

TAKSHILA[®]

I N S T I T U T E

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Test Code: VIII-B

TNTSE SAMPLE PAPER

Takshila's National Talent Scholarship Examination

For Students of Class VIII

This booklet contains 4 Pages

SCIENCE : 20 QUESTIONS

MATHEMATICS : 20 QUESTIONS

REASONING : 10 QUESTIONS

General Instructions:

Please do not write anything on question paper.

- 1. The candidates will use their own ball point pens, HB pencils, erasers etc.*
- 2. Candidates will find out the right answer of the question and will darken the appropriate circle completely with Blue or Black Pen Only.*
- 3. Total No. of Question = 50*
- 4. All questions carry equal marks. Science, Mathematics & Reasoning are compulsory.*
- 5. For each correct Answer = 4 marks, there is no negative marking.*
- 6. Please bring separate sheet for Rough work.*
- 7. Total Time : 1 Hour*
- 8. Maximum Marks : 200*

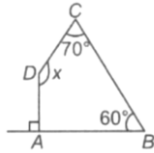
SCIENCE

- Q.1 If the humidity in the air increases the atmospheric pressure will :
 (a) increase
 (b) decrease
 (c) remain same
 (d) first increase then decrease
- Q.2 Frictional force increases with the increase in :
 (a) roughness of the surface
 (b) smoothness of the surface
 (c) distance between two bodies
 (d) None of these
- Q.3 A body will experience the minimum friction in :
 (a) Vacuum (b) Air
 (c) Fresh water (d) Sea water
- Q.4 The pressure on the earth is less when the man is
 (a) lying
 (b) sitting
 (c) standing by one foot
 (d) standing by two foot
- Q.5 The pressure increases with :
 (a) Decreasing depth
 (b) Increasing depth
 (c) Depth has no effect on pressure
 (d) None of these
- Q.6 1 Pa equals :
 (a) 10 Nm^{-2} (b) 1 Nm^{-2}
 (c) $1/10 \text{ Nm}^{-2}$ (d) 10^5 Nm^{-2}
- Q.7 The maximum force of friction when the body is just beginning to move is known as the :
 (a) limiting friction (b) rolling friction
 (c) static friction (d) None of these
- Q.8 Polywool is a mixture of :
 (a) Polyester and wool (b) Cotton and Polyester
 (c) Terrycot and wool (d) None of these
- Q.9 Bakelite is an example of
 (a) fibre (b) elastomer
 (c) nylon (d) thermosetting polymer
- Q.10 Which one of the following metals is the most reactive and stored in kerosene?
 (a) Iron (b) Gold
 (c) Copper (d) potassium
- Q.11 Metal oxides are :
 (a) Acidic (b) Basic
 (c) Neutral (d) None of these
- Q.12 Conversion of dead vegetation into coal is called
 (a) carbonisation (b) distillation
 (c) coal gas (d) natural gas
- Q.13 Which of the following is a non – renewable resource :
 (a) Sunlight (b) Air
 (c) Water (d) Coal
- Q.14 An electric current can produce
 (a) heating effect (b) chemical effect
 (c) magnetic effect (d) all of these
- Q.15 Majority of Algae inhabits in :
 (a) Aquatic (b) Terrestrial
 (c) Endophytic (d) None
- Q.16 A hormone secreted only in female body is
 (a) estrogen (b) testosterone
 (c) adrenaline (d) thyroxine.
- Q.17 Insufficient production of insulin in the human body causes
 (a) myxoedema (b) Addison's disease
 (c) diabetes (d) cretinism
- Q.18 Attachment of embryo to the wall of the uterus is known as
 (a) fertilization (b) implantation
 (c) gestation (d) parturition
- Q.19 The smallest measuring unit in cytology is :
 (a) Millimetre (b) Millimicron
 (c) Angstrom (d) Electron
- Q.20 Primitive type of Nucleus is found in :
 (a) Bacteria (b) Fungi
 (c) Protozoa (d) Algae

MATHEMATICS

- Q.21 The value of $\sqrt[3]{\frac{a^6 \times b^3 \times c^{21}}{c^9 \times a^{12}}}$ is _____.
- (a) $\frac{-bc^3}{a^2}$ (b) $\frac{bc^4}{a^2}$
 (c) $\frac{-ab^4}{c^2}$ (d) $\frac{-bc^4}{a^2}$
- Q.22 If 30% of 140 = x% of 840, then the value of x is _____
- (a) 5 (b) 15
 (c) 24 (d) 60

Q.23 If the given figure, the value of x is ____.



- (a) 120° (b) 140°
 (c) 160° (d) 130°

Q.24 By giving a discount of 10% on the marked price of Rs. 1100 of a sewing machine a dealer gains 10% then the cost price is :

- (a) Rs. 900 (b) Rs. 95
 (c) Rs. 1000 (d) Rs. 1050

Q.25 90 km per hour is same as

- (a) 50 m/sec (b) 25 m/sec
 (c) 25 m/sec (d) 50 m/min

Q.26 A single discount equivalent to a discount series 20%, 10%, 10% is :

- (a) 35.20% (b) 35.50%
 (c) 40% (d) 45%

Q.27 Find the L.C.M of $\frac{2}{3}, \frac{8}{9}, \frac{16}{81}$ and $\frac{1}{27}$.

