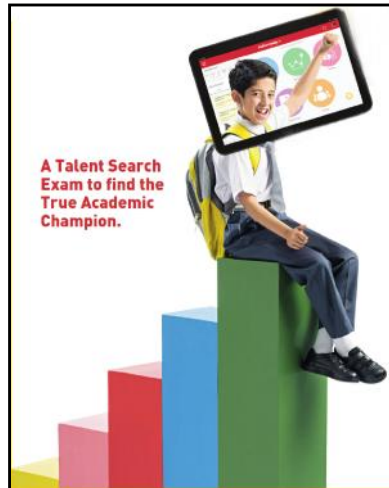


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SAMPLE QUESTIONS

for

CLASS IX

Name : _____

School Name : _____

Contact No. : _____



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INSTRUCTIONS

Time duration: 1:00 hr. (Time of OMR filling is included in time duration).

Maximum Marks: 240

This Paper contains 60 questions divided in two sections

Section-A	Mental Aptitude	20 questions	80 marks
Section-B	Scholastic Aptitude	40 questions	160 marks

Each Question has a single correct answer.

Marking Scheme: +4 marks for correct answers.

There is **NO NEGATIVE MARKING** in Stage-I but it will be there in Stage-II as per NTSE Standard.

SECTION-A (MAT)

MENTAL APTITUDE

Directions (Q. 1 and 2) : Read the following information carefully and answer the questions which follow:

If 'P * Q' means 'P is the mother of Q'.

If 'P × Q' means 'P is the father of Q'.

If 'P + Q' means 'P is the sister of Q'.

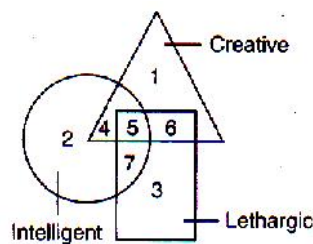
If 'P - Q' means 'P is the brother of Q'.

If 'P > Q' means 'P is the son of Q'.

If 'P < Q' means 'P is the daughter of Q'.

- In the expression 'A + B + R > S', how is S related to A?
 - Daughter-in-law
 - Daughter
 - Wife
 - Sister
- Which of the following means P is the father of S?
 - $P \times Q < R * S$
 - $R \times P < Q - S$
 - $R + S > Q + P$
 - $S + Q - R * P$

Direction (Q. 3 to 5) : Refer to the given diagram and answer the questions given below.



- Which number represents those persons who are creative and lethargic?
 - 1
 - 3
 - 4
 - 6
- Which number represents those persons who are intelligent and lethargic?
 - 7
 - 6
 - 5
 - 4
- Which number represents those persons who are intelligent, lethargic as well as creative?
 - 2
 - 4
 - 5
 - 6

Direction (Q. 6 and 7): In the following questions, select the set of conclusion which logically follows from the given statements.

6. Statements :

- I. All parrots are koels.
- II. No koel is goat

Conclusions :

- I. No parrot is goat.
 - II. Some parrots are goats
 - III. All koels are parrots
 - IV. Some goats are parrots.
- (a) Only conclusion I follows
 - (b) Only conclusion III follows
 - (c) Only conclusion II and III follow.
 - (d) Only conclusion IV follows.

7. Statements :

- I. Some pencils are papers.
- II. Some papers are boxes.

Conclusions :

- I. Some pencils are boxes.
 - II. Some boxes are pencils
 - III. Some boxes are papers.
 - IV. Some papers are pencils.
- (a) Only conclusions I and II follow
 - (b) Only conclusions II and III follow.
 - (c) Only conclusions III and IV follow.
 - (d) All conclusions follow

8. In a certain code language 'BOUND' is written as 'OBTDN', then how will 'CODES' be written in that language?

- (a) SECOC
- (b) OCESE
- (c) OCCSE
- (d) OCCES

9. In a certain code language, '493' means 'Friendship Big Challenge', '961' means 'Struggle Big Exam' and '178' means 'Exam Confidential Subject'. What does 'Confidential' stand for?

- (a) 7 or 8
- (b) 7 or 9
- (c) 8
- (d) 8 or 1

Directions (Q. 10 and 11): Study the following statements A, B, C, D and E and then answer the questions that follow.

