT $\delta \theta \beta$

SAY $\varepsilon \gamma \delta$

The code does not appear in the same order of the letters in the English words. On this basis, which of the following will be the code of the word TRAY?

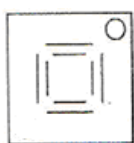
- (A) $\varepsilon \beta \theta \gamma$ (B) $\beta \gamma \delta \varepsilon$
 (C) $\beta \theta \delta \varepsilon$ (D) $\theta \delta \gamma \varepsilon$
49. A work is expected to be completed by 20 workers in 25 days. The work is started by 10 workers. Then after every 5 days, 5 more workers join the work. In how many days the work will be completed?
 (A) 20 (B) 25 (C) 30 (D) 35
50. Find the maximum length of a rod with negligible thickness which can be fitted into a cubical box of 1 meter length of each side.reviving internal teacher
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- (A) $\sqrt{2}$ (B) $\sqrt{2.25}$ (C) $\sqrt{3}$ (D) 2

ANSWERS

1. (C)	2. (C)	3. (B)	4. (C)	5. (B)
6. (A)	7. (D)	8. (C)	9. (B)	10. (A)
11. (B)	12. (D)	13. (C)	14. (C)	15. (A)
16. (B)	17. (C)	18. (A)	19. (D)	20. (B)
21. (B)	22. (D)	23. (B)	24. (C)	25. (B)
26. (C)	27. (A)	28. (C)	29. (B)	30. (B)
*31. (Bonus)	32. (D)	33. (B)	34. (C)	35. (A)
**36. (C)	37. (D)	38. (D)	39. (C)	40. (A)
41. (B)	42. (C)	43. (D)	44. (A)	45. (D)
46. (C)	47. (C)	48. (C)	49. (B)	50. (C)

*Note – The correct answer should be



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None of the alternatives is correct.

**Note –

$$9 \xrightarrow{+14} 23 \xrightarrow{+28} 51 \xrightarrow{+56} \boxed{106} \xrightarrow{+112} 219 \xrightarrow{+224} 443$$

↓
107

The wrong term is 106 and it should be 107.

There is an error in the question. 643 should be 443.

LANGUAGE COMPREHENSIVE (LCT)

Instructions for (Q.1 to Q.5):

Read the following passage and answer the questions based on it.

Those with green fingers can always create their little haven, be it on the ground or atop a multi-storey house.. The pressure of burgeoning population has forced cities to adopt vertical development. But that does not mean that people living in higher storeys are deprived of the pleasures of their own gardens and so the terrace garden culture is catching the imagination of gardening freaks.

For a terrace garden, leakage below and seepage through walls are the biggest apprehensions. Exposure to the vagaries of weather is another hurdle. Thus, creating and maintaining a terrace garden is certainly a challenge. It needs immaculate planning regarding leakages below, the weight the roof can take, the selection of plants, the planting material, the medium in which the plants are planted, garden decoration, garden furniture and above all your own imagination.

Try to provide the garden with a bamboo fence as a wind barrier. This is also useful as a shade and you could keep shade-loving plants under it. Net shades are available in different colours, these cut light to different intensities and can be used overhead by fastening with hooks. You could remove these shades in winter. Winter is a special time for such gardens: the sun is mild and the range of flowers is tremendous.

1. A person with 'green fingers' is one who
(A) Lives in multi-storey building (B) has grown a terrace garden
(C) has a talent for growing plants (D) designs and plants gardens
2. People have to live in multi-storey buildings due to
(A) popularity of terrace gardens (B) growing population
(C) fondness for gardening (D) development in the city
3. Damage to the building due to terrace gardens can be minimised by
(A) reducing variations in weather
(B) selecting plants and planting medium with care
(C) reducing the planted area on the terrace
(D) accepting the challenges
4. Plants in a terrace garden need to be protected from
(A) leaking of water and seepage (B) poor material used for roofing
(C) shades of different colours (D) harsh sunlight and strong wind
5. The passage primarily deals with
(A) pleasures of having a terrace garden
(B) importance of keeping a terrace garden
(C) maintenance of a terrace garden
(D) problems of garden lovers

Instructions for (Q.6 to Q.10):

Read the passage given below and answer the questions based on it.

Understanding pain and pleasure are inseparable facets of human existence. While the experience of our well-being is rather vague and intangible, the experience of pain is real, and affects our body, mind and spirit, altering our lives in more ways than one. Pain is an unpleasant sensory and emotional experience caused by tissue damage that results from physical trauma, burns, illness, injury or surgery. Despite the agony caused by pain, it is essential for our survival. If you don't feel pain, you could cause great harm to your body by inadvertently touching a hot iron or jamming your finger in the drawer and not even know it. Or you could rupture the appendix and be unaware of what was going on inside your body. Pain rings an alarm bell, alerting you to pay immediate attention and take quick action.

Have you ever wondered why a severely wounded soldier continues to battle on so defiantly or an athlete injured during a race goes on to win it? It happens so because the brain does not react immediately to the pain signals, the sufferer just ignores them because 'there are more important tasks to attend to. The pain registers only after the task or event is over. The perception of pain has been studied extensively by psychologists who suggest that there is a "gating system" in the central nervous system that opens and closes to let pain pass through to the brain or block it. Psychological factors such as attention to pain, emotional state of a person, anticipation of pain and the way that a person interprets a situation can both open and close the "gates". This is why when you are depressed or anxious your pain seems worse and intolerable-because your feelings can open the pain gate.

6. The statement 'Pleasure and pain are the inseparable facets of human existence,' may be replaced with
- (A) All human beings experience pleasure and pain together.
 - (B) Both pleasure and pain are two sides of the same coin.
 - (C) Pleasure and pain may be a part of an individual's life.
 - (D) Human beings experience both pleasure and pain in their lives.
7. Pain is important for our survival as it
- (A) makes other people attend to us.
 - (B) makes us scream if we suffer an injury.
 - (C) informs us if we have an internal injury
 - (D) alerts us to take action promptly.
8. Sometimes people carry on despite suffering an injury as
- (A) they cannot notice the pain.
 - (B) being involved in a crucial task, they ignore the pain signals.
 - (C) they feel pleasure more acutely than the pain signals.
 - (D) pain, being an unpleasant feeling, is ignored by them.
9. A person who is depressed or anxious may feel pain more acutely as unhappiness
- (A) blocks the pain gate.
 - (B) diverts our mind away from pain.
 - (C) makes our feelings intolerable.
 - (D) makes pain seem worse.
10. The 'gating system' in the passage refers to
- (A) a device that controls the sensation of pain.
 - (B) psychological factors which contribute to pain.
 - (C) a person's interpretation of a situation.
 - (D) feelings of anxiety or depression.

Instructions for (Q.11 to Q.15):

Read the following passage and answer the questions based on it.

Persuasion is the art of convincing someone to agree with your point of view. According to the ancient Greek philosopher Aristotle, there are three basic tools of persuasion: ethos, pathos, and logos.

