

QUANTITATIVE APTITUDE

1. The ratio of speed of a boat in still water to speed of running water 10 : 1. If ratio of time taken by the boat to travel D km downstream to that of time taken to travel D - 45 km upstream is 3 : 2 then find the value of D ?

A. 88 B. 54
C. 110 D. 99
E. 66

Ans. D

2. 4 years hence sum of A's age and B's age is 16 more than the sum of present age of B and C. If sum of A's age 4 years ago and C's age 4 years ago was 32 then what is C's present age ?

A. 18 B. 14
C. 10 D. 16
E. 12

Ans. D

3. 40 men can complete a work in 48 days. If 64 men started working and after X days 32 more men joined the work. If the remaining work is completed in $16\frac{2}{3}$

days, then find the value of X ?

A. 2 B. 5
C. 8 D. 4
E. 6

Ans. B

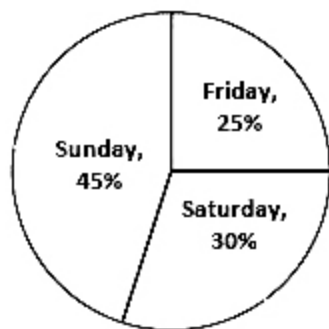
4. A started a project by investing Rs. X and after 6 months, B invested Rs. 4,000 more than the what A had invested. At the end of the year the ratio of the overall profit to that of B was 7 : 3. What was the value X?

A. 2000 B. 5000
C. 8000 D. 4000
E. 6000

Ans. C

Directions (5-9) : The percentage of visitors (male and female) to a museum on 3 days is depicted in the pie chart below. Total number of visitors on the three days is 400.

Percentage of visitors



The ratio of male visitors to female visitors on these days is depicted in the table below :

Days	Male : Female
Friday	2 : 3
Saturday	7 : 5
Sunday	5 : 4

5. On Tuesday the number of female visitors was $\frac{1}{5}$ more than that of Saturday. If the respective ratio between the number of male visitors and that of female visitors is 11 : 15 on Tuesday, what was the total number of visitors (male and female) on Tuesday ?
- A. 208 B. 104
C. 182 D. 130
E. 156

Ans. B

6. What is the total number of male visitors on the 3 days together ?
- A. 220 B. 230
C. 200 D. 210
E. 190

Ans. D

7. Out of the total no. of visitors on Saturday 35% were adults the cost for 1 adult's ticket is double that for one children's ticket. If the total amount collected from selling ticket on Saturday was 8100. What is the cost of 1 adult's ticket.
- A. 200 B. 160
C. 120 D. 100
E. 50

Ans. D

8. What is central angle corresponding to the no. of visitors (male and female) on Sunday (in degrees) ?

A. 172.8 B. 165.6
C. 162 D. 154
E. 198

Ans. C

9. What is the no. of female visitors on Friday was what percentage of no. of female visitors on Sunday ?

A. 70% B. 85%
C. 80% D. 65%
E. 75%

Ans. E

Directions (10-12) : The number of bread loaf sold by 5 stores A, B, C, D and E in a particular period has been plotted on the bar graph below :



10. The number of whole wheat bread sold by store A was what percent less than the whole wheat bread sold by store C.

A. 48 B. 50
C. 52 D. 55
E. 56

Ans. C

11. What is the average no. of multi-grain bread loaf sold by B, D and E ?

A. 68 B. 70
C. 72 D. 80
E. None of these

Ans. D

12. What is the respective ratio of total no. of bread loaf sold by D to E ?

A. 61 : 63 B. 41 : 43
C. 21 : 23 D. 31 : 33
E. None of these

Ans. B

13. Find the missing term in given series.
26, 63, 124, 215, ?

A. 315 B. 421
C. 342 D. 426
E. 388

Ans. C

Sol. $26 = 3^3 - 1$, $63 = 4^3 - 1$, $124 = 5^3 - 1$,
 $215 = 6^3 - 1$, **342** = $7^3 - 1$