- A 1, 5, 9 means : 'you better go'
- B. 1, 6, 7 means : 'better come here'
- C. 5, 6, 7 means : 'you come here'
- D. 1, 5, 6 means : 'better you here'
- E. 3 7, 9 means : 'come and go'

10. Which of the following groups of minimum statements are necessary to find the code number of 'better'?

- (a) A and B
- (b) D and E
- (c) C and E
- (d) B and E

11. Which numeral means 'and'?

- (a) 6
- (b) 9
- (c) 3
- (d) 7

12. If A = 26, SUN = 27, then CAT = ?

- (a) 24
- (b) 27
- (c) 57
- (d) 58

13. If 'water' is called 'food', 'food' is called 'tree', 'tree' is called 'sky', 'sky' is called 'wall', on which of the following grows a fruit?

- (a) Water
- (b) Food
- (c) Sky
- (d) Tree

Direction (Q.14 and 15) : In each of the following questions, a letter-number series is given with one or more terms missing as shown by (?). Choose the missing term out of the given alternatives.

14. C4X, F9U, I16R, ?

- (a) K25P
- (b) L25P
- (c) L25O
- (d) L27P

15. __ tu __rt __s __ usrtu __

- (a) rtusru
- (b) rsutrr
- (c) rsurtr
- (d) rsurts

Direction (Q. 16): In each of the following questions, a number or alphabet series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

16. 121, 143, 165, 186, 209

- (a) 143 (b) 165
(c) 186 (d) 209

17. Pointing towards a man another man said, he is the son of my father's sister. then what is the relation between them?

- (a) Father-Son (b) Brother
(c) Cousin (d) Uncle-Nephew

Direction (Q. 18): In the following questions, select the set of conclusion which logically follows from the given statements.

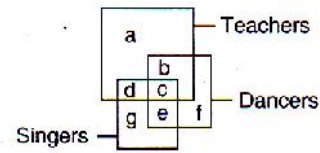
18. **Statements :**

- I. Some pencils are papers.
II. Some papers are boxes.

Conclusions :

- I. Some pencils are boxes.
II. Some boxes are pencils
III. Some boxes are papers.
IV. Some papers are pencils.
(a) Only conclusions I and II follow
(b) Only conclusions II and III follows.
(c) Only conclusions III and IV follow.
(d) All conclusions follow

Direction (Q. 19 and 20): The following questions are based on the intersecting squares given below in which each square represents a group.



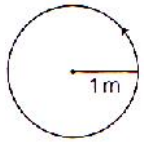

19. Which letter represents teachers who are singers and also dancers?

- (a) d (b) c
(c) b (d) a

20. Which letter represents dancers and singers who are not teachers?

- (a) e (b) d
(c) c (d) b

SECTION-B (SAT) SCHOLASTIC APTITUDE TEST

- 21.** Area under a (v - t) graph represents a physical quantity which has the unit
 (a) m^2 (b) m
 (c) m^3 (d) ms^{-1}
- 22.** A particle is moving along a circular track of radius 1 m with a uniform speed. The ratio of the distance covered and the displacement in half revolution is
- 
- (a) 1 (b) 0
 (c) π (d) $\frac{\pi}{2}$
- 23.** An object is pushed along a horizontal surface in such a way that it starts with a velocity of 36 km/h and decreases at the rate of 0.5 m/s^2 . The time it will take to come to rest, is
- 
- (a) 40s (b) 20s
 (c) 10s (d) 5s
- 24.** An insect crawls a distance of 4 m along north in 10 s and then a distance of 3 m along east in 5 s. The average velocity of the insect is
- (a) $\frac{7}{15} \text{ m/s}$ (c) $\frac{1}{5} \text{ m/s}$
 (b) $\frac{1}{3} \text{ m/s}$ (d) $\frac{4}{5} \text{ m/s}$
- 25.** A particle is constrained to move on a straight line path. It returns to the starting point after 10 s. The total distance covered by the particle during this time is 30 m. Which of the following statements about the motion of the particle is false ?
 (a) Displacement of the particle is zero
 (b) Average speed of the particle is 3 m/s
 (c) Displacement of the particle is 30 m
 (d) Both (a) and (b)
- 26.** Which of the following pairs will give displacement reactions ?
 (a) NaCl solution and copper metal
 (b) $MgCl_2$ solution and aluminium metal
 (c) $FeSO_4$ solution and silver metal
 (d) $AgNO_3$ solution and copper metal
- 27.** Which is the following methods is suitable for preventing an iron frying pan from rusting ?
 (a) Applying gease
 (b) Applying paint
 (c) Applying a coating of zinc
 (d) All of the above
- 28.** An element reacts with oxygen to give a compound with a high melting point. This compound is also soluble in water. The element is likely to be :
 (a) calcium (b) carbon
 (c) silicon (d) iron
- 29.** Food cans are coated with tin and not with zinc because
 (a) zinc is costlier than tin
 (b) zinc has a higher melting point than tin
 (c) zinc is more reactive than tin
 (d) zinc is less reactive than tin