Ethos is a speaker's way of convincing the audience that he is a credible source. The audience will consider a speaker credible if he seems trustworthy, reliable, and sincere. This can be done in many ways. For example, a speaker can develop ethos by explaining how much experience or education he has in the field. After all, you would be more likely to listen to advice about how to take care of your teeth from a dentist than a firefighter.

Pathos is a speaker's way of connecting with an audience's emotions. For example, a speaker who is trying to convince an audience to vote for him might say that he alone can save the country from a terrible war. These words are intended to fill the audience with fear, thus making them want to vote for him. Similarly, a charity organization that helps animals might show an audience pictures of injured dogs and cats. These images are intended to fill the viewers with pity.

Logos is the use of facts, information, statistics, or other evidence to make your argument more convincing. An audience will be more likely to believe you if you have data to back up your claims. For example, a commercial for soap might tell you that laboratory tests have shown that their soap kills all 7,000,000 of the bacteria living on your hands right now. This piece of information might make you more likely to buy their brand of soap. Use of logos can also increase a speaker's ethos: the more facts a speaker includes in his argument, the more likely you are to think that he is educated and trustworthy.

Although ethos, pathos, and logos all have their strengths, they are often most effective when they are used together. Indeed, most speakers use a combination of ethos, pathos, and logos to persuade their audiences.

11. The main idea of the passage is to _____
(A) describe the virtues of sincerity and reliability in persuasion.
(B) explain the elements of persuasion.
(C) show that persuasion is an ancient Greek art.
(D) illustrate how data-based arguments are convincing.
12. Lavina is trying to convince her mother to, buy her a pair of shoes for Rs.1,200. She says, "Mom, the shoes I have are really old and ugly. If I don't get these new shoes, everyone at school is going to laugh at me. I will be so embarrassed that I will want to die." What form of persuasion is Lavina using here?
(A) pathos (B) ethos (C) logos and ethos (D) pathos and logos
13. According to the passage, logos can build ethos because
(A) an audience is more easily convinced by facts and information than simple appeals to emotions like pity or fear.
(B) an audience is more likely to trust a speaker who uses evidence to support his argument.
(C) a speaker who overuses pathos might make an audience too emotional; audiences who are too frightened or too sad are unlikely to be persuaded.
(D) a speaker can use misleading or false information to make his argument seem more convincing.
14. Chandralekha is contesting for a mayor's post. She tells her audience, "Under our current mayor, there have been 15,000 new cases of unemployment. If she stays in office, who knows how many more people will lose their jobs? The number could go up even higher. When I was the CEO of XYZ company, I helped to create over 1,000 new jobs. I can do the same thing for this city, if you vote for me." Chandralekha's strategy is to _____
(A) gain trust by giving facts and appealing to voters' emotions.
(B) show her sincerity and thereby win the audience's approval.
(C) present a correct factual picture which will appeal the workers.
(D) target audiences' emotions and feelings by creating a sense of fear.

15. Use of facts and statistics in an argument
(A) makes the speaker responsible and virtuous.
(B) provides emotional appeal.
(C) generates fear and pity.
(D) makes the points convincing.

Instructions for (Q.16 & Q.17):

The following five sentences come from a single paragraph. The first and the last sentences are given. Choose the right order in which the sentences (PQR) should appear to complete the paragraph.

16. S1 The Indian carpet industry is highly labour intensive and almost entirely export oriented.
S2 _____
S3 _____
S4 _____
S5 White persian weaves commonly depict animals such as lions and tigers, Indian weavers more often represent birds.
P – The carpet industry in India adopted classical designs, almost all of Persian origin.
Q – The present tradition of pile carpet-weaving goes back to the 16th century when skilled craftsmen from Persia and Afghanistan migrated to India under the patronage extended by the Mughal rulers.
R – However, some patterns, commonly incorporated, were of Indian or Chinese origin.
Choose from the options given below.
(A) RPQ (B) PQR (C) QPR (D) RQP

17. S 1 Activities give students an opportunity to express themselves in group work, to act as leaders and members of teams.
S 2 _____
S 3 _____
S 4 _____
S 5 For these reasons, every student should participate in at least one co-curricular programme.
P – Because when they participate in discussions, they become less self-conscious, more confident of their own abilities and ideas.
Q – And they find a great deal of satisfaction in doing their jobs well, and all of this is serving its purpose in preparing them for assuming responsibility in adult life.
R – Moreover, students enjoy working on, projects, such as decorating for dances or working on social campaigns.
Choose from the options given below
(A) RPQ (B) QRP (C) PRQ (D) RQP

Instructions for (Q.18 & Q.19):

The following questions have the second sentence missing, choose the appropriate sentence from the given options to complete it.

18. A. The local market is a place for social interaction for people of that area.
B. _____
C. Without these markets, life could be dull and boring..
(A) They are noisy, crowded and sometimes full of litter
(B) Vendors occupy even the pavements and corridors,
(C) They offer an opportunity to exchange a greeting with a friend or a neighbour.
(D) These markets have a limited variety and range of items.

19. A. Parachuting from an airplane for the first time feels like Falling out of a tree,
 B. _____
 C. The main difference is that the jumper at least is prepared for the sensation and knows what to do.
 (A) It is an activity involving a preplanned drop from a height using an aerial platform.
 (B) It is becoming a popular activity amongst adventure enthusiasts.
 (C) One type of parachuting is skydiving parachute.
 (D) You feel the same rush of wind, the same flip of stomach, the same sudden fear.

Instructions for (Q.20 & Q.29):

Fill in the blank with the most appropriate option from given alternatives.

20. They received a lot of _____ publicity about the changes.
 (1) adverse (2) averse (3) addictive (4) adorable
21. Man-drawn rickshaws were replaced by cycle-rickshaws as rickshaw-pulling came to be seen as a _____ occupation.
 (A) depressing (B) degrading (C) desperate (D) deteriorating
22. This movie on education has been _____ the best children's movie of the year.
 (1) priced (2) valued (3) examined (4) rated
23. The Republic of South Africa, with its _____ reserves of gold and diamonds is country in Africa.
 (A) abundant (B) profuse (C) lavish (D) excessive
24. The judge gave his _____ decision after listening to both the parties.
 (A) thoughtful (B) faithful (C) impartial (D) sincere
25. A rail accident occurred yesterday at 430 a.m. when a goods train _____ with a mail train at Rahia Mandi near Biasa.
 (A) collided (B) hit (C) crashed (D) struck
26. Dieticians are of the _____ that milk is beneficial for children because it contains calcium, protein and vitamin A.
 (A) ideas (B) thought (C) opinion (D) views
27. Radioactive nuclear waste is often stored in underground tanks or sealed in containers and dropped into deep ocean trenches. _____ both methods may lead to environmental pollution.
 (A) Although (B) Because (C) On the one hand (D) However
28. Humayun's Tomb is closed to the public for a few months as some _____ work is going on.
 (A) reservation (B) rejuvenation (C) restoration (D) recreation
29. _____ an accident takes place injured persons are carried in an ambulance which has a siren to make its way to the hospital where the doctors and nurses take care of the injured immediately.
 (A) As (B) When (C) How (D) While

Instructions for (Q.30 to Q.35): Select the meaning of the underlined phrases/idioms.