14. Find the missing term in given series.
222, 110, 54, 26, ?

A. 8 B. 11
C. 13 D. 9
E. 12

Ans. E

15. Find the missing term in given series.
15, 8, 9, 15, 32, ?

A. 82.5 B. 81.5
C. 84.5 D. 80.5
E. 86

Ans. A

16. Find the missing term in given series.
5, 30, 150, 600, ?, 3600

A. 1200 B. 1800
C. 1600 D. 2400
E. 3200

Ans. B

17. Find the missing term in given series.
200, 197, 185, 163, 130, ?

A. 80 B. 85
C. 82 D. 84
E. 86

Ans. B

Directions (18-20) : In the following question two equations are given in variables X and Y. You have to solve these equations and determine the relation between X and Y.

18. 1. $5x + 2y = 31$

2. $3x + 7y = 36$

A. $X > Y$ B. $X \geq Y$

C. $X < Y$ D. $X \leq Y$

E. $X = Y$ or No unique relation.

Ans. A

19. 1. $x^2 - 7x + 12 = 0$

2. $y^2 - 9y + 20 = 0$

A. $X > Y$ B. $X \geq Y$

C. $X < Y$ D. $X \leq Y$

E. $X = Y$ or No unique relation.

Ans. D

20. 1. $(x + 1)^2 = 12^2$

2. $y^2 + 2y - 143 = 0$

A. $X > Y$ B. $X \geq Y$

C. $X < Y$ D. $X \leq Y$

E. $X = Y$ or No unique relation.

Ans. B

21. In the given series one of the terms is missing. Find the missing term.
100, 108, 98, 106, 96, ?

- A. 102 B. 106
C. 104 D. 108
E. 110

Ans. C

22. In the given series one of the terms is missing. Find the missing term.
18, 24, 36, 56, 86, ?

- A. 128 B. 118
C. 124 D. 130
E. 126

Ans. A

23. In the given series one of the terms is missing. Find the missing term.
6, 12, 20, 30, ?

- A. 40 B. 42
C. 44 D. 46
E. 38

Ans. B

24. In the given series one of the terms is missing. Find the missing term.
2, 1, 1, 1.5, 3, ?

- A. 4.5 B. 6
C. 7.5 D. 8
E. 7.2

Ans. C

25. In the given series one of the terms is missing. Find the missing term.
1, 11, 99, 693, 3465, ?

- A. 3465 B. 6930
C. 10395 D. 10397
E. 10400

Ans. C

Direction (26-31): What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value)

26. $8.02 - (? - 9.01) + (10.92)^2 = 120$

- A. 0 B. 18
C. 21 D. 24
E. 23

Ans. B

27. $13.96 \times \sqrt{9.09} + 200.02 = ?$

- A. 226 B. 242
C. 256 D. 351
E. 256

Ans. B

28. $6\% \text{ of } [(198.99) + (15.99)^2] = ?$

- A. 30 B. 17
C. 27 D. 24
E. 36

Ans. C

29. $\frac{1}{14.96} - \frac{1}{3.94} + \frac{1}{?} = 0$

- A. 5 B. 8
C. 10 D. 12
E. 3

Ans. A

30. $(6.02)^2 - \sqrt{120.89} + \sqrt{144.06} = ?$

- A. 35 B. 42
C. 37 D. 40
E. 33

Ans. C

31. 4 years ago, the ratio of ages of A and B was 9 : 11 and 6 years hence, the ratio of ages of A and B will be 7 : 8. Find the present age of B.

- A. 22 years B. 24 years
C. 26 years D. 37 years
E. None of these

Ans. C

32. A started a business with an initial investment of Rs. 8000. B joins the business after 4 months with an investment of Rs. 10000. C also joins the business after 8 months with an investment of Rs. 15000. At the end of the year, what will be the share of C in the total profit of Rs. 118000?

