Sections	Number of questions	Marks	Duration of Exam
1. English Language	30	30	60 minutes
2. Reasoning	35	35	
3. Quantitative Aptitude	35	35	
	Total = 100 Qs.	Total marks = 100	

1. English Language

Direction (Q. 1 - 5): Read each sentence to find out whether there is any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is (5). (Ignore errors of punctuation, if any).

1. 1) He is neither in /2) favour of arms race /3) or in favour of /4) simple nuclear disarmament. /5) No error

2. 1) Naturalization is the /2) process by which /3) a immigrant becomes a citizen /4) of his new country. /5) No error

3. 1) A high fat diet /2) not only increases the risks /3) of heart ailments /4) however also that of other disorders. /5) No error

4. 1) When two vowel /2) sounds. occurs in direct succession, /3) the transition between them /4) is often difficult to make. /4) No error

5. 1) One solutions is to /2) avoid the impasse altogether, /3) by taking a /4) slightly different route. /5) No error

Direction (Q. 6 - 10): Rearrange the following sentences to make a meaningful paragraph and then answer the questions given below them.

A. A classroom discussion can be initiated in order to answer this very question.

B. An electric current could not be made to traverse distilled water.

C. Yet when salt and distilled water were mixed, then the solution became a liquid through which electricity could pass with ease.

D. Neither would solid salt offer free passage to electricity.

E. How could one explain this strange behaviour of solution.

F. And, as the current passed through this solution, a deep seated decomposition took place.

6. Which of the following will be the FIFTH sentence?

(1) A (2) C (3) B (4) E (5) F

7. Which of the following will be the FOURTH sentence?

(1) A (2) B (3) F (4) E (5) D

8. Which of the following will be the LAST (SIXTH) sentence?

(1) C (2) A (3) B (4) E (5) F

9. Which of the following will be the THIRD sentence?

(1) C (2) D (3) F (4) A (5) E

10. Which of the following will be the FIRST sentence?

(1) A (2) D (3) B (4) C (5) F

Direction (Q. 11 - 15): Which of the phrases (1), (2), (3) and (4) given below each sentence should replace the phrase printed in bold in the sentence to make it grammatically correct? If the sentence is correct as is given and no correction is required, mark (5) as the answer.

11. Your doctor may explain the importance of a proper and balanced diet in the human body.

(1) an proper and balanced

(2) a proper or balance

(3) a prosperous and balance

(4) the proper and balance

(5) No correction required

12. English today is closer to been a world language than any other language has been in history.

(1) is closer for been

(2) was closer to be

(3) is closer upon being

(4) is closer to being

(5) No correction required

13. In almost every occupation one needs simple a understanding of electricity.

(1) treaded simple an

(2) need a simple

(3) needs a simple

(4) needs simply a

(5) No correction required

14. When ice and water existed together on the same volume, the temperature remains constant.

(1) exist together in

(2) will exist together on

(3) existed together in

(4) exists together in

(5) No correction required

15. Scientific method as a rote lien in the syllabus had little valued

(1) had belittled value

(2) has little value

(3) have little value

(4) has little valued

(5) No correction required

Direction (Q. 16 - 20): In each sentence below four words have been printed in bold which are numbered (1), (2), (3) and (4). One of these words may be mis-spelt or inappropriate in the context of the sentence. Find out the wrongly spelt or inappropriate word. The number of that word is the answer. If all the words are correctly spelt and are appropriate the answer is (5), i.e. all correct.

16. 1) The importance /2) given to content- oriented /3) approach has affected the methodology /4) of this project. /5) All correct

17. 1) Almost all risk-taking /2) work involve /3) decision /4) making under uncertainty. /5) All correct

18. 1) In developing /2) countries there is increasing /3) concern for fostering /4) human potential. /5) All correct

19. 1) I want to express /2) my appreciation /3) of the help offered /4) by my former colleages. /5) All correct

20. 1) The research /2) reported /3) in this valume /4) assumes importance. /5) All correct

Direction (Q. 21 - 30): In the following passage there are blanks, each of which has been numbered. These numbers are printed below the passage and against each, five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

Working under the psychometric approach, both scientists and practitioners have placed undue emphasis upon a unitary concept of intelligence as reflected in the single I.Q. They seem to have (21) too much attention to the products of intelligent behaviour rather than the processes used to acquire (22) products. Such attention to product rather than to process tends to mask qualitative differences in the processes by (23) individuals interact with their environment and to (24) attention away from the possibility of qualitative changes in the nature of these processes (25) the course of cognitive development.