30. I could not make head or tail of what he was telling me.
 (A) hear (B) make sense (C) agree with (D) argue over
31. Sheela got the wrong end of the stick.
 (A) was unfairly accused of something (B) took something by mistake
 (C) misunderstood something (D) got the answer correct
32. I wonder what's wrong with them; they are out to lunch these days.
 (A) absent from work. (B) behaving in a strange way
 (C) not found usually (D) always quarrelling

33. He tried to put a spoke in their wheel.
 (A) complete their plan (B) to cause an accident
 (C) help in the execution of their plan (D) thwart the execution of their plan
34. She got hot under the collar when she was teased by her friends.
 (A) felt miserable (B) felt unhappy (C) got into a fight (D) got angry
35. He should be made to toe the line.
 (A) behave correctly (B) walk properly (C) follow the queue (D) wait until further orders

Instructions for (Q.36 to Q.43): In the following passage there are some numbered blanks.

Fill in the blanks by selecting the most appropriate word for each blank from the given options.

Udaipur's romantic landscape and its beautiful monuments appeal to travellers from all over the world. With its (36)_____ waters, gently gliding (37)_____ and graceful havelis. Udaipur (38)_____ a delicate water-colour painting. It was originally (39)_____ on the banks of the lovely Lake Pichola, (40)_____ continues to dominate the south (41)_____ the City Palace (42)_____ the Fort that rises from its (43)_____ in breathtaking splendour.

36. (A) turbulent (B) placid (C) aquatic (D) cascading
 37. (A) boats (B) flowers (C) flora (D) coral
 38. (A) breathes like (B) perceive like (C) treats like (D) looks like
 39. (A) emerged (B) appeared (C) developed (D) built
 40. (A) which (B) where (C) while (D) who
 41. (A) off (B) in (C) of (D) at
 42. (A) as (B) where (C) near (D) and
 43. (A) fringe (B) edge (C) rim (D) border

Instructions for (Q.44 to Q.47):

Select the most appropriate option to fill in the blanks from the given alternatives.

44. Advertising is a close _____ of market economy as it boosts economy by encouraging buying. Yet it is a unpleasant feature of modern life
 (A) companion (B) assistant (C) attendant (D) enemy
45. During the Gulf War, a few year back, tens of thousand of sea birds were killed due to oil _____. Do you know what makes crude oil on ocean water so deadly ?
 (A) spilt (B) fall (C) falling (D) spills
46. In spite of his fantastic English, for some reason Arun couldn't _____
 (A) make him understandable (B) have understood oneself.
 (C) make him to understand. (D) make himself understood.
47. The patient was suffering from _____ attacks of headache.
 (A) periodical (B) period (C) periodic (D) periodically

Instructions for (Q.48 to Q.50):

Choose the antonym of the underlined word from the four alternatives given

48. Some regions were unapproachable to the Romans.
 (A) casual accessible (B) accessible
 (C) unattainable (D) impenetrable
49. The media was biased in its news coverage.
 (A) inclined (B) unfair (C) impartial (D) imperial
50. The expenditure on library books has been curtailed by the school authorities.
 (A) increased (B) limited (C) penalized (D) expanded

ANSWERS

1. (C)	2. (B)	3. (B)	4. (D)	5. (C)
6. (D)	7. (D)	8. (B)	9. (D)	10. (B)
11. (B)	12. (A)	13. (B)	14. (A)	15. (D)
16. (C)	17. (C)	18. (C)	19. (D)	20. (A)
21. (B)	22. (D)	23. (A)	24. (C)	25. (A)
26. (C)	27. (D)	28. (C)	29. (B)	30. (B)
31. (C)	32. (B)	33. (D)	34. (D)	35. (A)
36. (B)	37. (C)	38. (D)	39. (D)	40. (A)
41. (C)	42. (A)	43. (A)	44. (A)	45. (D)
46. (D)	47. (C)	48. (B)	49. (C)	50. (A)



SCHOLASTIC APTITUDE TEST (SAT)

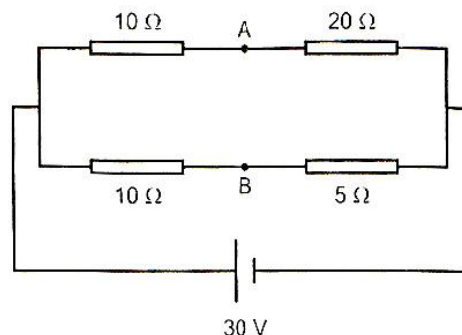
1. Suppose a mutant of a photosynthetic alga has dysfunctional mitochondria. It would affect its ability to perform
(A) glycolysis (B) anaerobic respiration
(C) aerobic respiration (D) photosynthesis
2. Cow has a special stomach as compared to that of a lion in order to
(A) absorb food in better manner
(B) digest cellulose present in the food.
(C) assimilate food in a better way
(D) absorb large amount of water.
3. When touched, the leaflets of Touch-me-not plant are closed. Closing of leaflets starts from the point of contact to the leaflets away. The leaflets are closed due to
(A) change in turgor pressure (B) specialized proteins
(C) growth hormone retardation (D) capillary action
4. Pancreas is composed of
(A) Only exocrine cells. (B) Only endocrine cells.
(C) Both endocrine and exocrine cells. (D) Nephrons
5. The human embryo gets nutrition from the mother blood with the help of a special organ called
(A) Zygote (B) Ovary (C) Oviduct (D) Placenta
6. Hormones produced in one part of the organism reach the distantly located target via
(A) muscles (B) bone (C) cartilage (D) blood
7. Which of the following are characteristic features of cells of meristematic tissue?
(A) Actively dividing cells with dense cytoplasm, thick cell wall and prominent nuclei.
(B) Actively dividing cells with dense cytoplasm, thin cell wall and no vacuoles.
(C) Actively dividing cells with little cytoplasm, thin cell wall and prominent nuclei.
(D) Actively dividing cells with thin cytoplasm, thin cell wall and no vacuoles.
8. Which one of the following animals is different from others in not having the paired gill pouches?
(A) Whale (B) Water snake (C) Star fish (D) Sea horse
9. In the symbiotic relationship between a bacterium and a root of legume the
(A) bacteria provide N_2 and the plant roots provide carbon.
(B) roots provide NH_4 and bacteria provide carbon.
(C) bacteria provide NH_4 and the roots provide carbon.
(D) bacteria provide N_2 and the roots provide NH_4 .
10. Which of the following is a result of biological magnification?
(A) Top level predators may be most harmed by toxic chemicals in environment.
(B) Increase in carbon dioxide.
(C) The green-house effect will be most significant at the poles.
(D) Energy is lost at each trophic level of a food chain.
11. Which one of the following signifies *ex situ* conservation?
(A) National parks and Biosphere reserves.
(B) Wild animals in their natural habitats.
(C) Inhabitants of natural ecosystems.
(D) Conservation methods practiced in Zoo and Botanical garden.

