



Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Pvt. Ltd.)

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Time : 3 Hours

Answers & Solutions

Max. Marks : 200

for

NTSE (Stage-I) 2017-18

INSTRUCTIONS TO CANDIDATES

- Use blue/black ball point pen only. There is no negative marking.
- This test booklet contains 200 questions of one mark each. All the questions are compulsory.
- Part-I : MAT : 1 - 50 questions
Part-II : Language : 51 - 100 questions
Part-III : SAT : 101 - 200 questions
- Answer each question by darkening the one correct alternative among the four choices on the OMR Sheet with blue/black ball point pen.

Example :

Q. No.	Alternatives
Correct way :	1 ① ② ● ④
Q. No.	Alternatives
Wrong way :	1 ⊗ ⊕ ③ ④

Student must darkening the right oval only after ensuring correct answer on OMR Sheet.

- Disparity in mentioning (SC, ST & PH) in application form and OMR Sheet can make your candidature invalid.
- Students are not allowed to scratch/ alter/ change out an answer once marked on OMR Sheet, by using white fluid/ eraser/ blade/ tearing/ wearing or in any other form.
- Separate Sheet has been provided for rough work in this test booklet.
- Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.
*Take all your question booklets with you.
- Darken completely the ovals of your answers on OMR Sheet in the time limit allotted for that particular paper.
- Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.
- Use of electronic gadgets, calculator, mobile etc., is strictly prohibited.

PART-I : MENTAL ABILITY TEST (MAT)

Instruction :

In each of the following question no. 1 to 10, a number series is given with missing of one term. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.

1. 12, 24, 37, 51, 66, ?

- (A) 72 (B) 82
(C) 84 (D) 74

Answer (B)

Sol. $12 + 12 = 24$

$$24 + 13 = 37$$

$$37 + 14 = 51$$

$$51 + 15 = 66$$

$$66 + 16 = 82$$

2. 4, 9, 20, 43, ?

- (A) 512 (B) 54
(C) 66 (D) 80

Answer (A)

Sol. $4 \times 2 + 1 = 8 + 1 = 9$

$$9 \times 2 + 2 = 18 + 2 = 20$$

$$20 \times 2 + 3 = 40 + 3 = 43$$

$$43 \times 2 + 4 = 86 + 4 = 90$$

3. 6, 215, 7, 342, 8, ?

- (A) 512 (B) 216
(C) 343 (D) 511

Answer (D)

Sol. $6^3 - 1 = 215$

$$7^3 - 1 = 342$$

$$8^3 - 1 = 512 - 1 = 511$$

4. 28, 33, 40, 51, 64, ?

- (A) 128 (B) 32
(C) 81 (D) 66

Answer (C)

Sol. $28 + 5 = 33$

$$33 + 7 = 40$$

$$40 + 11 = 51$$

$$51 + 13 = 64$$

$$64 + 17 = 81$$

5. 200, 64, 100, 32, 50, 16, ?

- (A) 25 (B) 35
(C) 8 (D) 45

Answer (A)

Sol. $\frac{200}{2} = 100$ [IIIrd term]

$$\frac{100}{2} = 50$$
 [vth term]

$$\frac{50}{2} = 25$$
 [7th term]

6. 122, 170, 226, 290, ?

- (A) 289 (B) 362
(C) 290 (D) 325

Answer (B)

Sol. $11^2 + 1 = 122$

$$13^2 + 1 = 170$$

$$15^2 + 1 = 226$$

$$17^2 + 1 = 290$$

$$19^2 + 1 = 362$$

7. 730, 511, 344, 215, ?

- (A) 125 (B) 25
(C) 36 (D) 126

Answer (D)

Sol. $9^3 + 1 = 730$

$$8^3 - 1 = 511$$

$$7^3 + 1 = 344$$

$$6^3 - 1 = 215$$

$$5^3 + 1 = 126$$

8. 2.5, 5, 7.5, ?, 12.5

- (A) 10 (B) 22.5
(C) 100 (D) 150

Answer (A)

Sol. $2.5 + 2.5 = 5$

$$5 + 2.5 = 7.5$$

$$7.5 + 2.5 = 10$$

9. 1, 2, 6, 21, ?

- (A) 89 (B) 84
(C) 440 (D) 445

Answer (??) None of the option is correct

Sol. $1 \times 1 + 1 = 2$

$2 \times 2 + 2 = 6$

$6 \times 3 + 3 = 21$

$21 \times 4 + 4 = 88$

10. 10, 17, 26, ?, 50, 65

- (A) 37 (B) 47
(C) 33 (D) 31

Answer (A)

Sol. $10 + 7 = 17$

$17 + 9 = 26$

$26 + 11 = 37$

$37 + 13 = 50$

Instruction :

Four figures are given in question no. 11 to 15. One of the figure differs from the rest. Find the figure which is differ from others.



Answer (A)

Sol. E is vowel



Answer (C)

Sol. Number of dots are odd



Answer (A)



Answer (D)

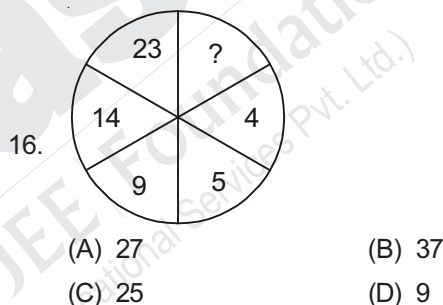


Answer (B)

Sol. Because circle hare no edges

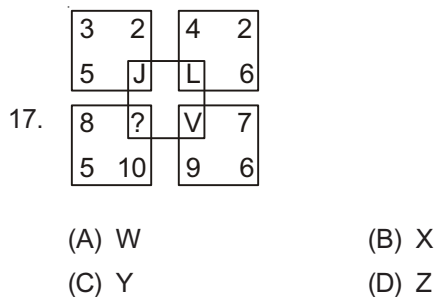
Instruction :

In question no. 16 to 20, figures are given with question mark (?). Complete the figure replacing question mark (?) with suitable number logically.