Haywood points out that there is no such thing as intelligence. There are in fact much intelligence. Factor analysts, (26) have studies the-nature of intellect by intellect by examining its apparent structure across different age groups and different segments of the population have to a great (27) discredited the unitary concept of intelligence. Even so, the structure theories of intelligence are (28) concerned with products and not with processes.

Avery promising approach to the nature of intelligence in recent years is the process development (Cognitive Development) approach. It (29) upon the cognitive processes used to receive, code, and (30) information.

21. (1) gives (2) gave (3) forced (4) given (5) taken

22. (1) those (2) these (3) that (4) raw (5) this

23. (1) how (2) way (3) speech (4) action (5) which

24. (1) draw (2) seek (3) force (4) call (5) drag

25. (1) at (2) plan (3) during (4) follow (5) for

26. (1) who (2) should (3) might (4) will (5) whom

27. (1) meaning (2) person (3) extend (4) extent (5) value

28. (1) up till (2) till (3) until (4) deep (5) still

29. (1) focus (2) focuses (3) jumps (4) emphasize (5) focused

30. (1) pack (2) transmits (3) store (4) stocked (5) hoard

Answers:

1. (3); "Neither nor" is, correct connective.

2. (3); "An immigrant becomes " is correct usages, as immigrant takes 'an' as determiner.

3. (4); "Not only but also" is the correct form of connective.

4. (2); Here the subject (when two vowel sounds) is plural. Hence, it will take a plural verb.

For example,

Ram and Mohan play together.

Plural Subject Plural Verb

5. (1); One solution is will be the correct usage because one is singular.

6. (4); E

7. (3); F

8. (2); A

9. (1); C

10. (3); B

11. (5); No correction required

12. (4); is closer to being

13. (3); needs a simple

14. (1); exist together in

15. (2); has little value

16. (1); The correct spelling is importance.

17. (1); The appropriate word should be risky.

18. (2); The correct spelling is increasing.

19. (4); The correct spelling is colleagues.

20. (3); The correct spelling is volume.

21. (4); given

22. (2); these

23. (5); which

24. (1); draw

25. (3); during

26. (1); who

27. (4); extent

28. (5); still

29. (2); focuses

30. (3); store

2. Reasoning

1. What should come next in the following letter series?

A B C D P Q R S A B C D E P Q R S T A B C D E F P Q R S T

(1) A (2) V (3) U (4) W (5) None of these

2. How many such pairs of digits are there in the number 5134876, each of which has as many digits between them in the number as when the digits are rearranged in ascending order within the number?

(1) None (2) One (3) Two (4) Three (5) More than three

3. If it is possible to make only one such number with the first, the fourth and the sixth digits of the number 531697 which is the perfect square of a two digit even number, which of the following will be the second digit of the two digit even number. If no such number can be made, give '©' as the answer and if more than one such number can be made, give '©' as the answer.

(1) 4 (2) 2 (3) 6 (4) @ (5) ©

4. 'BF' is related to 'HL' in the same way as 'EI' is related to — ?

(1) KO (2) KN (3) JN (4) JO (5) None of these

5. In a certain code JUMP is written as '39%4' and MEALS is written as '%2⋆7@'. How is PULSE written in that code?

(1) 493@2 (2) 4⋆7@2 (3) 479@2 (4) 497@2 (5) None of these

6. How many meaningful English words can be made with the letters NNEO using each letter only once in each word?

(1) None (2) One (3) Two (4) Three (5) More than three

7. Which of the following has the same relationship as that of R O C K : C R O K ?

(1) BALE : ELAB (2) COLD : DOLC (3) MEAN : AEMN (4) MIND : DINM (5) None of these

8. In a certain code JOURNEY is written as TNISZFO. How is MEDICAL written in that code?

(1) CDLJMBD (2) CDLJDBM (3) LDCJMBD (4) EFNJMBD (5) None of these

9. If 'K' denotes 'x', 'B' denotes V, T denotes'-' and 'M' denotes'+', then — 40 B 8 T 6 M 3 K 4 = ?

(1) 19 (2) 11 (3) - 3 1 (4) 23 (5) None of these

10. Each vowel in the word 'GAMBLE' is substituted by the next letter in the English alphabet and each consonant is substituted by the previous letter of the English alphabet. If the new letters are then rearranged in alphabetical order, which of the following will be the fourth letter from the right end after the rearrangement?