12. What is the main reason for increase in temperature in a glass house?
 (A) Sunlight is completely absorbed by plants in the glass house.
 (B) Radiation fails to escape from the glass house completely.
 (C) Plants do not utilize sunlight in a glass house.
 (D) Plants produce heat inside the glass house.
13. Match the items in column I with those in column II, and select the correct choice.
- | Column I | Column II |
|----------------------------|------------------------------|
| (A) Small pox | (I) Bacteria |
| (B) Cholera | (II) Virus |
| (C) Malaria | (III) Deficiency of minerals |
| (D) Anaemia | (IV) Female mosquito |
| (A) A–IV, B–II, C–III, D–I | (B) A–II, B–I, C–IV, D–III |
| (C) A–IV, B–III, C–II, D–I | (D) A–III, B–IV, C–I, D–II |
14. In the experiment conducted by Mendel, RRyy (round, green) and rrYY (wrinkled, yellow) seeds of pea plant were used. In the F₂ generation 240 progeny were produced, out of which 15 progeny had specific characteristics. What were the characteristics?
 (A) Round and green
 (B) Round and yellow
 (C) Wrinkle and yellow
 (D) Wrinkle and green
15. Total number of neutrons in five moles of water molecule is
 (A) 3.011×10^{24} (B) 2.409×10^{25} (C) 3.111×10^{25} (D) 2.711×10^{25}
16. The metal used to recover copper from an aqueous solution of copper sulphate is
 (A) Na (B) Ag (C) Hg (D) Fe
17. Four substances were thoroughly mixed with water separately to obtain mixtures A, B, C and D. Some of their properties are given below:
 (I) Path of a beam of light passing through it was visible in A, B and D but invisible in C.
 (II) On leaving undisturbed, the particles of the substance settle down in A but not in B, C and D.
 (III) The solute particles are visible to naked eye in A but invisible in B, C and D.
 Which of the following is correct about A, B, C and D?
 (A) A, B and D are colloids, C is a solution.
 (B) A is a suspension, B and D are colloids, C is a solution.
 (C) A is a colloid. B, C and D are solutions.
 (D) A is a suspension. B, C and D are colloids.
18. Assertion (A): Aluminium foil cannot be used in α -particle scattering experiment.
 Reason (R): Aluminium is highly malleable metal.
 (A) Both A and R are correct. R is the correct reason for A.
 (B) Both A and R are correct but R is not the correct reason for A.
 (C) A is correct and R is incorrect.
 (D) A is incorrect and R is correct.
19. Magnesium ribbon is rubbed with sand paper before making it to burn. The reason of rubbing the ribbon is to
 (A) remove moisture condensed over the surface of ribbon.
 (B) generate heat due to exothermic reaction.
 (C) remove magnesium oxide formed over the surface of magnesium.
 (D) mix silicon from sand paper (silicon dioxide with magnesium for lowering ignition temperature of the ribbon).

20. The reaction that differs from the rest of the reactions given is
 (A) formation of calcium oxide from limestone.
 (B) formation of aluminium from aluminium oxide.
 (C) formation of sodium carbonate from sodium hydrogen carbonate.
 (D) formation of mercury from mercuric oxide.
21. An element X reacts with dilute H_2SO_4 as well as with NaOH to produce salt and $\text{H}_2(\text{g})$.
 Hence, It may be concluded that:
 (I) X is an electropositive element.
 (II) oxide of X is basic in nature.
 (III) oxide of X is acidic in nature.
 (IV) X is an electronegative element.
 (A) I, II, IV (B) IV, I, III (C) III, IV, I (D) II, III, IV
22. An element X has electronic configuration 2, 8, 1 and another element Y has electronic configuration 2, 8, 7. They form a compound Z. The property that is not exhibited by Z is
 (A) It has high melting point
 (B) It is a good conductor of electricity in its pure solid state.
 (C) It breaks into pieces when beaten with hammer.
 (D) It is soluble in water
23. The compound containing both ionic and covalent bond is
 (A) AlBr_3 (B) CaO (C) MgCl_2 (D) NH_4Cl
24. The element that cannot be used as a reducing agent is
 (A) carbon (B) aluminium (C) sulphur (D) sodium
25. Somebody wanted to calculate the number of moles of oxygen atoms comprising of 9.033×10^{23} number of its atoms. The person further thought to calculate its mass and to find the number of moles of hydrogen atoms required to combine completely with this amount of oxygen to form water. The number of moles of oxygen atoms, their mass (in grams) and the number of moles of hydrogen atoms are
 (A) 1.5, 3 and 24 respectively (B) 15, 18 and 3 respectively
 (C) 0.15, 27, 3 respectively. (D) 1.5, 24 and 3 respectively
26. The molecular formula of carboxylic acid that differs from the rest is
 (A) $\text{C}_{13}\text{H}_{26}\text{O}_2$ (B) $\text{C}_2\text{H}_4\text{O}_2$ (C) $\text{C}_9\text{H}_{18}\text{O}_2$ (D) $\text{C}_7\text{H}_{12}\text{O}_2$
27. Foam of soap always appears white as
 (A) it contains large hydrogen chains.
 (B) it absorbs red portion of the visible light.
 (C) it reflects light of all wavelengths.
 (D) it has one hydrophobic end, which is insoluble in water.
28. In a neon gas discharge tube, every second 4.8×10^{18} Ne^+ ions move towards the right through a cross-section of the tube, while 'n' electrons move to the left in the same time. If the current in the tube is 1.12 amperes towards the right, 'n' is equal to (given $e = 1.6 \times 10^{-19}$ coulomb)
 (A) 1.8×10^{18} (B) 2.2×10^{18} (C) 2.4×10^{19} (D) 2.8×10^{19}
29. Four situations are given below
 (I) An infinitely long wire carrying current
 (II) A rectangular loop carrying current
 (III) A solenoid of finite length carrying current.
 (IV) A circular loop carrying current.
 In which of the above cases will the magnetic field produced be like that of a bar magnet?
 (A) I (B) I and III (C) Only III (D) Only IV

30. In the circuit diagram shown below, V_A and V_B are the potentials at points A and B respectively. Then, $V_A - V_B$ is