- A. Rs. 22000 B. Rs. 48000
C. Rs. 30000 D. Rs. 45000
E. Rs. 42000

Ans. C

33. The cost price of the two chairs is the same. Difference between their selling prices is Rs. 90. On selling one chair, a person got a profit of 12% and on selling another he got a profit of 18%. Find the cost price of each chair.

- A. Rs. 1200 B. Rs. 1500
C. Rs. 1800 D. Rs. 2400
E. Rs. 1000

Ans. B

ENGLISH LANGUAGE

Direction (1-5): Read the following information carefully and answer the questions that follow:

Renewable Energy (RE) is the future. With that said, one can argue that the future has arrived, in parts at least. Worldwide acceptance towards green energy is giving the sustainable energy sector more market share every year. The growth is consistent, with each year out-performing the previous, leading renewable energy to account for 1/3rd of global energy capacity.

It's fair to state that the growth trajectory is incredible, and considering that it took only a little more than a just decade to reach this position, we could call it _____. However, the most important question is, is this satisfactory? The goal of green energy transition is to solve growing energy scarcity and reduce dependency on fossil fuels in order to move towards a fully sustainable energy landscape. Therefore, to identify success, we need to compare renewable energy growth with the current scenario.

According to WHO's estimates, currently, more than 7 million people die every year from pollution, up from 4.2 million in 2016. Fossil fuel consumption has increased globally from 94,462/twh in 2000 to 1,33,853/twh now. The rise in population (currently 7.7 billion) indicates a steady growth in energy demand worldwide. In comparison, the fact that renewable energy took a decade to become 1/3 of energy capacity is not the ideal pace, considering we might not have two more decades to wait for RE to catch up.

1. Which of the following words is most similar to the word 'fair' with reference to the context of the passage?
A. Excellent B. Reasonable
C. Coloured D. Diligent
E. Prejudiced

Ans. B

2. Which of the following is similar in meaning to Account for?
A. To form a particular part of something
B. To consider or regard
C. Take an opportunity
D. Doing anything risky
E. Take control of

Ans. A

3. Which of the following words can most appropriately fill in the blank, as given in the passage grammatically and contextually?

It's fair to state that the growth trajectory is incredible, and considering that it took only a little more than a just decade to reach this position, we could call it _____.

- A. Phenomenal B. Affordable
C. Inadequate D. Affective
E. Dismal

Ans. A

4. What does the author want to convey via this statement;

"We need to understand that there are very real issues at play here, and choice of green energy transition was not actually a choice for us at the time we made an effort to change."

Direction: A sentence with one blank is given, indicating that something has been omitted. Choose the word that best fits the blank.

5. He looked _____ for his calculator but could not find it.
A. By B. Around
C. On D. Up
E. About

Ans. E

6. **Direction:** A sentence with one blank is given, indicating that something has been omitted. Choose the word that best fits the blank.

The admin has taken the steps to _____ the education system of the state.

- A. Revamp B. Improved
C. Increase D. Rehearse
E. Deteriorate

Ans. A

7. **Direction:** A sentence with one blank is given, indicating that something has been omitted. Choose the word that best fits the blank.

This country remains poor despite _____ rich in natural resources.

- A. Very B. Of it being
C. Have been D. It well
E. Being

Ans. E

8. **Direction:** A sentence with one blank is given, indicating that something has been omitted. Choose the word that best fits the blank.

Healthcare & education are one of the most _____ sectors in the country.

- A. Iterative B. Profiteer
C. Loss D. Overcharged
E. Cashing

Ans. D

9. **Direction:** A sentence with one blank is given, indicating that something has been omitted. Choose the word that best fits the blank.

The navy officer was fascinated with ships since childhood and _____ be a seafarer.

- A. Wished to B. Attempt
C. Frenzy D. Is trying
E. Wanted

Ans. A

10. **Direction :** In this question, two columns I and II and three sentences are given, which are divided into two parts. Column I (A, B and C) consists of first half of each sentence and Column II (D, E and F) consists of second half of each sentence. Match column I with column II, so that the sentences formed are both meaningful and grammatically correct.