(1) F (2) B (3) K (4) E (5) None of these

11. How many such pairs of letters are there in the word CONSUMER each of which has as many pairs of letters between them in the word as in the English alphabet?

(1) None (2) One (3) Two (4) Three (5) More than three

Direction (Q. 12 - 17): In each of the questions below are given three statements followed by three conclusions numbered 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 logically follows from the given statements disregarding commonly known facts.

12. Statements:

Some buses are doors

Some doors are windows.

All windows are gardens.

Conclusions:

I . Some gardens are buses.

II. Some windows are buses.

III. Some gardens are doors.

(1) Only I follows (2) Only II follows (3) Only I and II follow (4) Only I and III follow. (5) None of these

13. Statements:

All lanterns are walls.

No wall is brick.

Some bricks are chairs.

Conclusions:

I. Some chairs are lanterns.

II. Some bricks are lanterns.

III. No chair is lantern.

(1) Only I follows (2) Only II follows (3) Only either I or III follows (4) Only III follows (5) None of these

14. Statements:

Some rivers are jungles.

All jungles are ponds.

All ponds are trees.

Conclusions:

I. Some trees are rivers.

II. Some ponds are rivers.

III. All rivers are trees.

(1) Only I and III follow (2) Only I and II follow (3) Only II and III follow (4) All I, II and III follow (5) None of these

15. Statements:

All desks are mirrors.

Some mirrors are houses.

All houses are buildings.

Conclusions:

I. Some buildings are mirrors.

II. Some houses are desks.

III. Some buildings are desks.

(1) None follows (2) Only I follows (3) Only II follows (4) Only III follows (5) Only I and II follow

16. Statements:

Some calculators are notes.

Some notes are books.

Some books are pens.

Conclusions:

I. Some pens are notes.

II. Some books are calculators.

III. Some pens are calculators.

(1) None follows (2) Only I follows (3) Only I and II follow (4) Only III follows (5) Only II and III follow

17. Statements:

All roads are jugs

All jugs are pots.

Some pots are cans.

Conclusions:

I. Some cans are roads.

II. Some cans are jugs.

III. Some pots are roads.

(1) Only I and II follow (2) Only I and III follow (3) Only II and III follow (4) All I, II and III follow (5) None of these

Direction (Q. 18 - 23): Study the following arrangement carefully and answer the questions given below:

F @ 5 3 R $ J P E 1 H % I Q 4 B 8 A W 2 U G 6 ⋆ 9 δ Z N M © V

18. Four of the following five are alike in a certain way based on their position in the above arrangement and so form a group. Which is the one that does not belong to that group?

(1) 1HJ (2) WAU (3) JIQ1 (4) 2U8 (5) ZN⋆

19. How many such symbols are there in the above arrangement, each of which is immediately followed by a letter but not immediately preceded by a letter ?

(1) None (2) One (3) Two (4) Three (5) More than three

20. What should come in place of the question mark (?) in the following series based on the above arrangement?

5RJ 1%9 8WU ?

(1) 5 N © (2) 69Z (3) ⋆5M (4) ⋆8N (5) None of these

21. Which of the following is the tenth to the left of the eighteenth from the left end of the above arrangement?

(1) P (2) ⋆ (3) N (4) 3 (5) None of these

22. How many such numbers are there in the above arrangement, each of which is immediately preceded by a consonant and not immediately followed by a consonant?

(1) None (2) One (3) Two (4) Three (5) More than three

23. If all the symbols are dropped from the above arrangement, which of the following will be the eleventh from the right end?

(1) 8 (2) Q (3) A (4) U (5) None of these

Direction (Q. 24 - 29): In the following questions, the symbols $, *, %, δ and @ are used with the following meaning as illustrated below:

P * Q means P is neither greater than nor equal to Q.

P @ Q means P is neither smaller than nor equal to Q.

P δ Q means P is not greater than Q.