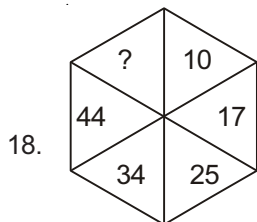
Answer (B)

Sol. $4 + 5 = 9$
 $9 + 5 = 14$
 $14 + 9 = 23$
 $23 + 14 = 37$



Answer (A)

Sol. $5 + 3 + 2 = J$ (10)
 $4 + 2 + 6 = L$ (12)
 $8 + 5 + 10 = W$ (23)
 $7 + 6 + 9 = V$ (22)



- (A) 50 (B) 55
(C) 52 (D) 65

Answer (B)

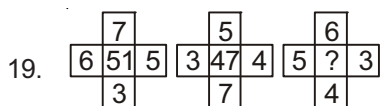
Sol. $10 + 7 = 17$

$17 + 8 = 25$

$25 + 9 = 34$

$34 + 10 = 44$

$44 + 11 = 55$



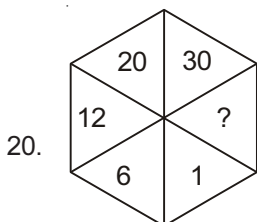
- (A) 43 (B) 49
(C) 39 (D) 45

Answer (C)

Sol. $7 \times 3 + 6 \times 5 = 51$

$5 \times 7 + 3 \times 4 = 47$

$6 \times 4 + 5 \times 3 = 39$



- (A) 42 (B) 45
(C) 52 (D) 32

Answer (A)

Sol. $6 + 6 = 12$

$12 + 8 = 20$

$20 + 10 = 30$

$30 + 12 = 42$

Instruction :

In question no. 21 to 25, English alphabets are given digital number / code. Using them, find the correct digital number / code for given English word by choosing the correct option given below.

21. If GOOD = 715154 then NEWS = ?

- (A) 1452391 (B) 1425391
(C) 1425913 (D) 1452319

Answer (D)

Sol. N = 14

E = 5

W = 23

S = 19

22. If GOAT = 43 then COW = _____

- (A) 40 (B) 41
(C) 51 (D) 50

Answer (B)

Sol. $7 + 15 + 1 + 20 = \text{GOAT} = 43$

$3 + 15 + 23 = \text{COW} = 41$

23. If CAMEL = XZNVO then BIJAL = ?

- (A) YOQYO (B) YRPQO
(C) YRQZO (D) YRZPO

Answer (C)

Sol. C = x [C is 3rd from first and X is 3rd from last]

$\therefore \text{BIJAL} = \text{YRQZO}$

24. If WINDOW = 987659 and TREE = 3422 then WINTER = ?

- (A) 987342 (B) 987432
(C) 987423 (D) 987324

Answer (D)

Sol. WINDOW = 987659

W = 9, I = 8, N = 7, D = 6, O = 5

$\therefore \text{WINTER} = 987324$

25. If MANJU = 13-1-14-10-21 then RITJU = ?

- (A) 17-9-19-10-21 (B) 18-9-19-10-21
(C) 18-9-20-10-21 (D) 17-9-20-10-21

Answer (C)

Sol. MANJU = 13-1-14-10-21

$\therefore \text{RITJU} = 18-9-20-10-21$

Instruction :

According to the question, choose the correct option in question no. 26 to 50

26. Find the correct co-related word.

centimetre : Metre :: ? : ?

- (A) Wall : House (B) Kilogram : Foot
(C) Kilometre : Foot (D) Millilitre : Litre

Answer (D)

Sol. Millilitre : Litre

27. Find the correct co-related number

$$5 : 36 :: ?$$

- (A) 48 (B) 50
(C) 49 (D) 56

Answer (C)

Sol. $5 : 36 :: 6 : ?$

$$(5 + 1)^2 = 36$$

$$\therefore (6 + 1)^2 = 49$$

28. Find the correct co-related character :

$$E : V :: I : ?$$

- (A) Q (B) R
(C) S (D) T

Answer (B)

Sol. $E : V :: I :$

E is fifth from starting and V is fifth from last

\therefore I is 9th from first and R is 9th from last

29. If + means \times , - means \div , \times means +, and \div means - are considered then find the value of $10 \times 18 - 9 + 3 \div 1$.

- (A) 15 (B) 20
(C) 168 (D) 180

Answer (A)

Sol. $10 \times 18 - 9 + 3 \div 1$

$$= 10 + 18 \div 9 \times 3 - 1$$

$$= 10 + 6 - 1$$

$$= 15$$

30. If + means \times , - means +, \times means -, and \div means - are considered then find the value of $(8 - 6) + (7 \times 4) \div 4$

- (A) 46 (B) 42
(C) -38 (D) 38

Answer (D)

Sol. $(8 - 6) + (7 \times 4) \div 4$

$$= (8 + 6) \times (7 - 4) - 4$$

$$= 14 \times 3 - 4$$

$$= 38$$

31. Which of the four option given below shows the correct sequence of the given words ?

- (1) Service(Job), (2) Examination,
(3) Learning (4) Admission
(5) Result

- (A) 1,4,2,3,5 (B) 4,3,2,5,1
(C) 5,4,3,2,1 (D) 2,3,5,1,4

Answer (B)

Sol. 4,3,2,5,1

32. Show the correct sequence of the given four option in ascending order.

- (1) Prime minister (2) Chief minister
(3) Mayor (4) President
(5) Sarpanch

- (A) 5,3,2,4,1 (B) 5,2,3,4,1
(C) 5,3,2,1,4 (D) 5,3,2,1,4

Answer (C) or (D)

Sol. Options (C) and (D) are same

33. What will come in place of question mark (?)

If $3 * 6 = 18$, $4 * 7 = 22$ and $9 * 1 = 20$ then

$$5 * 2 = ?$$

- (A) 14 (B) 7
(C) 10 (D) 3

Answer (A)

Sol. $(3 + 6) \times 2 = 18$

$$(4 + 7) \times 2 = 22$$

$$(9 + 1) \times 2 = 20$$

$$(5 + 2) \times 2 = 14$$

34. If $4 \times 5 = 1625$, $3 \times 8 = 964$, $2 \times 6 = 436$ then $1 \times 9 = ?$

- (A) 36 (B) 150
(C) 181 (D) 218

Answer (C)