- 30.** Arrange the following metals in decreasing order of their reactivity :
Fe, Zn, Na, Cu, Ag
(a) $\text{Na} > \text{Fe} > \text{Zn} > \text{Cu} > \text{Ag}$
(b) $\text{Fe} > \text{Na} > \text{Zn} > \text{Cu} > \text{Ag}$
(c) $\text{Na} > \text{Zn} > \text{Fe} > \text{Cu} > \text{Ag}$
(d) $\text{Na} > \text{Zn} > \text{Fe} > \text{Ag} > \text{Cu}$
- 31.** If $3^n = 27$, then 3^{n-2} is :
(a) 3
(b) $\frac{1}{3}$
(c) $\frac{1}{9}$
(d) 9
- 32.** If $a = b^x$, $b = c^y$, $c = a^z$, then xyz is :
(a) -1
(b) 0
(c) 1
(d) abc
- 33.** Which one of the following is a rational number?
(a) $(\sqrt{2})^2$
(b) $2\sqrt{2}$
(c) $2 + \sqrt{2}$
(d) $\frac{\sqrt{2}}{2}$
- 34.** Choose the fraction which is equivalent to $\frac{15}{20}$
(a) $\frac{12}{15}$
(b) $\frac{51}{12}$
(c) $\frac{4}{3}$
(d) $\frac{12}{16}$
- 35.** How many rational numbers exist between any two distinct rational numbers ?
(a) 2
(b) 3
(c) 11
(d) Infinite number of rational numbers.
- 36.** $0.\overline{127}$ is equal to :
(a) $\frac{7}{55}$
(b) $\frac{7}{11}$
(c) $\frac{2}{55}$
(d) None of these.
- 37.** Which of the following numbers is different from others ?
(a) $\sqrt{2}$
(b) $\sqrt{3}$
(c) $\sqrt{4}$
(d) $\sqrt{5}$
- 38.** If the distance between the points (a, 2) and (3, 4) be 8, then a =
(a) $2 + 3\sqrt{15}$
(b) $2 - 3\sqrt{15}$
(c) $2 \pm 3\sqrt{15}$
(d) $3 \pm 2\sqrt{15}$
- 39.** The distance between two points (0, 3) and (-2, 0) is-
(a) $\sqrt{14}$
(b) $\sqrt{15}$
(c) $\sqrt{13}$
(d) $\sqrt{5}$
- 40.** The distance of the point (5, -2) from x-axis is :
(a) 5
(b) -2
(c) 3
(d) 2
- 41.** The points A (-4, -1), B (-2, -4), C (4, 0) and D (2, 3) are the vertices of a :
(a) Parallelogram
(b) Rectangle
(c) Rhombus
(d) Square
- 42.** Which of the following points will be collinear with the points (-3, 4) and (2, -5) -
(a) (0, 0)
(b) (7, -14)
(c) (0, -1)
(d) (3, 1)
- 43.** What points on the X-axis are at a distance of 5 units from the point (5, -4) ?
(a) (2, 0) and (8, 0)
(b) (2, 1) and (8, 1)
(c) (-2, 0) (-8, 0)
(d) None of these.
- 44.** The value of k when the distance between the points (3, K) and (4, 1) is $\sqrt{10}$ is :
(a) 3 or 4
(b) -4 or -2
(c) -4 or 2
(d) 4 or -2
- 45.** The vertices of a triangle are (-2, 0), (2, 3) and (1, -3), then the type of the triangle is :
(a) scalene
(b) equilateral
(c) isosceles
(d) right triangle.