P % Q means P is not smaller than Q.

P $ Q means P is neither greater than nor smaller than Q.

Now in each of the following questions assuming the given statements to be true, find which of the two conclusions I and II given below them is / are definitely true and given your answer accordingly.

1) if only Conclusion I is true.

2) if only Conclusion II is true

3) if either Conclusion I or II is true.

4) if neither Conclusion I nor II is true.

5) if both Conclusions I and II are true.

24. Statements:

R % W, W @ F, F $ Z

Conclusions:

I. P*R II. Z*W

25. Statements:

B @ K, K % J, I . M

Conclusions:

I. J * B II. M @ B

26. Statements:

D $ T, T δ H, H O N

Conclusions:

I. H $ D II. H @ D

27. Statements:

H 8 N, N * K, K δ D

Conclusion:

I. D @ N II. H * K

28. Statements:

W % E, E @ K, K $ J

Conclusions:

I. J δ E II. W % K

29. Statements:

R * M, M $ B, B % T

Conclusions:

I. R * T II. T δ M

Direction (Q. 30 - 35): Study the following information carefully and answer the questions given below:

A, B, C, D, E, F, G, H and J are, sitting around a circle facing the center. C is third to the left of A. E is fourth to the right of A. D is fourth to the left of J who is second to the right of A. F is third to the right of B. G is not an immediate neighbor of A.

30. What is H's position with respect to E?

(1) Third to the left

(2) Fourth to the left

(3) Fifth to the right

(4) Fifth to the left

(5) Sixth to the left

31. Who is third to the right of G?

(1) B (2) D (3) A (4) Data inadequate (5) None of these

32. W h o is fifth to the right of E?

(1) F (2) C (3) H (4) A (5) None of these

33. Who is second to the left of H?

(1) A (2) F (3) D (4) Data inadequate (5) None of these

34. Who is to the immediate right of D?

(1) F (2) C (3) A (4) Data inadequate (5) None of these

35. In which of the following groups is the third person sitting between the first and the second persons?

(1) CDF (2) EBC (3) HFA (4) JGE (5) EGB

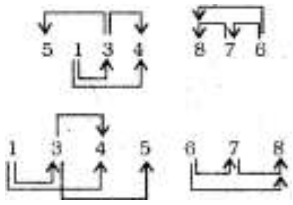
Answers:

1. (3);

ABCD, ABCDE, ABCDEF

PQRS, PQRST, PQRST$\boxed{U}$

2. (5);

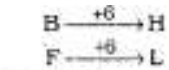


3. (1);

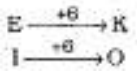
5 3 1 6 9 7

576 = 24 x 24

4. (1);



Similarly,



5. (4);

J U M P

3 9 % 4

M E A L S

% 2 * 7 @

Therefore, P U L S E

4 9 7 @ 2

6. (3); Meaningful Words = NONE, NEON

7. (5);

1 2 3 4 3 1 2 4

R O C K = C R O K

1 2 3 4 4 3 2 1

B A L E = E L A B

1 2 3 4 4 2 3 1

C O L D = D O L C

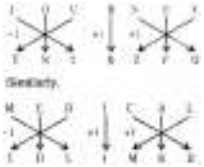
1 2 3 4 3 2 1 4

M E A N = A E M N

1 2 3 4 4 2 3 1

M I N D = D I N M

8. (1);



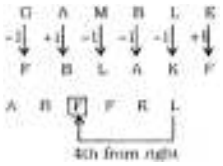
9. (2);

40 B 8 T 6 M 3 K 4 = ?

= ? = 40 ÷ 8 – 6 + 3 x 4

= ? = 5 – 6 + 12 = 11

10. (1);



11. (3);

12. (5);

Some doors are windows.

All windows are gardens.

I + A = I-type of Conclusion

Some doors are gardens.

Conclusion III is Converse of it.

13. (3);

All lanterns are walls

No wall is brick

A + E = E-type of Conclusion

No lantern is brick

Conclusion I and III form complementary pair. Therefore, either I or III follows.

14. (2);

Some rivers are jungles.

All jungles are ponds.

I + A = I-type of Conclusion

Some rivers are ponds

Conclusion II is Converse of it.

All jungles are ponds

All ponds are trees.