Sol. $4 \times 5 = 4^2 * 5^2 = 1625$

$$3 \times 8 = 3^2 * 8^2 = 964$$

$$2 \times 6 = 2^2 * 6^2 = 436$$

$$1 \times 9 = 1^2 * 9^2 = 181$$

35. What was the day before yesterday if Thursday was the day after tomorrow ?
- (A) Saturday
(B) Sunday
(C) Monday
(D) Friday

Answer (B)

Sol. Sunday. (Tuesday is present day)

36. On 14th January 2014 is Saturday, then which day on 15th August 2014?
- (A) Tuesday
(B) Thursday
(C) Friday
(D) Saturday

Answer (A)

Sol. Tuesday

37. A statement and four predictions are given in the following question. Find a fair prediction. Some leaders like Nagesh are corrupt.
- (A) Nagesh is not corrupt
(B) Leaders are corrupt
(C) Some times Nagesh is not corrupt
(D) Some leaders are corrupt.

Answer (D)

Sol. Some leaders are corrupt

38. Among M, T, R and P, M is older than only P, T is older than R. Then who is older to all ?
- (A) T
(B) R
(C) T or R
(D) Incomplete information

Answer (D)

Sol. Incomplete information

39. Amrita is older than Namrata. Namrata is younger than Anjali. Who is oldest of all ?
- (A) Anjali
(B) Amrita
(C) Gitanjali
(D) Namrata

Answer (A)

Sol. Data insufficient

40. 'A' and 'B' are brother and sister. Their father is 'C'. 'D' is sister of 'A'. 'E' is mother of 'C' & 'D'. Then what will be 'B' of 'E' ?

- (A) Grand daughter
(B) Great grand child (daughter)
(C) Aunt
(D) Wife

Answer (??) None of the option is correct

Sol. Wrong Information

41. A person was watching a photo. He said : 'I had neither brother nor sister but this person's father is the only son of my grand father'. Then whose photo was that person was watching ?

- (A) His son
(B) His father
(C) Himself
(D) His Uncle

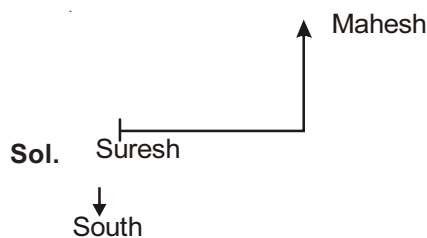
Answer (C)

Sol. Himself

42. Suresh and Mahesh were in opposite direction of each other in the evening on the Gujarat University ground. The shadow of Mahesh appears on his right side. Then in which direction Suresh's mouth will be?

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

Answer (B)



43. Manish's number is 14th from right side in queue of 40 students. Then from the left side at which number will his place be ?

- (A) 27th
(B) 28th
(C) 29th
(D) 30th

Answer (A)

Sol. $(40 - 14) + 1 = 27^{\text{th}}$

44. "Turn back - see front". How many degree angle will be formed by a man in this situation ?

- (A) 90°
- (B) 180°
- (C) 60°
- (D) 270°

Answer (B)

45. Which number is wrong in following series ?

41, 41, 42, 44, 48, 51, 56

- (A) 48
- (B) 51
- (C) 56
- (D) 41

Answer (A)

Sol. $41 + 0 = 41$

$$41 + 1 = 42$$

$$42 + 2 = 44$$

$$44 + 3 = 47$$

46. 643145312143174312931

In the above series, how many 3's are there such that 1 comes after and 4 comes before ?

- (A) 5
- (B) 4
- (C) 3
- (D) 2

Answer (C)

47. Which word can be made with the characters of the given words.

"INTERNATIONAL"

- (A) ANNUAL
- (B) LAMINATION
- (C) TERMINATE
- (D) INTERNAL

Answer (D)

48. In the following options three are similar group but one is different from them. Find that different option.

- (A) 24-36
- (B) 44-56
- (C) 39-45
- (D) 66-78

Answer (C)

Sol. $36 - 24 = 12$

$$56 - 44 = 12$$

$$45 - 39 = 6$$

$$66 - 78 = 12$$

49. In the following options three are similar group but one is different from them. Find that different option.

- (A) QRS
- (B) XYZ
- (C) STU
- (D) MLN

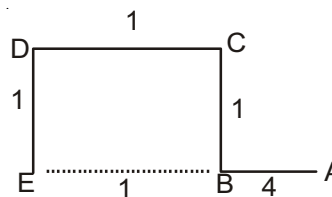
Answer (D)

Sol. MLN

50. Richa walks 4 km in direction of sun on sunset time. Then she turns right and walks 1 km. She turns left and walks 1 km then she turns left and walks 1 km. Now how many km would she away from her origin ?

- (A) 3
- (B) 4
- (C) 5
- (D) 6

Answer (C)



Sol.

$$AE = 1 + 4 = 5$$

PART-II : LANGUAGE TEST

Fill in the blanks with proper forms of verbs. (Q 51 to 55)

Blandford started ____ (51) ____ toward her. Bit then he ____ (52) _____. She ____ (53) ____ a rose. As he moved. She ____ (54) ____ sweetly, " ____ (55) ____ my way, soldier?" She murmured.

51. (A) walk (B) walked
(C) walks (D) walking

Answer (D)

Sol. walking

52. (A) notice (B) notices
(C) noticed (D) noticing

Answer (C)

Sol. noticed

53. (A) does not have (B) did not had
(C) did not have (D) will not have

Answer (C)

Sol. did not have

54. (A) smiled (B) smiles
(C) smile (D) smiling

Answer (A)

Sol. smiled

55. (A) goes (B) going
(C) go (D) went

Answer (B)

Sol. going

Fill in the blanks in the following passage with proper forms of words. (Q. 56 to 60)

the (56) Lord was (57) busy that day. He was in to his (58) day of overtime. When he was working with full (59), an angel (60) there.