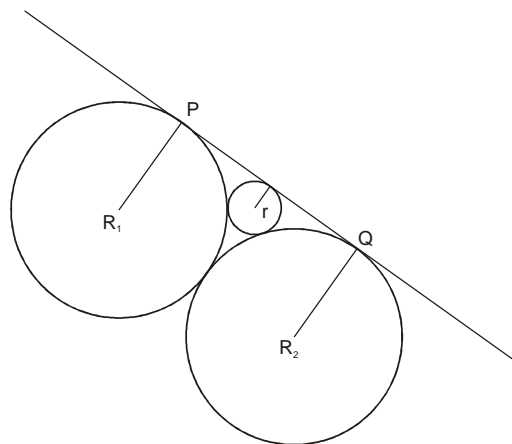
(A) -10 V (B) -20 V
(C) 0 V (D) 10 V



31. **Assertion (A):** Motion of a charged particle under the action of a magnetic field alone is always with constant speed.
Reason (R): The magnetic force does not have any component either along or opposite to the direction of motion of the charged particle.
- (A) Both Assertion and Reason are true and the reason is the correct explanation of the assertion.
(B) Both Assertion and Reason are true, but the reason is not the correct explanation of the assertion.
(C) Assertion is a true statement, but Reason is false.
(D) Both Assertion and Reason are false statements.
32. When a charged particle passes through an electric field, which among the following properties change?
- (I) mass (II) charge (III) velocity (IV) momentum
(A) II & III (B) only III (C) III & IV (D) I, III & IV
33. A ray of light in air is incident on an equilateral glass prism at an angle θ_i to the normal. After refraction, the light travelled parallel to the base of prism and emerged in air at an angle θ_c to the normal. If the angle between the incident and the emergent rays is 60° , then the refractive index of glass with respect to air is
- (A) 1.33 (B) 1.5 (C) 1.73 (D) 1.66
34. You are standing on the shore of a lake. You spot a fish swimming below the lake surface. You want to kill the fish first by throwing a spear and next, by pointing a high-power laser torch. How should you aim the spear and torch, respectively, from the options given below?
- (I) above the apparent position of the fish
(II) below the apparent position of the fish
(III) directly at the apparent position of the fish
(A) SPEAR : II ; LASER : III (B) SPEAR : I ; LASER : II
(C) SPEAR : II ; LASER : II (D) SPEAR : III ; LASER : III
35. A beam of light coming from a rarer medium is partially reflected from the surface of a denser medium and partially refracted into the denser medium. If the reflected and the refracted rays are perpendicular to each other and the ratio of the refractive indices of denser and rarer medium is $\sqrt{3}$, the angle of refraction will be
- (A) 60° (B) 30° (C) 45° (D) 41.5°
36. A person can see clearly only the objects situated in the range of 50 cm to 300 cm. He went to an Optometrist who prescribed him a lens of certain power to increase the maximum distance of his vision to infinity, i.e. it corrected the near – sightedness. However, upon using the prescribed lens the person discovered that the near point of his vision has shifted from 50 cm to a distance “d”. What is the value of d?
- (A) 60 cm (B) 100 cm (C) 40 cm (D) 500 cm

37. A ball of mass m is thrown from a height h with a speed v . For what initial direction of the ball will its speed on hitting the ground be maximum?
 (A) horizontally
 (B) vertically downwards
 (C) at an angle of 45° from the vertical in the downward direction
 (D) speed does not depend on the direction in which the ball is thrown
38. A beaker is filled with two non – mixing liquids. The lower liquid has density twice that of the upper one. A cylinder of height h floats with one – fourth of its height submerged in the lower liquid and half of its height submerged in the upper liquid. Another beaker is filled with the denser of the two liquids alone. If the same cylinder is kept in the second beaker, the height of the submerged position would be.
 (A) h (B) $\frac{3h}{4}$ (C) $\frac{h}{2}$ (D) $\frac{h}{4}$
39. A spring – loaded toy sits at rest on horizontal frictionless surface. When the spring releases, the toy breaks into three equal – mass pieces A, B and C, which slide along the surface. Piece A moves off in the negative x – direction, while piece B moves off in the negative y direction. Which of the three pieces is moving the fastest?
 (A) A (B) B
 (C) C (D) They move with identical speeds
40. A truck and a car of masses m_1 and m_2 respectively are moving with equal kinetic energies. Equal stopping forces are applied and they come to a halt after traveling further distances x_1 and x_2 respectively. Then
 (A) $x_1 = x_2$ (B) $\frac{x_1}{x_2} = \frac{m_1}{m_2}$ (C) $\frac{x_1}{x_2} = \sqrt{\frac{m_1}{m_2}}$ (D) $\frac{x_1}{x_2} = \sqrt{\frac{m_2}{m_1}}$
41. On dividing a natural number by 13, the remainder is 3 and on dividing the same number by 21, the remainder is 11. If the number lies between 500 and 600, then the remainder on dividing the number by 19 is
 (A) 4 (B) 6 (C) 9 (D) 13
42. Expressing $0.\overline{34} + 0.\overline{34}$ as a single decimal, we get
 (A) $0.6\overline{788}$ (B) $0.6\overline{89}$ (C) $0.6\overline{878}$ (D) $0.6\overline{87}$
43. If the value of a quadratic polynomial $p(x)$ is 0 only at $x = -1$ and $p(-2) = 2$, then the value of $p(2)$ is
 (A) 18 (B) 9 (C) 6 (D) 3
44. The graphs of the equations $x - y = 2$ and $kx + y = 3$, where k is a constant, intersect at the point (x, y) in the first quadrant, if and only if k is
 (A) equal to -1 (B) greater than -1 (C) less than $\frac{3}{2}$ (D) lying between -1 and $\frac{3}{2}$
45. If α and β are the roots of the quadratic equation $x^2 - 6x - 2 = 0$ and if $a_n = \alpha^n - \beta^n$, then the value of $\frac{a_{10} - 2a_8}{2a_9}$ is
 (A) 6.0 (B) 5.2 (C) 5.0 (D) 3.0
46. If $S_1, S_2, S_3, \dots, S_r$ are the sums of first n terms of r arithmetic progressions whose first terms are 1, 2, 3, and whose common differences are 1, 3, 5, respectively, then the value of $S_1 + S_2 + S_3 + \dots + S_r$ is
 (A) $\frac{(nr-1)(nr+1)}{2}$ (B) $\frac{(nr+1)nr}{2}$ (C) $\frac{(nr-1)nr}{2}$ (D) $\frac{n(nr+1)}{2}$