A + A = A-type of Conclusion

All jungles are trees.

Some rivers are ponds.

All ponds are trees.

I + A = I-type of Conclusion

Some rivers are trees.

Conclusion I is Converse of it.

15. (2);

Some mirrors are houses

All houses fare buildings.

I + A = I-type of Conclusion

Some mirrors are buildings

Conclusion I is Converse of it.

16. (1);

All the three Premises are particular Affirmative (I-type).

No Conclusion follow follows from the tow particular Premises.

17. (5);

All roads are jugs.

All jugs are pot.

A + A = A-type of Conclusion

All roads are pots.

Conclusion III is Converse of it.

18. (2);

$1 \xrightarrow{+1} H \xrightarrow{-4} J$
$W \xrightarrow{-1} A \xrightarrow{+3} U$
$I \xrightarrow{+1} Q \xrightarrow{-4} 1$
$2 \xrightarrow{+1} U \xrightarrow{-4} 8$
$Z \xrightarrow{+1} N \xrightarrow{-4} \star$

19. (2);

Number or Symbol	Symbol	Letter

There is only one such combination: $\boxed{9\ \delta\ Z}$

20. (4);

$5 \xrightarrow{+7} 1 \xrightarrow{+7} 8 \xrightarrow{+7} \star$
$R \xrightarrow{+7} \% \xrightarrow{+7} W \xrightarrow{+7} \delta$
$J \xrightarrow{+7} Q \xrightarrow{+7} U \xrightarrow{+7} N$

21. (1); 10^{th} to the left of 18^{th} from the left means 8^{th} from the left, i.e. P.

22. (4);

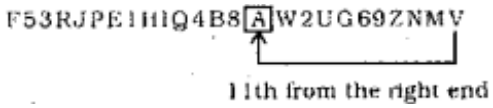
Consonant	Number	Consonant

Such combinations are

$\boxed{B\ 8\ A}$, $\boxed{W\ 2\ U}$, $\boxed{G\ 6\ *}$

23. (3);

According to question, the new sequence would be:



24. (5);

R % W = R ≥ W

W @ F = W > F

F $ Z = F = Z

Therefore, R ≥ W > F = Z

Conclusions

I. F * R = F < R : True

II. Z * W = Z < W : True

25. (1);

B @ K = B > K

K % J = K ≥ J

J * M = J < M

Therefore, B > K ≥ J < M

Conclusions

I. J * B = J < B : True

II. M @ B = M > B : Not True

26. (3);

D $ T = D = T

T δ H = T ≤ H

H @ N = H > N

Therefore, D = T ≤ H > N

Conclusions

I. H $ D = H = D : Not True

II. H @ D = H > D : Not True

H is greater than or equal to D.

Therefore, either I or II is true

27. (5);

H δ N = H $\leq$ N

N * K = N < K

K δ D = K $\leq$ D

Therefore, H $\leq$ N < K $\leq$ D

Conclusion

I. D @ N = D > N : True

II. H * K = H < K : True

28. (4);

W % F = W $\geq$ E

E @ K = E > K

K $ J = K = J

Therefore, W $\geq$ E > K = J

Conclusions

I. J δ E = J $\leq$ E : Not True

II. W % K = W $\geq$ K : Not True

29. (2);

R * M = R < M

M $ B = M = B

B % T = B $\geq$ T

Therefore, R < M = B ≥ T

Conclusions

I. R * T = R < T : Not True

II. T δ M =T ≤ M : True

30. (1); H is third to the left of E.

31. (5); C is third to the right of G.

32. (4); A is fifth to the right of E.

33. (2); F is second to the left of H.

34. (1); F is to the immediate right of E.

35. (3); A is sitting between H and F.

3. Quantitative Aptitude

Direction (Q. 1 - 25): What should come in place of the question mark (?) in the following questions?

1. $\sqrt{1521}$ ÷ 3 x 12 = ?

1) 158 2) 165 3) 167 4) 156 5) None of these

2. 672 ÷ 24 x 18 + 153 – 345 = ?

1) 318 2) 324 3) 314 4) 308 5) None of these

3. $\frac{3}{4}$ of 26% of 850 = ?