56. (A) good (B) goodness
(C) well (D) goodly

Answer (A)

Sol. good

57. (A) extreme (B) extremely
(C) extrimity (D) extere

Answer (B)

Sol. extremely

58. (A) six (B) sixth
(C) sixes (D) sixteenth

Answer (B)

Sol. sixth

59. (A) concentrate (B) concentrated
(C) concentratedly (D) concentration

Answer (D)

Sol. concentration

60. (A) appears (B) appearance
(C) appeared (D) appear

Answer (C)

Sol. appeared

Fill in the blanks with proper preposition in the given passage. (Q. 61 to 63)

I was looking out (61) her as the train drew (62) the station and I felt an unexpected thrill. I saw her walking (63) the platform.

61. (A) of (B) for
(C) in (D) into

Answer (B)

Sol. for

62. (A) of (B) for
(C) upon (D) into

Answer (D)

Sol. into

63. (A) up (B) on
(C) down (D) in

Answer (B & C)

Sol. on & down

Fill in the blanks with proper conjunctions in the given passage. (Q. 64 to 66)

(64) I reached there, I saw (65) my friend was injured, (66) I took him to the hospital.

64. (A) When (B) While
(C) Before (D) Till

Answer (A)

Sol. When

65. (A) if (B) while
(C) whether (D) that

Answer (D)

Sol. that

66. (A) because (B) as
(C) so (D) since

Answer (C)

Sol. so

67. Arrange the following words in proper order to make a meaningful sentence

- (1) his cheeks (2) and blew
(3) the wind (4) puffed

- (A) 1, 2, 3, 4
(B) 2, 3, 4, 1
(C) 3, 4, 1, 2
(D) 3, 4, 2, 1

Answer (C & D)

Sol. 3, 4, 1, 2 & 3, 4, 2, 1

68. Arrange the following words in proper order to make a meaningful sentence.

- (1) depressed (2) was
(3) Mohan (4) and cried

- (A) 3, 2, 4, 1 (B) 3, 2, 1, 4
(C) 2, 3, 4, 1 (D) 4, 3, 2, 1

Answer (B)

Sol. 3, 2, 1, 4

69. Give antonyms : Conclude

- (A) state (B) include
(C) end (D) begin

Answer (D)

Sol. begin

70. Give antonyms : Like

- (A) unlike (B) dislike
(C) favour (D) likeless

Answer (B)

Sol. dislike

71. Find out suitable interrogative sentence (Question) to get the underlined words as the answer Mala went to Mt. Abu last week.

- (A) Who went to Mt. Abu last week ?
(B) Where does Mala go last week ?
(C) Where did Mala go last week ?
(D) When did Mala go to Mt. Abu ?

Answer (C)

Sol. Where did Mala go last week ?

72. Find out suitable interrogative sentence (question) to get the underlined words as the answer.

- (A) Who cancelled her tour ?
(B) Why did Sunita cancel her tour?
(C) Why does Sunita cancel her tour ?
(D) Why should Sunita cancel her tour ?

Answer (B)

Sol. Why did Sunita cancel her tour ?

73. Change the following sentence into exclamatory sentence.
It was a wonderful shot.

- (A) What wonderful shot it was !
(B) What a wonderful shot it was !
(C) How wonderful shot it was !
(D) What a wonderful shot it was !

Answer (B & D)

Sol. What a wonderful shot it was !
What a wonderful shot it was !

74. Change the following sentences into passive voice.

- Chirag won the competition.
(A) The competition was won by Chirag.
(B) The competition is won by Chirag.
(C) The competition will be won by Chirag.
(D) The competition won by Chirag.

Answer (A)

Sol. The competition was won by Chirag.

75. Change the following sentence into passive voice.

- Divyesh could not answer the question.
(A) The question can not be answered by Divyesh.
(B) The question was not answered by Divyesh.
(C) The question could not be answered by Divyesh.
(D) The question can be answered by Divyesh.

Answer (C)

Sol. The question could not be answered by Divyesh.

76. Give opposite word : Honest
- (A) Ugly (B) Humble
(C) Sneak (D) Tyrant

Answer (D)

Sol. Tyrant

77. Give one word for : Water tank
- (A) Cistern (B) Cistus
(C) Cist (D) Cirque

Answer (A)

Sol. Cistern

78. Arrange the following words in proper order to make a meaningful sentence.
- (1) many (2) balls
(3) are (4) how
(5) in the basket (6) here
(A) 4, 3, 5, 1, 2, 6 (B) 4, 1, 2, 3, 6, 5
(C) 3, 6, 1, 2, 5, 4 (D) 4, 1, 6, 3, 2, 5

Answer (B)

Sol. 4, 1, 2, 3, 6, 5

79. Fill the blank with proper word.
- _____ makes us behave as if problems do not exist or are someone else's.
- (A) Antipathy (B) Empathy
(C) Sympathy (D) Apathy

Answer (D)

Sol. Apathy

80. Give the synonyms : Awful
- (A) Joyful (B) Dreadful
(C) Doubtful (D) Wholly

Answer (B)

Sol. Dreadful

81. 'To break the ban' means to overcome the _____.
- (A) blind belief
(B) disease
(C) fear
(D) taboo

Answer (D)

Sol. taboo

82. Rabindranath Tagore is regarded as _____ greatest writers in modern Indian literature.
- (A) many of the
(B) some of the
(C) one of the
(D) someone of the

Answer (C)

Sol. one of the

83. My favourite film is 'Mother India'. _____ it four times.
- (A) I'm seeing (B) I see
(C) I saw (D) I've seen

Answer (D)

Sol. I've seen

84. Don't take that newspaper away _____ it.
- (A) I read (B) I am going to read
(C) I will read (D) I would read

Answer (B & C)

Sol. I am going to read & I will read

85. I will be with you in _____.
- (A) one quarter of an hour
(B) a quarter of one hour
(C) a quarter of an hour
(D) a quarter of hour

Answer (C)

Sol. a quarter of an hour

86. Complete the sentence with a negative verb.
- Julia _____ be here tomorrow. She's going away.
- (A) won't (B) isn't
(C) doesn't (D) didn't