Choose the option as your answer.

(I)

- A. Market research has shown us that
B. The government has
C. Demand has outstripped

(II)

- D. Supplied of qualified teachers
E. People are loyal to a brand not prices
F. Reforms are entire tax system

Ans. A, E

11. **Direction :** In this question, two columns I and II and three sentences are given, which are divided into two parts. Column I (A, B and C) consists of first half of each sentence and Column II (D, E and F) consists of second half of each sentence. Match column I with column II, so that the sentences formed are both meaningful and grammatically correct.

Choose the option as your answer.

(I)

- A. The rumours of petrol
B. The body of camera make
C. The threat of war has adversely

(II)

- D. Is highly resilient for indoor use
E. Shortage turned out to be false
F. Impacted burns as actively.

Ans. A, E

Error Spotting

The questions were based on:

1. The application of subject verb agreement rule.
2. Appropriate usage of Subordinate conjunction: Although, Yet

Directions (12-15): Read the following information carefully and answer the questions that follow:

Parents prefer private schools. A global survey in 2017 found that they were a lot more likely to give the teaching at their children's school a positive rating if it was private than if it was public; **parents in Chile have voted with their children's feet in favour of the private sector.**

Governments are often less keen on private education. Some of the reasons for their hostility are bad ones: a reluctance to **cede** power, the opportunity for patronage, the influence of teachers' unions. But some are entirely in order: governments need to promote quality, access to schooling and equity. The private sector is **good** at some, but not all, of those.

The main reason for the private sector's superior efficiency seems to be teachers, who are paid less and are more likely to turn up for work than at government schools. Politics has a lot to do with that. Teachers' unions have huge bargaining power—in India, for instance, they man polling stations and have reserved seats in state assemblies—and can therefore protect their members from being held to account for poor performance. An Indian study found that in 3,000 government schools, only one principal had ever dismissed a teacher; among 600 private schools, 35 had.

Yet well-designed public-private partnerships can work. Two of the world's best education systems—those of the Netherlands and Hong Kong—are based on them. In both places, schools get public funding, a lot of autonomy and hefty state regulation to raise standards and limit inequity. Chile's voucher-based education system,

despite its flaws, outperforms those of its neighbours.

Source: <https://www.economist.com>

12. Which of the following is most similar in meaning to "cede" as used in the passage?
- A. Concede B. Yield
C. Relinquish D. Surrender
E. All of these

Ans. E

13. Which of the following is most similar in meaning to "good" as used in the passage?
- A. Proficient B. Well behaved
C. Enjoyable D. Virtuous
E. All of these

Ans. A

14. Which of the following is true with reference to the passage?
- A. Public private partnership looks good only on paper.
B. The private sector address issues better than public sector in every area.
C. Teachers in private schools are more accountable than those in public school.
D. Because of politics, teachers at a public school are more likely to turn up for work.
E. Teachers in private schools are paid more than those in public schools.

Ans. C

15. What does the author mean by the following segment of the passage?
- "Parents in Chile have voted with their children's feet in favour of the private sector"

Error Spotting

The questions were based on:

1. The application of subject verb agreement rule.
2. Use of a gerund where a 'to-infinitive' structure was given.
3. Replacing an article with a relative pronoun. 'That' in place of 'the'.

Phrase Replacement

The questions were based on:

Correct use of tenses through a sentence.

Direction (1-3): Study the following information and answer the given questions carefully.

Point Q is 16m to the south of point P.
Point R is 5m to the west of point Q.
Point T is 25m to the north of point R.
Point V is 10m to the east of point T.
Point J is 9m to the south of point V.

1. In which direction is point V with respect to point Q?
A. North East
B. North West
C. East
D. South West
E. North

Ans. A

2. If W is to the west of point J and to the north of point R, then what is the distance between point W and point T?
A. 9m
B. 18m
C. 15m
D. 5m
E. None of these

Ans. A

3. In which direction and at what distance is point P with respect to point J?
A. 10m towards north
B. 10m towards east
C. 5m towards east
D. 10m towards south
E. 5m towards west

Ans. E

Direction (4-6): Study the following information and answer the given questions carefully.