47. A person walks towards a tower. Initially when he starts, angle of elevation of the top of the tower is 30° . On travelling 20 metres towards the tower, the angle changes to 60° . How much more has he to travel to reach the tower?
 (A) $10\sqrt{3}$ metres (B) 10 metres (C) 20 metres (D) $\frac{10}{\sqrt{3}}$ metres
48. If $\operatorname{cosec} x - \sin x = a$ and $\sec x - \cos x = b$, then
 (A) $(a^2b)^{\frac{2}{3}} + (ab^2)^{\frac{2}{3}} = 1$ (B) $(ab^2)^{\frac{2}{3}} + (a^2b^2)^{\frac{2}{3}} = 1$
 (C) $a^2 + b^2 = 1$ (D) $b^2 - a^2 = 1$
49. A calf is tied with a rope of length 12 m at a corner of a rectangular field of dimensions 35 m \times 25 m. If the length of the rope is increased to 23 m, then the additional grassy area in which the calf can graze is: (Take $\pi = \frac{22}{7}$)
 (A) 280.0 m² (B) 300.0 m² (C) 302.5 m² (D) 312.5 m²
50. If Anish is moving along the boundary of a triangular field of sides 35 m, 53 m and 66 m and you are moving along the boundary of a circular field whose area is double the area of the triangular field, then the radius of the circular field is: (Take $\pi = \frac{22}{7}$)
 (A) $14\sqrt{3}$ m (B) $3\sqrt{14}$ m (C) $28\sqrt{3}$ m (D) $7\sqrt{3}$ m
51. A circular metallic sheet is divided into two in such a way that each part can be folded into a cone. If the ratio of their curved surface areas is 1 : 2, then the ratio of their volumes is
 (A) 1 : 8 (B) 1 : $\sqrt{16}$ (C) 1 : $\sqrt{10}$ (D) 2 : 3
52. A solid metallic block of volume one cubic metre is melted and recast into the form of a rectangular bar of length 9 metres having a square base. If the weight of the block is 90 kg and a biggest cube is cut off from the bar, then the weight of the cube is
 (A) $6\frac{1}{3}$ kg (B) $5\frac{2}{3}$ kg (C) $4\frac{2}{3}$ kg (D) $3\frac{1}{3}$ kg
53. Two circles with centres P and R touch each other externally at O. A line passing through O cuts the circles at T and S respectively. Then
 (A) PT and RS are of equal length (B) PT and RS are perpendicular to each other
 (C) PT and RS are intersecting (D) PT and RS are parallel
54. If in a triangle ABC, D is the mid point of side BC, $\angle ADB = 45^\circ$ and $\angle ACD = 30^\circ$. Then $\angle BAD$ and $\angle ABC$ are respectively equal to
 (A) $15^\circ, 105^\circ$ (B) $30^\circ, 105^\circ$ (C) $30^\circ, 100^\circ$ (D) $60^\circ, 100^\circ$
55. Three circles with radii R_1 , R_2 and r touch each other externally as shown in the adjoining figure. If PQ is their common tangent and $R_1 > R_2$, then which of the following relations is correct?
 (A) $R_1 - R_2 = r$
 (B) $R_1 + R_2 = 2r$
 (C) $\frac{1}{R_1} + \frac{1}{R_2} = \frac{1}{r}$
 (D) $\frac{1}{\sqrt{R_1}} + \frac{1}{\sqrt{R_2}} = \frac{1}{\sqrt{r}}$



56. ABC is a triangle in which AB = 4 cm, BC = 5 cm, and AC = 6 cm. A circle is drawn to touch side BC at P, side AB extended at Q and side AC extended at R. Then, AQ equals
(A) 7.0 cm (B) 7.5 cm (C) 6.5 cm (D) 15.0 cm
57. The centre of the circle passing through the points (6, -6), (3, -7) and (3, 3) is
(A) (3, 2) (B) (-3, -2) (C) (3, -2) (D) (-3, 2)
58. If the line segment joining (2, 3) and (-1, 2) is divided internally in the ratio 3 : 4 by the graph of the equation $x + 2y = k$, the value of k is
(A) $\frac{5}{7}$ (B) $\frac{31}{7}$ (C) $\frac{36}{7}$ (D) $\frac{41}{7}$
59. The mean of three positive numbers is 10 more than the smallest of the numbers and 15 less than the largest of the three. If the median of the three numbers is 5, then the mean of squares of the numbers is
(A) $108\frac{2}{3}$ (B) $116\frac{2}{3}$ (C) $208\frac{1}{3}$ (D) $216\frac{2}{3}$
60. Three dice are thrown simultaneously. The probability of getting a total of at least 5 of the numbers appearing on their tops is
(A) $\frac{5}{54}$ (B) $\frac{7}{54}$ (C) $\frac{49}{54}$ (D) $\frac{53}{54}$

61. Match the following

A	Livre	I.	A tax levied by the Church
B	Manor	II.	An estate of Lord's lands and his mansions
C	Tithe	III.	Tax to be paid directly to the State
D	Taille	IV.	Unit of currency

- (A) A – III, B – II, C – IV, D – I (B) A – II, B – IV, C – I, D – III
(C) A – IV, B – II, C – III, D – I (D) A – IV, B – I, C – II, D – III
62. **Assertion (A)** : After the 1905 revolution in Russia, Duma or the first elected consultative Parliament came into existence.
Reason (R) : The power of Tsar was curbed by it
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true and R is false
(D) A is false and R is true
63. Arrange in correct chronological order
I. Dawes Plan
II. Crashing of the Wall Street Exchange
III. Birth of Weimar Republic
IV. Creation of Gestapo (Secret State Police)
(A) I, II, III, IV (B) III, II, I, IV (C) IV, II, III, I (D) III, I, II, IV
64. **Assertion (A)** : Cricket as a game has a long and strong rural connection.
Reason (R) : The time limit of a match and vagueness about the size of Cricket ground is a result of the rhythms of village life.
(A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true and R is false
(D) A is false and R is true

- 65. Assertion (A) :** In the 17th and 18 Century merchants from the towns in Europe started financing peasants and artisans in the country side for production for them.
Reason (R) : In the urban centres powerful crafts and trade guilds with monopoly rights restricted the entry of new people into the trade.
 (A) Both A and R are true and R is the correct explanation of A
 (B) Both A and R are true but R is not the correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true
- 66. Assertion (A) :** Colonial Forest Act changed the lives of villagers across the country
Reason (R) : Now the villagers could comfortably make use of the forest resources for everyday needs.
 (A) Both A and R are true and R is the correct explanation of A
 (B) Both A and R are true but R is not the correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true
- 67.** Arrange the following events of nineteenth century Europe in ascending order.
 I. Unification of Germany
 II. Beginning of Greek struggle for independence
 III. Unification of Italy
 IV. Vienna Peace Settlement
 (A) III, I, II, IV (B) IV, II, III, I (C) I, III, IV, II (D) IV, II, I, III
- 68.** Arrange the following events in descending order with regard to Nationalist Movement in Indo – China
 I. Creation of Indo – China union
 II. Formation of Communist Party in Vietnam
 III. Paris Peace Treaty
 IV. Declaration of independence by Ho Chi Minh
 (A) III, IV, II, I (B) III, IV, I, II (C) I, II, III, IV (D) I, II, IV, III
- 69.** Find out the correct statements with regard to Rowlatt Act.
 I. The Rowlatt Act was passed in 1919
 II. The act was passed by Imperial Legislative Council
 III. The act allowed detention of Political prisoners without trial for three years
 IV. Protests against the Act led to Jallianwalla Bagh massacre in April 1920.
 (A) Only II and III are correct (B) Only I and III are correct
 (C) Only III and IV are correct (D) Only I and II are correct
- 70.** Assertion (A) : Population growth from the late eighteenth century increased the demand for food grains in Britain.
 Reason (R) : ‘Corn Laws’ introduced by the government helped in reducing the food prices.
 (A) Both A and R are true and R is the correct explanation of A
 (B) Both A and R are true but R is not the correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true

71. Match the following

A	Galley	I.	Old name of Tokyo
B	Edo	II.	Contained six sheet of text and wood cut illustrations
C	Vellum	III.	Metal Frame in which types are laid and the text composed
D	Diamond Sutra	IV.	A parchment made from skin of animals

(A) A – III, B – I, C – II, D – IV

(B) A – I, B – III, C – II, D – IV

(C) A – I, B – III, C – IV, D – II

(D) A – III, B – I, C – IV, D – II

72. Given below are statements regarding the course of development of Socialism in Europe.

Arrange them in chronological sequence.