Answer (A)

Sol. won't

87. Give past simple verb : Light
- (A) Lought (B) Light
(C) Let (D) Lit

Answer (D)

Sol. Lit

88. Give past participle verb : Run

- (A) Run (B) Ran
(C) Rang (D) Rung

Answer (A)

Sol. Run

89. Find the misspelling word.

- (A) Allright
(B) Definatly
(C) Baloon
(D) Argument

Answer (A & B & C)

Sol. Allright & Definatly & Baloon

90. Find the correct spelling word.

- (A) Occasanally
(B) Occasanelly
(C) Occasionally
(D) Occasionaly

Answer (C)

Sol. Occasionally

91. Give synonyms : Destiny

- (A) Fate (B) Wisdom
(C) Unluck (D) Humble

Answer (A)

Sol. Fate

92. Give the opposite word : Hush

- (A) Peace (B) Silence
(C) Noise (D) Flush

Answer (C)

Sol. Noise

93. Give a similar meaning of the word : Scarcely

- (A) Quickly
(B) Barely
(C) Rapidly
(D) None of these

Answer (B)

Sol. Barely

94. Give synonymn : Requirement

- (A) Needy (B) Needful
(C) Greedy (D) Need

Answer (D)

Sol. Need

95. Give antonym : Faint

- (A) Bright (B) Dull
(C) Fast (D) Light

Answer (A)

Sol. Bright

96. Find the correct spelling word

- (A) Florine (B) Bauxite
(C) Alumineum (D) Clorine

Answer (B)

Sol. Bauxite

97. Find incorrect spelling word.

- (A) Diphtheria (B) Repetition
(C) Superintendent (D) Vaccum

Answer (D)

Sol. Vaccum

98. Have you got _____ homework to do ?

- (A) much (B) many
(C) a lot of (D) logs

Answer (C)

Sol. a lot of

99. How _____ questions would you answer ?

- (A) much (B) lots
(C) many (D) a lot of

Answer (C)

Sol. many

100. We _____ by a loud noise during the night.

- (A) wake up
(B) were waken up
(C) are waken up
(D) were waking u

Answer (B)

Sol. were waken up

PART-III : SCHOLASTIC APTITUDE TEST (SAT)

101. If $U = \{x | x \in \mathbb{N}, x < 5\}$, $A = \{x | x \in \mathbb{N}, x \leq 2\}$ then A' = _____

- (A) {1, 2} (B) {1, 2, 3, 4, 5}
(C) {3, 4} (D) {3, 4, 5}

Answer (C)

Sol. $U = \{1, 2, 3, 4\}$, $A = \{1, 2\}$

$$A' = \{3, 4\}$$

102. 0.235 is a _____ number.

- (A) Natural (B) Integer
(C) Rational (D) Irrational

Answer (C)

Sol. $0.235 = \frac{235}{1000}$

103. Which one is the constant term of $4x^3 - 3x^2 + 2x - 5$

- (A) 4 (B) -5
(C) 2 (D) -3

Answer (B)

Sol. (-5)

104. Point (4, 0) lies on _____.

- (A) \overline{XO} (B) \overline{YO}
(C) \overline{OX} (D) \overline{OY}

Answer (C)

Sol. (4, 0) lies on X axis

105. Line $y = 4$ is _____.

- (A) Parallel to Y - Axis
(B) Intersecting both axes
(C) Parallel to X- Axis
(D) Passes through origin

Answer (C)

Sol. $y = c$ is a line parallel to X- axis

106. _____ was the most logical and abstract creator of Euclid's geometry approach.

- (A) Hilbert (B) Bhasharacharya
(C) Thelus (D) Pythagorous

Answer (A)

Sol. Hilbert

107. If P-Q-R, Then _____ is the opposite ray of \overline{QR} .

- (A) \overline{PQ} (B) \overline{QP}
(C) \overline{RQ} (D) \overline{PR}

Answer (B)

Sol. \overline{QP}

108. An angle is the union set of _____.

- (A) lines
(B) line segments
(C) rays
(D) a line sagment and ray

Answer (C)

Sol. rays

109. The sum of all six exterior angles of a triangle is _____.

- (A) 180 (B) 360
(C) 720 (D) 90

Answer (C)

Sol. At each vetex we have two exterior angles

$$360^\circ + 360^\circ = 720^\circ$$

110. If diagonals of a quadrilateral are not conjugate and bisect at right angle, then such quadrilateral is known as _____.

- (A) square
(B) rectangle
(C) trapezium
(D) rhombus

Answer (D)

Sol. trapezium

111. \square ABCD is a rhombus. If ABCD = 160 and AC = 16 then BD = _____.
- (A) 10 (B) 20
(C) 15 (D) 25

Answer (B)

Sol. $\frac{1}{2}d_1 d_2 = 160$
 $\frac{1}{2} \times 16 \times BD = 160$

112. The length of minor arc \widehat{AB} of \odot (P, 7) is 14. Find the length of major arc \widehat{AB} .
- (A) 18 (B) 21
(C) 28 (D) 30

Answer (D)

Sol. Length of major arc = $2\pi r - 14$
 $= 2 \times \frac{22}{7} \times 7 - 14$
 $= 44 - 14 = 30$

113. The length of the edge of a equilateral triangle is 8 cm. Then semi circumference of such triangle is _____ cm.
- (A) 4 (B) 24
(C) 12 (D) 36

Answer (C)

Sol. $S = \frac{a+b+c}{2} = \frac{8+8+8}{2} = 12$

114. The formula of lateral surface area of cylinder is _____.
- (A) $A = 2\pi rh$ (B) $A = 2\pi r$
(C) $A = \pi r^2$ (D) $A = 2\pi r^2 h$

Answer (A)

Sol. $2\pi rh$

115. Upper limit of class '41-50' is _____.
- (A) 41 (B) 50
(C) 45 (D) 91

Answer (B)

Sol. 50

116. G.C.D. of 4 and 19 is _____.
- (A) 1 (B) 4
(C) 19 (D) 76

Answer (A)

Sol. 4 & 19 are co-prime.