Six people A, M, N, C, O and G are sitting around a triangle in such a way that three of them are sitting at the corners and three of them are sitting in the middle of the sides. Those who are sitting at the corners face inside and those who are sitting in the middle of the sides face outside.

A sits at the corner. M is an immediate neighbour of A. Two people sit between M and C. O sits to the immediate left of C. N is an immediate neighbour of O.

4. What is the position of O with respect to C?

- A. Third to the right
B. Fourth to the left
C. Immediate left
D. Second to the right
E. None of these

Ans. C

5. How many persons are sitting between A and O?
A. One
B. Two
C. Three
D. Four
E. Five

Ans. B

6. Who is sitting second to the right of A?
A. M
B. G
C. O
D. N
E. C

Ans. D

7. How many such pairs of letters are there in the word 'PERSUADE', each of which has as many letters between them in the word (in both forward and backward directions) as they have between them in the English alphabetical series?
A. One
B. Two
C. Three
D. Four
E. More than four

Ans. E

Direction (8-12): Study the following information carefully and answer the questions given below:

9 people are sitting in a straight line and some of them are facing north while some of them are facing south. The distance between any two immediate neighbours is the same. All the above information is not necessarily in the same order.

P sits second from one of the extreme ends of the line. R sits third to the right of P. Two people sit between R and S. U sits second to the right of S. Immediate neighbours of S face a direction opposite to that of S. Immediate neighbours of U face opposite directions. T sits second to the right of U. Both U and T face the same direction. W is a neighbour of T. W and T face opposite directions. Persons sitting at extreme ends face opposite directions. Q sits second to the left of V. X does not face south.

8. How many people sit between W and V.
A. 2 B. 6
C. 4 D. 5
E. None of these

Ans. D

9. Four of the following five are alike in a certain way, find the odd one out.
A. Q B. W
C. P D. V
E. R

Ans. E

10. Who among the following sit at the extreme ends?
A. VX B. QS
C. QX D. XS
E. VS

Ans. A

11. What is the position of T with respect to P.
A. Third to the right
B. Immediate left
C. Fifth to the left
D. Sixth to the right
E. Second to the right

Ans. E

12. Who sits to the immediate right of Q.
A. T B. W
C. U D. S
E. X

Ans. D

Direction (13-17): Study the following information and answer the given questions carefully.

Six boxes A, B, C, D, E and F are kept one above the other. They like different colours viz. Red, Orange, Pink, Blue, Violet and Green but not necessarily in the same order.

Box C is kept immediately above the orange coloured box. Two boxes are kept between the orange coloured box and pink coloured box. Only three boxes are there between the pink coloured box and box E. Box E is not blue in colour. Red coloured box is kept immediately above the pink coloured box. Box F is Violet in colour. Box A is immediately above box B. Box D is orange in colour.

13. How many boxes are there between box A and box C?
A. One B. Two

- C. Three D. Four
E. None

Ans. B

14. Which box is kept at the second position from the bottom?
A. D B. E
C. A D. B
E. C

Ans. A

15. Which box is green in colour?
A. C B. D
C. A D. E
E. B

Ans. D

16. Which box is kept immediately above box E?
A. A B. F
C. D D. B
E. C

Ans. C

17. How many boxes are kept above box F?
A. One B. Two
C. Three D. Four
E. None of these

Ans. B

18. In a certain code language, 'TABLE' is coded as 'BUEFM' and 'PRAYS' is coded as 'SQDTZ', then how 'MINOR' will be coded in the same manner?

- A. JNSQP B. JQNSP
C. JNQSP D. JNSPQ
E. JNPQS

Ans. C

Direction (19-22): In each of the following questions, some statements are given and these statements are followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

19. **Statements:**

Only a few teachers are males.