I. Socialists took over the government in Russia through the October Revolution.

II. Socialists and trade unionists formed a labour party in Britain and Socialist party in France

III. The Russian Social Democratic Worker's Party was founded by Socialists who respected Marx's ideas.

IV. Socialists could not succeed in forming a government in Europe and governments continued to be run by conservatives, liberals and radicals.

V. Second International was formed to coordinate the efforts of socialists throughout Europe.

(A) V, III, II, IV, I

(B) I, II, III, IV, V

(C) V, II, III, I, IV

(D) IV, V, III, I, II

73. Hitler's ideology related to the geopolitical concept of Lebensraum, or living space implied

(A) there was no equality between people but only a racial hierarchy

(B) only those species survived on earth that could adapt themselves to changing climatic conditions

(C) new territories had to be acquired for settlement to increase the area of the mother country

(D) an exclusive racial community of pure Germans to be created by physically eliminating all those who were seen as undesirable.

74. During the mid-eighteenth century

Assertion(A): Indian spinners and weavers left without work and important centers of textile declined.

Reason(R): large number of people began boycotting British cloth and started adopting khadi

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is not the correct explanation of A

(C) A is true and R is false

(D) A is false and R is true

75. **Assertion(A):** Mahatma Gandhi called off the Civil Disobedience Movement and entered into a pact with Irwin in 1931.

Reason(R): Industrial workers in Sholapur attacked structure that symbolized British rule

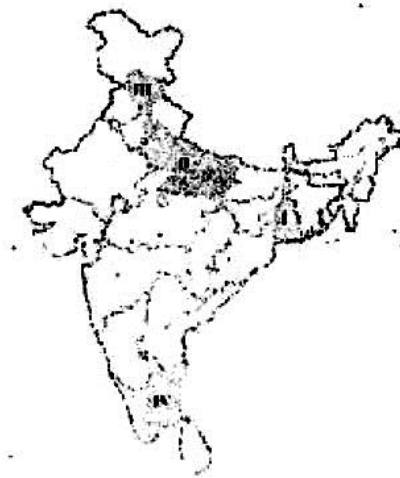
(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is not the correct explanation of A

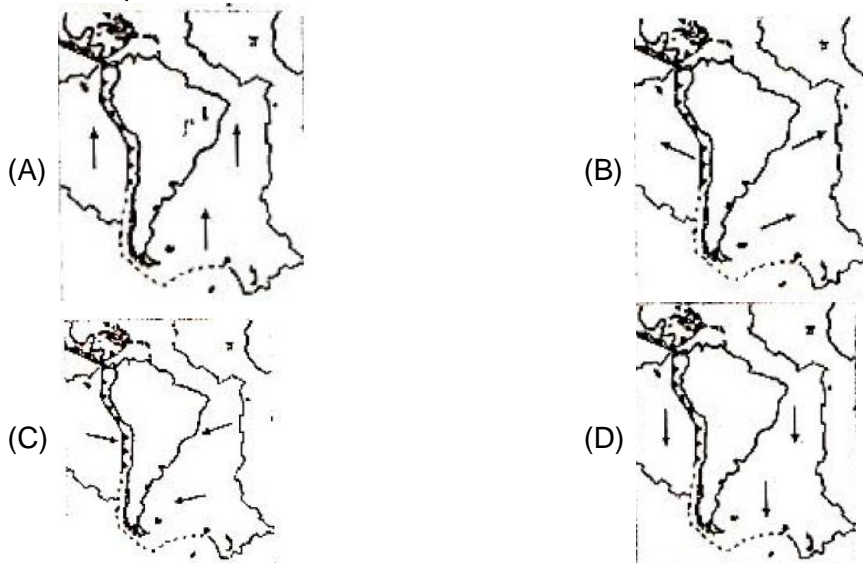
(C) A is true and R is false

(D) A is false and R is true

76. **Assertion(A):** The latitudinal extent influences the duration of day and night, as one moves from south to north of India..
Reason(R): From Gujarat to Arunachal Pradesh there is a time lag of two hours
 (A) Both A and R are true and R is the correct explanation of A
 (B) Both A and R are true but R is not the correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true
77. **Assertion(A):** Kharif crops are grown with the onset of monsoon in different parts of India and harvested in September-October.
Reason(R): Availability of precipitation due to western temperate cyclones helps in growing of these crops
 (A) Both A and R are true and R is the correct explanation of A
 (B) Both A and R are true but R is not the correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true
78. Arrange the shaded states shown on the map of India in descending order of population density and select the right code



- (A) II, I, IV, III (B) I, II, III, IV (C) I, II, IV, III (D) I, IV, II, III
79. Which one of the following figure is showing the correct direction of movement of the South America plate?



80. Based on the data(elevation and latitude) provided below which of the following tourist centers is most probably indicated?

Elevation: 3500 meters

Latitude: 34° N

(A) Shillong (B) Mussoorie (C) Kodaikanal (D) Leh

81. Keeping in mind the location of the following sanctuaries/national parks of India, arrange them from south to north:

I. Periyar, II. Dachigam, III. Sarsika IV. Kanha

(A) I, IV, II, III (B) III, I, IV, II (C) IV, I, III, II (D) I, IV, III, II

82. Match List – I (Revolution) with List – II (Area) and select the correct answer using the codes given below:

List – I (Revolution)		List – II (Area)	
A	Blue	I.	Dairy development
B	Green	II.	Fisheries development
C	White	III.	Food production
D	Yellow	IV.	Silk production

(A) A-II, B-III, C-IV, D-I

(B) A-III, B-IV, C-II, D-I

(C) A-IV, B-II, C-I, D-III

(D) A-II, B-III, C-I, D-IV

83. **Assertion(A):** The availability of water resources varies over space and time in India.

Reason(R): Water availability is governed by variations in seasonal and annual precipitation although water scarcity is aggravated by over-exploitation and unequal access to water among different social groups.

(A) Both A and R are true and R is the correct explanation of A

(B) Both A and R are true but R is not the correct explanation of A

(C) A is true and R is false

(D) A is false and R is true

84. Match List – I (Type of resources) with List – II (Basis of classification) and select the codes given below:

List – I (Type of resources)		List – II (Basis of classification)	
A	Biotic and abiotic	I.	Status of development
B	Renewable and non-renewable	II.	Origin
C	Individual, community, national and international	III.	Ownership
D	Potential developed, stock and reserves	IV.	Exhaustibility