117. The polynomial having 3 degree is known as _____.
- (A) Linear
(B) Quadratic
(C) Polynomial
(D) Trinomial (cubic)

Answer (D)

Sol. Trinomial (cubic)

118. If $\frac{x+y}{xy} = 2$ and $\frac{x-y}{xy} = 6$ then $y =$ _____.
- (A) $\frac{1}{4}$ (B) $-\frac{1}{2}$
(C) $-\frac{1}{4}$ (D) $\frac{1}{3}$

Answer (A)

Sol. $\frac{x+y}{xy} = 2$, $\frac{x-y}{xy} = 6$

$$\frac{1}{y} + \frac{1}{x} = 2 \quad \text{--- (i)} \quad \frac{1}{y} - \frac{1}{x} = 6 \quad \text{--- (ii)}$$

adding (i) & (ii)

$$2\left(\frac{1}{y}\right) = 8$$

$$\therefore \frac{1}{y} = 4 \Rightarrow y = \frac{1}{4}$$

119. Find the product of zeros of the quadratic polynomial : $x^2 - 4x + 3$.
- (A) 1 (B) 3
(C) 4 (D) -4

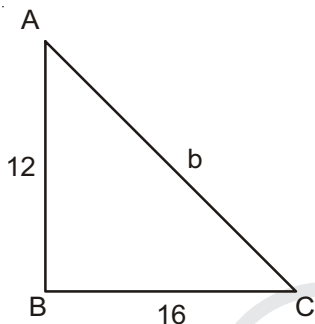
Answer (B)

Sol. Product = $\frac{c}{a} = \frac{3}{1} = 3$

120. In $\triangle ABC$, $\angle B$ is right angle. If $a = 16$ and $c = 12$ then $b =$ _____.
- (A) 8 (B) 18
(C) 20 (D) 28

Answer (C)

Sol. Using Pythagoras theorem



$$\begin{aligned} b^2 &= 12^2 + 16^2 \\ &= 144 + 256 \\ &= 400 \\ b &= 20 \end{aligned}$$

121. For which of the following physical quantities, it is necessary to indicate direction along with its magnitude?
- (A) Speed (B) Path length
(C) Displacement (D) Temperature

Answer (C)

Sol. Displacement (It is a vector quantity)

122. Which Newton's law of motion gives magnitude of force?
- (A) First (B) Second
(C) Third (D) None of these

Answer (B)

Sol. Explanation: Newton's 2nd law gives the magnitude of force $F = m \left(\frac{v-u}{t} \right)$.

123. Which of the following physical quantity is a scalar quantity?
- (A) Mass
(B) Force
(C) Impulse of force
(D) Momentum

Answer (A)

Sol. Mass is a scalar quantity.

124. Give the SI unit of Density?

- (A) kg (B) m^2
(C) kg/m^2 (D) kg/m

Answer (D) - None of the option is correct

Sol. S.I. unit of density = $\frac{\text{mass}}{\text{volume}} = \frac{kg}{m^3}$

125. What is the full form of PNG?

- (A) Petrol Natural Gas
(B) Piped Natural Gas
(C) Pressurise Natural Gas
(D) Pure Natural Gas

Answer (B)

Sol. Explanation: PNG \rightarrow Piped natural gas

126. Which of the following is a monoatomic molecular?

- (A) Nitrogen (B) Hydrogen
(C) Helium (D) Oxygen

Answer (C)

Sol. Helium (He) is monoatomic molecule.

127. Which Newton's law of motion defines force?

- (A) First (B) Second
(C) Third (D) None

Answer (A)

Sol. Newton's first law gives the definition of force.

128. Density of water is

- (A) $1000kg/m^3$ (B) $1kg/m^3$
(C) $1000g/cm^2$ (D) $100kg/m^3$

Answer (A)

Sol. Density of water is $1000kg/m^3$

129. What is the approximate diameter of human hair?

- (A) 500 nm (B) 5000 nm
(C) 50 nm (D) 50000 nm

Answer (D)

Sol. Diameter of human hair is 50,000nm. (Page-3, Ch-1)

130. What is the orbital period of halley's comet?

- (A) 66 years (B) 76 years
(C) 86 years (D) 96 years

Answer (B)

Sol. Orbital period of halley's comet is 76 years (P-112 chapter 6)

131. Where is the image of an object formed in human eye?

- (A) Iris (B) Pupil
(C) Retina (D) Cornea

Answer (C)

Sol. Explanation: Image of an object is formed on the retina

132. What is the unit of electric potential difference?

- (A) Volt (B) Coulomb
(C) Joule (D) Watt

Answer (A)

Sol. Unit of electric potential difference is volt.

133. In which state of a substance, it has the shape?

- (A) Liquid (B) Liquid & Gas
(C) Gas (D) Solid

Answer (D)

Sol. Solid has definite shape and definite volume, while liquid and gas don't have any definite shape.

134. Which of the following is correct for X-Rays?

- (A) It is beam of electrons
(B) It is electro magnetic waves
(C) It is positively charged particle
(D) It is negatively charged particles

Answer (A)

Sol. X-rays are E.M. waves (electromagnetic waves)

135. State the atomic mass of H_2O ?

- (A) 16 U (B) 17 U
(C) 18 U (D) 15 U

Answer (C)

Sol.

Atomic mass of -

$$H_2O = (2 H - \text{atom}) \times 1u + (10 - \text{atom}) \times 16u$$

$$= 2u + 16u = 18 u$$

136. Who was the scientist to make attempts for giving explanatory definition of element?

- (A) Rontgen (B) Dalton
(C) Rutherford (D) Lavoisier

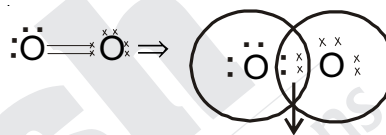
Answer (D)

Sol. Explanatory definition of elements was given by Lavoisier.