A few males are boys.

Conclusions:

I. All teachers being males is a possibility.

II. All teachers being boys is a possibility.

- A. Only conclusion I is true.
- B. Only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

Ans. B

Sol.



20. **Statements:**

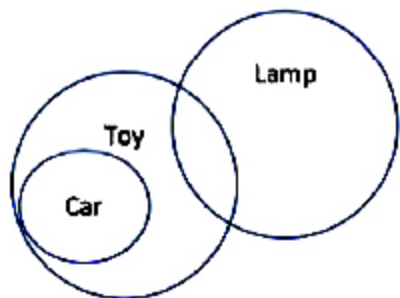
All cars are toys.
Some toys are lamps.

Conclusions:

- I. Only a few cars are lamps.
- II. Some cars are not toys.
- A. Only conclusion I is true.
- B. Only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

Ans. D

Sol.



21. **Statements:**

All telegrams are stamps.
All mobiles are telegrams.

Conclusions:

- I. Only a few telegrams are mobiles.
- II. Some stamps are telegrams.
- A. Only conclusion I is true.
- B. Only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

Ans. B

Sol.



22. **Statements:**

A few ducks are birds.
Only birds are eggs.

Conclusions:

- I. All birds being eggs is a possibility.
- II. All ducks being eggs is a possibility.
- A. Only conclusion I is true.
- B. Only conclusion II is true.
- C. Either conclusion I or II is true.
- D. Neither conclusion I nor II is true.
- E. Both conclusions I and II are true.

Ans. E

Sol.



Direction (23-25): Study the following information and answer the questions carefully.

Rajesh walks 60m towards east from point H to reach point Z and then takes a right turn and walks 54m to reach point T. He then takes a left turn and walks 50m to reach point G. Arjun starts from point S and walks 30m towards west to reach point F and then takes a left turn and walks 54m and reaches G.

23. Four of the following five are alike in a certain way and hence form a group, who among the following does not belong to the group?
- A. ZF
 - B. HZ
 - C. ZS
 - D. FT
 - E. TG

Ans. D

24. What is the distance between H and S?
A. 110m B. 140m
C. 120m D. 130m
E. 125m

Ans. B

25. T is in which direction with respect to F?
A. South East B. South West
C. North D. East
E. None of these

Ans. B

Direction (26-30): Study the following information carefully and answer the questions given below:

Eight people live on a separate floors of an eight storey building. The lowermost floor is numbered 1 and the topmost floor is numbered 8.

B lives on an odd numbered floor above floor number 3. Two people live between the floors on which B and C live. Three people live between C and D. D lives on a floor above C. E lives just above C. As many people live above H as below G. F lives on one of the floors below B and two people live between F and A. G lives above C.

26. Which of the following statement is true?
A. B lives immediately above D
B. C lives on one of the floors above B
C. H lives on the lowermost floor
D. E lives on the topmost floor
E. None of these

Ans. C

27. Four of the following five are alike in a certain way, find the odd one out.
A. AB B. FC
C. EH D. GH
E. DF

Ans. D

28. If D is related to E and G is related to B. In the same way, F is related to?
A. H B. A
C. D D. G
E. C

Ans. A

29. Which of the following statement is true?
A. There is a gap of 3 floors between D and E
B. C lives 2 floors below F
C. D lives 3 floors above F
D. F and C live on consecutive floors
E. None of these

Ans. B

30. How many people live between the floors on which D and C live?
A. 1 B. 2
C. 3 D. 4
E. 5

Ans. C

31. If each of the letters in the word **MODELING** are arranged in alphabetical order within the word and then all the vowels are replaced by their preceding letters while all the consonants are replaced by their succeeding letters, then which letters do not appear more than once?
A. E and M
B. O and D
C. D, M and O
D. E, M, O and D
E. None of these

Ans. D

32. Find the one that does not belong to the group.
A. ZXUS B. TROM
C. YWTR D. GEBA
E. IGDB

Ans. D