- (a) $\frac{4}{9}$ (b) $\frac{30}{7}$
 (c) $\frac{80}{3}$ (d) $\frac{80}{9}$

Q.28 A gets 10% more than B. Then B gets :

- (a) 10% less than A (b) 10% more than A
 (c) $9\frac{1}{11}\%$ less than A (d) $9\frac{1}{11}\%$ more than A

Q.29 Find the value of a if $pqa = (3p + q)^2 - (3p - q)^2$

- (a) 11 (b) 21
 (c) 10 (d) 12

Q.30 The angle that is three times as large as its complement is :

- (a) 135° (b) 67.5°
 (c) 50.5° (d) 45°

Q.31 In a right angled triangle the square of the hypotenuse is twice the product of the square of the other sides. Then the triangle is :

- (a) equilateral (b) isosceles
 (c) of \angle s $30^\circ, 60^\circ, 90^\circ$ (d) of \angle s $40^\circ, 50^\circ, 90^\circ$

Q.32 In a right angled triangle is with sides a, b and hypotenuse c, and altitude drawn on the hypotenuse is h, then :

- (a) $h^2 = ab$ (b) $\frac{1}{h^2} = \frac{1}{a^2} + \frac{1}{b^2}$
 (c) $h^2 = a^2 + b^2$ (d) $h = a + b$

Q.33 The point O lies inside a triangle PQR such that $\triangle OPQ, \triangle OQR$ and $\triangle ORP$ are equal in area. Then, the point O is called as :

- (a) incentre (b) centroid
 (c) circumcentre (d) orthocenter

Q.34 If $a = \frac{1}{3 - 2\sqrt{2}}, b = \frac{1}{3 + 2\sqrt{2}}$ then the value of $a^2 + b^2$ is :

- (a) 34 (b) 35
 (c) 36 (d) 37

Q.35 If $x = 7 + 4\sqrt{3}$, then the value of $\sqrt{x} + \frac{1}{\sqrt{x}}$ is :

- (a) 8 (b) 6
 (c) 5 (d) 4

Q.36 The value of $\frac{1}{\sqrt{3} + \sqrt{2} - 1}$ on simplifying up to 3

decimal places, given that $\sqrt{2} = 1.4142$ and $\sqrt{6} = 2.4495$ is :

- (a) 0.166 (b) 0.366
 (c) 0.466 (d) 0.566

Q.37 If x and y are positive with $x - y = 2$ and $xy = 24$,

then $\frac{1}{x} + \frac{1}{y}$ is equal to :

- (a) $\frac{5}{12}$ (b) $\frac{1}{12}$
 (c) $\frac{1}{6}$ (d) $\frac{25}{6}$

Q.38 If $x - \frac{1}{x-2} = 2 - \frac{1}{x-2}$ then x is equal to :

- (a) 1 (b) 2
 (c) 3 (d) none of these

Q.39 The greatest 6 - digit number, which is a perfect square is _____.

- (a) 998001 (b) 995001
 (c) 997001 (d) 996001

- Q.40 If $x = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$ and $y = 1$, the value of $\frac{x-y}{x-3y}$ is :
- (a) $\frac{\sqrt{6}+4}{5}$ (b) $\frac{5}{\sqrt{6}-4}$
(c) $\frac{5}{\sqrt{6}+4}$ (d) $\frac{\sqrt{6}-4}{5}$

REASONING

- Q.41 What number should replace the question mark in the diagram?

3	6	9
5	8	20
4	7	?

- (a) 11 (b) 14
(c) 28 (d) 12
- Direction(Q.42 to Q.43): Six persons A, B,C,D,E and F are sitting in two rows three in each, facing each other.**
E is not at the end of any row.
D is second to the left of F.
C the neighbor of E, is sitting diagonally opposite to D.
B is the neighbor of F.
- Q.42 Who among the following are sitting in the same row?
(a) A and B (b) C and F
(c) C and B (d) A and E
- Q.43 If D and E exchange their seats who will be the neighbours of D in the new seating arrangement?
(a) only C (b) only B
(c) E and B (d) C and A
- Q.44 Choose the odd one out :
(a) January (b) May
(c) July (d) November

- Q.45 Choose the odd one out :
(a) Bake (b) Peel
(c) Fry (d) Roast

- Q.46 If $27 \times 3 = 243$ and $5 \times 4 = 80$. Then what is the value of $3 \times 7 = ?$
(a) 84 (b) 147
(c) 63 (d) 23

- Q.47. In the following question, 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.

AYBZC, DWEXF, GUHVI, JSKTL?

- (a) MQORN (b) MQNRO
(c) NQMOR (d) QMONR

Directions (For questions 48 to 50) : Study the information given below carefully and answer the questions that follow :

A, B, C, D, E, F, G, H and I are nine houses. C is 2 km east of B. A is 1 km north of B and H is 2 km south of A. G is 1 km west of H while D is 3 km east of G and F is 2 km north of G. I is situated just in middle of B and C while E is just in middle of H and D

- Q.48 Distance between E and G is :
(a) 1 Km (b) 1.5 km
(c) 2 km (d) 5 km
- Q.49 Distance between E and I is :
(a) 1 km (b) 2 km
(c) 3 km (d) 4 km
- Q.50 Distance between A and F is :
(a) 1 km (b) 1.41 km
(c) 2 km (d) 3 km