137. Which bond is present in oxygen atom?

- (A) Ionic bond
(B) Covalent bond
(C) Covalent divalent bond
(D) Covalent trivalent bond

Answer (C)



Sol. double covalent bond
or
covalent divalent bond

138. 1 kWh = J

- (A) 3.6×10^6 (B) 36×10^6
(C) 3.6×10^7 (D) 3.6×10^5

Answer (A)

Sol. Explanation: $1 \text{ kWh} = 1000 \text{ W} \times 3600 \text{ S}$
 $= 3600000 \text{ J}$
 $= 3.6 \times 10^6 \text{ J}$

139. Who discovered y-rays?

- (A) Rutherford (B) Thomsan
(C) Willard (D) Dalton

Answer (C)

Sol. γ -rays were discovered by french scientist willard.

140. Which radiation was discovered by Rutherford?

- (A) α & β (B) β & γ
(C) α & γ (D) α, β & γ

Answer (A)

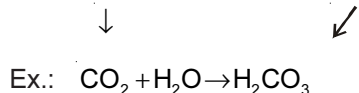
Sol. Rutherford discovered α -rays and β -rays from radioactive atoms

141. Which chemical is formed when non metallic oxides react with water?

- (A) Metal (B) Base
(C) Minerals (D) Acid

Answer (D)

Sol. Generally, Non-metallic oxide + H₂O → Acid



142. What is the molecular formula of silver glance?

- (A) Ag₂S (B) AgCl
(C) CaCO₃ (D) Al₂O₃

Answer (A)

Sol. Molecular formula of silver glance - Ag₂S

143. How many elements are there in non metal?

- (A) 14 (B) 18
(C) 88 (D) 114

Answer (B)

Sol. Total No. of non-metals = 18

$$\left[\begin{array}{l} 11 - \text{gases} \\ 01 - \text{liquid} \\ 06 - \text{solid} \end{array} \right] \text{ non - metal}$$

144. What percentage of carbon in Bituminous coal?

- (A) 28 – 30% (B) 28%
(C) 78 – 86% (D) 94 – 98%

Answer (C)

Sol. Percentage of carbon in Bituminous coal : 78 - 86%

145. Which is the largest cell in human body?

- (A) Liver cell (B) Nerve cell
(C) Muscle cell (D) Kidney cell

Answer (B)

Sol. Nerve cell is the largest all in human body.

146. Who has given the word 'cell'?

- (A) Robert Hooke (B) Robert Brown
(C) Watson and Crick (D) Flemming

Answer (A)

Sol. Robert Hooke gave the word "cell"

147. Which is the living component of xylem?

- (A) Tracheid
(B) Xylem fibre
(C) Xylem parenchyma
(D) Trachea

Answer (C)

Sol. Xylem parenchyma is the living component of xylem

148. Living mechanical tissue is

- (A) Parenchyma
(B) Collenchyma
(C) Sclerenchyma
(D) Chlorenchyma

Answer (B)

Sol. Collenchyma - is the living mechanical tissue as it has deposition of pectin.

149. Which of the tissue has deposition of pectin ?

- (A) Collenchyma (B) Sclerenchyma
(C) Phloem (D) Xylem

Answer (A)

Sol. Deposition of pectin is seen in Collenchyma (at the angles - angular deposition)

150. Where is the place of ciliated epithelium tissue?

- (A) Ureter (B) Liver duct
(C) Fallopian tube (D) Bile duct

Answer (C)

Sol. Fallopian tube has ciliated epithelium for the movement of egg towards the uterus.

151. Bone is

- (A) Epithelium tissue (B) Muscular tissue
(C) Connective tissue (D) Nervous tissue

Answer (C)

Sol. Bone is a specialised type of connective tissue.

152. Which one of infections disease?

- (A) T.B. (B) Goitre
(C) Diabetes (D) Hypertension

Answer (A)

Sol. T.B. - Tuberculosis is the infectious disease caused by *Mycobacterium tuberculosis*

153. Which one belongs to 'retro virus group'?

- (A) Dengue virus (B) Hepatitis virus
(C) Influenza virus (D) HIV

Answer (D)

Sol. HIV belongs to retrovirus group which has a ss-DNA.

154. Who is responsible for malaria?

- (A) Bacteria (B) Virus
(C) *Plasmodium* (D) Worm

Answer (C)

Sol. *Plasmodium* is the causative organism of malaria (protozoan).

155. Where is the gaseous exchange takes place during respiration in human being?

- (A) Bronchi (B) Pharynx
(C) Larophaynx (D) Trachea

Answer (*) None of the option is correct.

156. How many chambers are present in human heart?

- (A) 2 (B) 3
(C) 4 (D) 6

Answer (C)

Sol. Human heart has four (4) chambers; 2 atria and 2 ventricles.

157. The spinal cord originates from where?

- (A) Cerebrum (B) Cerebellum
(C) Medulla oblongata (D) Pons

Answer (C)

Sol. Spinal cord originates from Medulla oblongata.

158. In which of the following living organism spore formation takes place?

- (A) Mucor (B) Planaria
(C) Spirogyra (D) Potato

Answer (A)

Sol. Spore formation is seen in Mucor.

159. The continuity of features from one generation to another is known as.....

- (A) Evolution (B) Mutation
(C) Generation (D) Heredity

Answer (D)

Sol. Heredity is continuity of features from one generation to another.

160. Which species of Italian honey bee is useful for honey production?

- (A) *Apis cerena indica* (B) *Apis florea*
(C) *Apis dorsata* (D) *Apis mellifera*

Answer (D)

Sol. *Apis mellifera* is the species of Italian honey bee.