(A) A-II, B-I, C-III, D-IV

(B) A-II, B-I, C-III, D-IV

(C) A-II, B-IV, C-III, D-I

(D) A-IV, B-II, C-III, D-I

85. Which one of the following is the correct order of rivers from north to south?

(A) Ravi, Chenab, Jhelum, Indus

(B) Indus, Jhelum, Chenab, Ravi

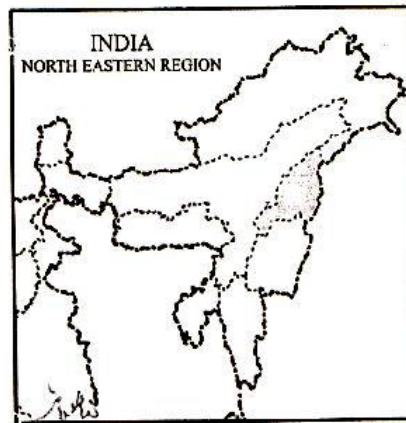
(C) Jhelum, Indus, Ravi, Chenab

(D) Chenab, Ravi, Indus, Jhelum

86. Match List – I (National highways of India) with List – II (Description) and select the codes given below:

List – I (National highways of India)		List – II (Description)	
A	National Highway Number – 1	I.	Covers most of Rajasthan
B	National Highway Number – 15	II.	Known as Sher Shah Suri Marg
C	National Highway Number – 7	III.	Connects Delhi and Mumbai
D	National Highway Number – 8	IV.	Is the longest national highway

- (A) A-IV, B-III, C-I, D-II
(B) A-I, B-II, C-IV, D-III
(C) A-II, B-I, C-IV, D-III
(D) A-I, B-III, C-II, D-IV
87. Which of the following statement is NOT true to the context of Mawsynram?
- (A) It is considered as the wettest place on earth
(B) It possesses cave with stalagmites and stalacities
(C) It is located very close to Cherrapunji
(D) It is located very close to the Myanmar border
88. Which one of the following facts about the shaded state shown below is incorrect?



- (A) Terrace cultivation is widespread in the hill areas
(B) The state is a major producer of uranium
(C) Population density is well below the national average
(D) More than 80 percent of the area has forest as the land cover
89. The tropic of cancer passes through which of the following plateau?
- (A) Only Malwa
(B) Only Chotanagpur
(C) Only Meghalaya
(D) Both Malwa and Chotanagpur
90. **Assertion(A):** The Coriolis force is responsible for deflecting winds towards the right in the northern hemisphere and towards the left in the southern hemisphere.
Reason(R): The pressure and wind system of any area depend on the latitude and altitude of the place.
- (A) Both A and R are true and R is the correct explanation of A
(B) Both A and R are true but R is not the correct explanation of A
(C) A is true and R is false
(D) A is false and R is true

91. Which of the following arguments against prescribing educational qualification for elected representatives are true?
- Educational qualification will deprive illiterate citizens of the right to contest elections.
 - Relevant qualification for being elected representatives is not education but ability to address people's problems
 - Educated elected representatives keep distance from the common people
 - It is easier for the educated elected representatives to use power for personal gains
 - It should be left to the voters to decide how much importance is to be given to educational qualification of a candidate.
- (A) I, II and IV only (B) I, III and V only (C) I, IV and V only (D) I, II and V only
92. Which of the following terms were inserted in the preamble to the Indian Constitution by the 42nd Amendment Act, 1976?
- Integrity
 - Secular
 - Socialist
 - Unity
- (A) I, III and IV (B) II and III (C) I, II and III (D) I, II and IV
93. Which of the following international institutions has a more democratic way of decisionmaking on matters of global importance?
- General Assembly of the United Nations
 - International Monetary Fund
 - Security Council of the United Nations
 - World Bank
94. Which of the following factors have contributed to changes in the caste system?
- Economic development
 - Language
 - Education
 - Elections
 - Region
- (A) I, III and IV (B) II, IV and V (C) II, III and IV (D) I, III and V

95. Match List – I with List – II and select the answer using the codes given below:

List – I		List – II	
A	Supervises the overall functioning of all the political institutions in the country	I.	The Supreme Court
B	Distributes and redistributes work to the ministers	II.	The President
C	Minister may have different views but have to own up every decision	III.	The Prime Minister
D	Determines the constitutionality of any contentious action	IV.	The Cabinet

- (A) A-IV, B-III, C-II, D-I (B) A-II, B-III, C-IV, D-I
(C) A-II, B-IV, C-III, D-I (D) A-III, B-IV, C-I, D-II
96. Calculate the female literacy rate from the given data

Gender	Total persons	Literate persons
Males	1200	1050
Females	580	340
Total	1780	1390

- (A) 32.5 (B) 19.1 (C) 58.6 (D) 28.3

97. Which of these activities contributes to India's national income?
- Cooking at home
 - A teacher teaching his children at home
 - A doctor prescribing medicines in a clinic
 - Cooking in a restaurant
- (A) I and II (B) II and III (C) III and IV (D) I and IV
98. In an imaginary economy the monetary value of contributions of primary sector, public sector, secondary sector and service sector are Rs 100, Rs 25, Rs 28 and Rs 77 respectively. The gross domestic product of the economy is
- (A) Rs 100 (B) Rs 205 (C) Rs 153 (D) Rs 230
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- (A) Rs 100 (B) Rs 205 (C) Rs 153 (D) Rs 230
99. Four families in a village, which has only a ration shop, have access to food grains as shown in the table. Identify the families that lack food security

Family	Food Requirement In kg	Food grain Price/kg	Money available To each family For buying food Grains	Possessing Ration card
A	50	10	600	Yes
B	30	10	330	No
C	20	10	180	Yes
D	40	10	400	Yes

- (A) A and B (B) B and C (C) C and D (D) D and A
100. Robinson Crusoe goes to sea with a net for fishing. Classify the factors of production and choose the appropriate option given below.

Item		Classification	
A.	Knowledge of fishing	I.	Physical Capital
B.	Net	II.	Labour
C.	Sea	III.	Human Capital
D.	Swimming	IV.	Land

- (A) A-III, B-IV, C-II, D-I (B) A-IV, B-III, C-I, D-II
(C) A-III, B-I, C-IV, D-II (D) A-II, B-I, C-III, D-IV

ANSWERS

1. (C)	2. (B)	3. (A)	4. (C)	5. (D)
6. (D)	7. (B)	8. (C)	9. (C)	10. (A)
11. (D)	12. (B)	13. (B)	14. (D)	15. (B)
16. (D)	17. (B)	18. (B)	19. (C)	20. (B)
21. (A)	22. (B)	23. (D)	24. (C)	25. (D)
26. (D)	27. (C)	28. (B)	29. (C)	30. (D)
31. (A)	32. (C)	33. (C)	34. (A)	35. (B)
36. (A)	37. (D)	38. (C)	39. (C)	40. (A)
41. (A)	42. (D)	43. (A)	44. (D)	45. (D)
46. (B)	47. (B)	48. (A)	49. (C)	50. (A)
51. (C)	52. (D)	53. (D)	54. (B)	55. (D)
56. (B)	57. (C)	58. (D)	59. (D)	60. (D)
61. (C)	62. (C)	63. (D)	64. (A)	65. (A)
66. (C)	67. (B)	68. (A)	69. (D)	70. (C)
71. (D)	72. (A)	73. (C)	74. (C)	75. (A)
76. (B)	77. (C)	78. (C)	79. (C)	80. (D)
81. (D)	82. (D)	83. (A)	84. (C)	85. (B)
86. (C)	87. (D)	88. (B)	89. (D)	90. (B)
91. (D)	92. (C)	93. (A)	94. (A)	95. (B)
96. (C)	97. (C)	98. (B)	99. (B)	100. (C)