1) 165.75 2) 160.35 3) 163.75 4) 167.75 5) None of these

4. 144 ÷ 8 ÷ ? = 9

1) 3 2) 2 3) 4 4) 6 5) None of these

5. ? % of 590 - 11.8 = 236

(1) 48 (2) 45 (3) 42 (4) 41 (5) None of these

6. $(8)^2$ % of ? = 723 + 45

(1) 1200 (2) 1400 (3) 1100 (4) 1020 (5) None of these

7. 5554 - 333 + 45 = ? + 2525

(1) 2174 (2) 2417 (3) 2714 (4) 2741 (5) None of these

8. $3\frac{1}{4} + 2\frac{1}{2} + 6\frac{1}{6} = ?$

1) $13\frac{11}{12}$ 2) $11\frac{11}{12}$ 3) $12\frac{11}{12}$ 4) $15\frac{11}{12}$ 5) None of these

9. $(450 \div 30)^2 - (12)^2 = (?)^2$

1) 9^2 2) -9^2 3) $\sqrt{9}$ 4) 81 5) None of these

10. 56.73 + 32.88 + 45.23 = ?

1) 130.84 2) 134.84 3) 140.84 4) 144.84 5) None of these

11. $5^2 \times 25^3 \times 625 = (5)^?$

1) 11 2) 10 3) 13 4) 12 5) None of these

12. $5^2 \times 255 \div 5 - 1116 = ?$

1) 149 2) 147 3) 159 4) 157 5) None of these

13. $(\sqrt{5} - 1)^2 = ? = ? - 2\sqrt{5}$

1) 6 2) $6 + 2\sqrt{5}$ 3) $6\sqrt{5}$ 4) $6 - 2\sqrt{5}$ 5) None of these

14. $? \times \frac{7}{12} \times \frac{5}{7} \times \frac{1}{2} = 2500$

1) 14000 2) 13000 3) 12000 4) 11000 5) None of these

15. 556 – 441 + 223 – 112 = ?

1) 262 2) 222 3) 226 4) 266 5) None of these

16. 168 ÷ 14 ÷ 3 = ?

1) 5 2) 4 3) 2 4) 6 5) None of these

17. 9999 – 3434 – 2525 + 1313 = ?

1) 3535 2) 5353 3) 5335 4) 3553 5) None of these

18. $3\frac{2}{3} \times 4\frac{1}{3} \times 1\frac{4}{7} \div \frac{11}{12} = ?$

1) $27\frac{4}{21}$ 2) $26\frac{5}{21}$ 3) $27\frac{5}{21}$ 4) $26\frac{4}{21}$ 5) None of these

19. $\sqrt{52\ x\ 72 + 122}$ = ?

1) 37 2) 35 3) 36 4) 34 5) None of these

20. 35% of 180 - $\sqrt{49}$ = ?

1) 62 2) 55 3) 58 4) 67 5) None of these

21. 19.673 – 12.235 + 15.224 + 10.111 = ?

1) 32.773 2) 37.223 3) 33.772 4) 34.773 50 None of these

22. (343 - 103) ÷ (216 ÷ 36) =?

1) 30 2) 40 3) 32 4) 42 5) None of these

23. $(0.027)^2$ x $(0.09)^2$ ÷ $(0.3)^8$ = $(0.3)^?$

1) 3 2) 2 3) 5 4) 6 5) None of these

24. $\sqrt{961}$ + $\sqrt{784}$ + $\sqrt{49}$ =?

1) 65 2) 67 3) 63 4) 66 5) None of these

25. 35% of 740 – 35% of 520 =?

1) 78 2) 71 3) 75 4) 77 5) None of these

26. What is the value of three fourth of sixty percent of 480?

1) 216 2) 218 3) 212 4) 214 5) None of these

27. The height of 5 boys is recorded as, 146 cms, 154 cms, 164 cms, 148 cms and 158 cms. What is the average height of all these boys?

1) 152 cms 2) 158 cms 3) 156 cms 4) 154 cms 5) None of these

28. Pravin purchased 25 kgs of rice at the rate of Rs. 45 per kg and 12 kgs of pulses at the rate of Rs. 28 per kg. What is the total amount that he paid to the shop-keeper?

1) Rs. 1,466 2) Rs. 1,416 3) Rs. 1,461 4) Rs. 1,471 5) None of these

29. If one man or three women or five boys can do a piece of work in 46 days then how many days will one man, one woman and one boy together take to complete the same piece of work?