161. Who discovered "Cap of Good Hope" Island?

- (A) Columbus (B) Vasco-de-Gama
(C) Bartholomew Diaz (D) Amerigo Vesupuchi

Answer (C)

162. When did Britishers establish the Head Quarter in Bombay?

- (A) 1613 (B) 1608
(C) 1680 (D) 1667

Answer (Incorrect Option)

163. When did the first world war start?

- (A) 1st August, 1914 (B) 8th August, 1914
(C) 14th August, 1914 (D) 20th August, 1914

Answer (A)

164. Who established 'Fascism' in Italy?

- (A) Hitler (B) Mussolini
(C) Lenin (D) Nepolian

Answer (B)

165. In which country was natinoal flag hoisted prepared by madom Cama?

- (A) France (B) Russia
(C) Germany (D) Japan

Answer (C)

166. Which festival was there in Punjab when Jallianwala Bagh massacre occurred?

- (A) Baishakhi (B) Diwali
(C) Holi (D) Ramzan EID

Answer (A)

167. Which one of the following not included in the state known as 'seven-sisters'?

- (A) Assam (B) Sikkim
(B) Manipur (D) Tripura

Answer (B)

168. Which day is celebrated as "Human Rights Day"?

- (A) 19 December (B) 12 December
(C) 15 December (D) 10 December

Answer (D)

169. Which kind of democracy governance system is there in our country?

- (A) Presidential (B) Parliamentary
(C) Independent (D) Neutral

Answer (B)

170. Where is India lies on in Asia continent?

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

Answer (A)

171. Which canal has reduced the distance between Europe and India?

- (A) Panama (B) Alaska
(C) Suez (D) Nile

Answer (C)

172. By which name is the delta region of the Ganga and Brahmaputra known as?

- (A) Taheri (B) Pamir
(C) Vrundavan (D) Sundarvan

Answer (D)

173. By which name is the some rainfall at Malabar coast known as?

- (A) Amra Vrushti
(B) Ana Vrushti
(C) Him Vrushti
(D) Cyclone

Answer (A)

174. In which state are wild goats and musk(Kasturi) deer found?

- (A) Andhra Pradesh
(B) Gujarat
(C) Jammu and Kashmir
(D) Assam

Answer (C)

175. Which fair of Gujarat is famous for buy and sale of donkeys?

- (A) Tarnetar (B) Siddhapur
(C) Bhavnath (D) Vautha

Answer (D)

176. What does 'Tsunami' means in Japanese language?

- (A) Upward tidal waves
(B) Spiral waves
(C) Destructive waves
(D) Downward tidal waves

Answer (C)

177. In which sea "Lakshadweep" Island located?

- (A) Bay of Bengal (B) Arabian Sea
(C) Indian Ocean (D) Pacific Ocean

Answer (B)

178. After gaining Independence which state was the first to join Indian union?

- (A) Morbi (B) Junagadh
(C) Patiyala (D) Bhavnagar

Answer (D)

179. Who established a political party "Forward Block"?

- (A) Subhashchandra Bose
(B) Rashbihari Bose
(C) Khudirma Bose
(D) Satyendranath Bose

Answer (A)

180. Which British system was like "sweet poison"?

- (A) Revenue Policy
(B) Subsidiary Alliance
(C) Policy of Annexation
(D) Permanent Deposit Policy

Answer (B)

181. Who was the pioneer of armed revolution in Gujarat?

- (A) Barindra Ghosh (B) Chhotubhai Purani
(C) Mohanlal Pandya (D) Arvind Ghose

Answer (D)

182. When did the people of Germany broke down the "Berlin wall"?

- (A) 1990 (B) 1991
(C) 1989 (D) 1992

Answer (A)

Sol : As per Gujarat board text book std. 9 Page No. 42

183. What type of government was established to join Indian union by the people of Junagadh?

- (A) Responsible Govt. (B) Arzi Hakumat
(C) Independent Govt. (D) Federal Government

Answer (B)

184. In which district Rangpur, having archaeological importance is situated?

- (A) Surendranagar (B) Ahmedabad
(C) Rajkot (D) Patan

Answer (A)

185. Who were the direct decedents of stoneage civilization and creator of Mohen-Jo-Daro's Sindhu culture?

- (A) Arya (B) Mongoloid
(C) Dravid (D) Armenoid

Answer (C)

186. The day of 21st June known as?

- (A) Environment day (B) World Yoga Day
(C) Mother Day (D) World Peace Day

Answer (B)

187. Which veda is known as Gangotri of Music?

- (A) Rigveda (B) Atharveda
(C) Yajurveda (D) Samveda

Answer (D)

188. In which language did Abul Fazal write the Akabarnama?

- (A) Parsi (B) Arabi
(C) Urdu (D) Pali

Answer (A)

189. Which ancient university was situated at Badgaon village of Patna district in Bihar?

- (A) Takshshila (B) Vallabhi
(C) Nalanda (D) Vikramshila

Answer (C)

190. Name the Indian mathematician who discovered zero?

- (A) Aryabhata (B) Bhaskaracharya
(C) Brahmgupta (D) Lilawati

Answer (A)

191. Which book of maths had been written by Bhaskaracharya?

- (A) Aryabhattiyam (B) Lilavati Ganit
(C) Dash Gitika (D) Arya Siddhant

Answer (B)

192. Who built the Red fort of Delhi?

- (A) Akbar (B) Humayun
(C) Shahjahan (D) Jahangir

Answer (C)

193. Which wild life is totally extinct from Gujarat forest area?

- (A) Leopard (B) Tiger
(C) Deer (D) Lion

Answer (B)

194. Which country is the highest exporter of in the world?

- (A) China (B) Pakistan
(C) America (D) India

Answer (D)

Sol : Highest exporter of til as per Gujarati medium question paper

195. Which crop is known as 'White Gold' in India?

- (A) Cotton
(B) Millet
(C) Paddy
(D) White Kidney Beans

Answer (A)

196. Where is the largest oil refinery of the world is located?

- (A) Dubai (B) Gauhati
(C) Jamnagar (D) Kuwait

Answer (C)

197. Which Indian city is well-known as "Silicon Valley" of India?

- (A) Hyderabad (B) Nagpur
(C) Mumbai (D) Bengaluru

Answer (D)

198. Which term is used for families living under the poverty line?

- (A) APL (B) BPL
(C) GPL (D) CPL

Answer (B)

199. Which economist of Indian origin propound the Human development Index?

- (A) Dr. Amartya Sen
(B) Dr. Manmohan Singh
(C) Dr. H. M. Patel
(D) Raghuram Rajan

Answer (A)

200. Which poetry is not written by Kalidas?

- (A) Kumarsambhava (B) Raghuvansh
(C) Dashkumarcharit (D) Rutusamhar

Answer (C)