46. Which of the following tissues has dead cells?
(a) Parenchyma (b) Sclerenchyma
(c) Collenchyma (d) Epithelial tissue
47. Parenchyma cells containing air cavities are called
(a) aerenchyma (b) sclerenchyma
(c) chlorenchyma (d) prosenchyma
48. Aerenchyma occurs in
(a) mesophytes (b) xerophytes
(c) hydrophytes (d) sciophytes
49. Find out the incorrect statement.
(a) Parenchymatous tissue have intercellular space
(b) Collenchymatous tissues are irregularly thickened at corners.
(c) Apical and intercalary meristems are permanent.
(d) Meristematic tissues, in its early stage, lack vacuoles.
50. You have been provided with narrow thick-walled living cells, elongated in shape and possessing thickenings of cellulose and pectin. These cells belong to
(a) parenchyma (b) collenchyma
(c) sclerenchyma (d) periderm
51. A long tree has several branches. The tissue that helps in the side ways conduction of water in the branches is
(a) collenchyma (b) xylem parenchyma
(c) parenchyma (d) xylem vessels
52. Which of these types of cells is most likely to divide?
(a) Epidermis (b) Parenchyma
(c) Meristem (d) Xylem
53. Mark the odd one
(a) monocytes (b) lymphocytes
(c) neutrophils (d) erythrocytes
54. Normally, in the process of osmosis, the net flow of water molecules in or out of the cell depends upon differences in the
(a) concentration of water molecules inside and outside the cell
(b) concentration of enzymes on either side of the cell membrane
(c) rate of molecular motion on either side of the cell membrane
(d) rate of movement of insoluble molecules inside the cell
55. The bacterial cell wall is composed of
(a) a phospholipid matrix
(b) a lipoprotein
(c) chitin
(d) peptidoglycan
56. Cell wall is present in
(a) plant cell (b) prokaryotic cell
(c) algal cell (d) all of these
57. Which of the following is useful for the synthesis of proteins and enzymes?
(a) Smooth endoplasmic reticulum
(b) Golgi complex
(c) Rough endoplasmic reticulum
(d) Mitochondria
58. Besides nucleus, DNA is also present in
(a) ribosomes (b) mitochondria
(c) lysosomes (d) Golgi complex
59. If the ribosomes of a cell are destroyed then
(a) respiration will not take place
(b) fats will not be stored
(c) carbon assimilation will not occur
(d) proteins will not be formed
60. The inner membrane of mitochondria is folded because
(a) it has no space inside
(b) it helps in transportation of material
(c) it increases the surface area
(d) it stores more food

Dream on !!



**SECTION-A (MAT)
MENTAL APTITUDE**

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (c) | 2. (a) | 3. (d) | 4. (a) | 5. (c) |
| 6. (a) | 7. (c) | 8. (c) | 9. (a) | 10. (a) |
| 11. (c) | 12. (c) | 13. (c) | 14. (c) | 15. (d) |
| 16. (c) | 17. (c) | 18. (c) | 19. (b) | 20. (a) |

**SECTION-B (SAT)
SCHOLASTIC APTITUDE TEST**

- | | | | | |
|---------|---------|---------|---------|---------|
| 21. (b) | 22. (d) | 23. (b) | 24. (c) | 25. (c) |
| 26. (d) | 27. (c) | 28. (a) | 29. (c) | 30. (c) |
| 31. (a) | 32. (c) | 33. (a) | 34. (d) | 35. (d) |
| 36. (a) | 37. (c) | 38. (d) | 39. (c) | 40. (d) |
| 41. (b) | 42. (b) | 43. (a) | 44. (d) | 45. (a) |
| 46. (b) | 47. (a) | 48. (c) | 49. (c) | 50. (b) |
| 51. (d) | 52. (c) | 53. (d) | 54. (a) | 55. (d) |
| 56. (d) | 57. (c) | 58. (b) | 59. (d) | 60. (c) |