1) 30 days 2) 32 days 3) 35 days 4) 40 days 5) None of these

30. The perimeter of a rectangle is 60 cms and its breadth is 12 cms. What is the area of the rectangle?

1) 261 cms 2) 263 cms 3) 213 cms 4) 216 cms 5) None of these

31. The speed of a truck is $\frac{1}{3}$ rd the speed of a train. The train covers 1230 kms in 5 hours. What is the speed of the truck?

1) 85 kmph 2) 82 kmph 3) 81 kmph 4) 87 kmph 5) None of these

32. What approximate value should come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.)

$\sqrt{343}$ = ?

1) 18 2) 38 3) 58 4) 78 5) 98

33. Bina's monthly income is 90% of Anita's monthly income. The total of both their monthly incomes is Mr. Sen's monthly income. Mr. Sens's annual income is Rs. 7,75,200. What is Bina's monthly income?

1) Rs. 34,000 2) Rs. 36,000 3) Rs. 30,600 4) Rs. 30,000 5) None of these

34. A train crossed a platform in 43 seconds. The length of the train is 170 metres. What is the speed of the train?

1) 233 km/hr 2) 243 km/hr 3) 265 km/hr 4) Cannot be determined 5) None of these

35. If a number is multiplied by three-fourth of itself, the value thus obtained is 10800. What is that number?

1) 210 2) 180 3) 120 4) 160 5) 140

Answers:

1. (4);

? = $\frac{\sqrt{1521}}{3}$ x 12

= 39 x 4 = 156

2. (5);

? = $\frac{672}{24}$ x 18 + 153 – 345

= 504 + 153 – 345 = 312

3. (1);

? = $\frac{850\ x\ 26\ x\ 3}{100\ x\ 4}$

= 165.75

4. (2);

$\frac{144}{8\ x\ ?}$ = 9 x ?

= ? = $\frac{144}{8\ x\ 9}$ = 2

5. (3);

$\frac{590\ x\ ?}{100}$ = 11.8 + 236

= 247.8

= ? = $\frac{247.8\ x\ 100}{590}$ = 42

6. (1);

$\frac{?x\ 64}{100}$ = 723 + 45 = 768

$\therefore\ ? = \frac{768\ x\ 100}{64} = 1200$

7. (4);

5554 – 333 + 45 = ? + 2525

= 5266 = ? + 2525

$\therefore\ ? = 5266 - 2525 = 2741$

8. (2);

? = 3 + $\frac{1}{4}$ + 2 + $\frac{1}{2}$ + 6 + $\frac{1}{6}$

= (3 + 2 + 6) + ($\frac{1}{4}$ + $\frac{1}{2}$ + $\frac{1}{6}$)

= 11 + ($\frac{3+6+2}{12}$)

= 11 + $\frac{11}{12}$ = 11 $\frac{11}{12}$

9. (5);

($\frac{450}{30}$)2 – $(12)^2$ = $(?)^2$

= 225 – 144 = $?^2$

= $?^2$ = 81

$\therefore ? = \sqrt{81} = 9$

10. (2);

? = 56.73 + 32.88 + 45.23

= 134.84

11. (4);

$5^2 \times (5^2)^3 \times (5^4) = (5)^?$

= $5^{2+6+4} = 5^?$

= $5^{12} = 5^?$

= ? = 12

12. (3); ? = $\frac{25 \times 255}{5}$ – 1116

= 1275 – 1116 = 159

13. (1);

$(\sqrt{5} - 1)^2 = ? - 2\sqrt{5}$

= $(\sqrt{5})^2 + (1)^2 - 2 \times \sqrt{5} \times 1$

= $? - 2\sqrt{5}$

= $5 + 1 - 2\sqrt{5} = ? - 2\sqrt{5}$

= $6 - 2\sqrt{5} = ? - 2\sqrt{5}$

$\therefore ? = 6$

14. (3);

? x $\frac{7}{12}$ x $\frac{5}{7}$ x $\frac{1}{2}$ = 2500

= ? = $\frac{2500 \times 12 \times 2}{5}$ = 12000

15. (3);

? = 556 - 441 + 223 – 112

= 226

16. (2);

? = $\frac{168}{14\ x\ 3}$ = 4

17. (2);

? = 9999 – 3434 – 2525 + 1313 = 5353

18. (3);

? = $\frac{11}{3}$ x $\frac{13}{3}$ x $\frac{11}{7}$ ÷ $\frac{11}{12}$

= $\frac{11}{3}$ x $\frac{13}{3}$ x $\frac{11}{7}$ x $\frac{12}{11}$ = $\frac{572}{21}$

= 27 $\frac{5}{21}$

19. (1);

? = $\sqrt{25\ x\ 49 + 144}$

= $\sqrt{1225 + 144}$

= $\sqrt{1369}$ = 37

20. (5);

? = $\frac{180\ x\ 35}{100}$ – 7

= 63 – 7 = 56

21. (1);

? = 19.673 – 12.235 + 15.224 + 10.111 = 32.773

22. (2);

? = (343 - 103) ÷ (216 ÷ 36)

= 240 ÷ 6 = 40

23. (5);

$(0.027)^2$ x $(0.09)^2$ ÷ $(0.3)^6$

= $(0.3)^{?}$

= $(0.3)^{3x2}$ x $(0.3)^{2x2}$ ÷ $(0.3)^{6}$

= $(0.3)^{?}$

= $(0.3)^{6+4-6}$ = $(0.3)^{?}$

= $(0.3)^{4}$ = $(0.3)^{?}$

= $(0.3)^{4}$ = $(0.3)^{?}$

= ? = 4

24. (4);

? = $\sqrt{961}$ + $\sqrt{784}$ + $\sqrt{49}$

= 31 + 28 + 7 = 66

25. (4);

? = $\frac{740\ x\ 35}{100} - \frac{520\ x\ 35}{100}$

= $\frac{35}{100}$ (740 - 520)

= $\frac{35}{100}$ x 220 = 77

26. (1);

Required value

= 480 x $\frac{60}{100}$ x $\frac{3}{4}$ = 216

27. (4);

Required average height

= ($\frac{146+154+164+148+158}{5}$) cm.

= ($\frac{770}{5}$) cm = 154 cm

28. (3);

Required amount that was paid

= Rs. (25 x 45 + 12 x 28)

= Rs. (1125 + 336)

= Rs. 1461

29. (1);

1 man = 3 women = 5 boys

$\therefore$ 1 man = 1 woman = 1 boy

$= (5 + \frac{5}{3} + 1)$ boys

$= (\frac{15+5+3}{3})$ boys $= \frac{23}{3}$ boys

$\therefore M_1D_1 = M_2D_2$

$= 5 \text{ x } 46 = \frac{23}{3} \text{ x } D_2$

$= D_2 = \frac{5x46x3}{23} = 30$ days

30. (4);

If the length of rectangle be x cm then

2 (length + breadth)

= 60

= 2 (x + 12) = 60

= x + 12 = 30

= x = 18

$\therefore$ Area of rectangle

= Length x Breadth

$= 18 \text{ x } 12 = 216$ sq. cm.

31. (2);

Speed of train

$= \frac{Distance\ covered}{Time\ taken}$

$= \frac{1230}{5}$ = 246 kmph

$\therefore$ Speed to truck $= \frac{1}{3}$ x 246

$= 82$ kmph

32. (1);

? = $\sqrt{343}$ = 18

33. (3);

Let Bina's monthly income be Rs. X

$\therefore$ Anita's monthly income

$= X \times \frac{100}{90} =$ Rs. $\frac{10x}{9}$

Mr. sen's monthly income

$= \frac{775200}{12}$

$=$ Rs. 64600

$\therefore x + \frac{10x}{9} = 64600$

$= \frac{9x+10x}{9} = 64600$

$= 19x = 64600 \times 9$

$\therefore x = \frac{64600\ x\ 9}{19} =$ Rs. 30600

34. (4);

When a train crosses a platform, the distance covered

= Sum of length of train and platform.

Speed of train

$= \frac{170+length\ of\ platform}{43}$

The length of platform is not known.

Hence, we cannot find the anser.

35. (3);

Let the number be x.

$\therefore x \times \frac{3x}{4} = 10800$

$= x2 = \frac{10800x4}{3} = 14400$

$\therefore x = \sqrt{14400} = 120$