TAKSHILA®

NEET | IIT-JEE | FOUNDATION

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Test Code:VIII-A

TNTSE

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 A block of ice is floating on water contained in a beaker. When all the ice melts, the level of water
(a) rises (b) falls
(c) remains unchanged (d) none of these

Q.2 When a body is submerged in a liquid, its weight
(a) remains same (b) increases
(c) decreases (d) reduces to zero

Q.3 Which of the statement is correct about rolling and sliding friction ?
(a) Rolling friction is greater than sliding friction
(b) Rolling friction is lesser than sliding friction
(c) Rolling and sliding frictions acting on a body are equal
(d) None of these

Q.4 A man stands on snow wearing a pair of skis. The total mass of the man is 60 kg and each of the skis has an area of 0.2 m^2 in contact with the snow. A 1 kg mass has a gravitational force of 10 N acting on it. What pressure does the man exert on the snow?
(a) 15 N/m^2 (b) 30 N/m^2
(c) 1500 N/m^2 (d) 3000 N/m^2

Q.5 You have two nails, one with sharp end other with blunt end. If you apply equal force on each, the nail that will be hammered first will be :
(a) The nail with pointed
(b) The nail with blunt end
(c) Both will be hammered in same time
(d) None of these can be hammered

Q.6 At sea level, atmospheric pressure is about :
(a) 10^3 Pa (b) 10^4 Pa
(c) 10^5 Pa (d) None of these

Q.7 The frictional force…with the…In roughness of the surfaces :
(a) increases, increase (b) decrease, decrease
(c) decrease, increase (d) both (a) and (b)

Q.8 Which fibre is used as artificial wool?
(a) Acrylic (b) Rayon
(c) Nylon (d) Cotton

Q.9 The strongest synthetic fibre is
(a) nylon (b) rayon
(c) polyester (d) acrylic

Q.10 The property which is used in making of wire from metals :
(a) Malleability (b) Ductility
(c) Conductance (d) None of these

Q.11 The metal which is liquid at room temperature is
(a) sodium (b) bromine
(c) Calcium (d) mercury

Q.12 Which of the following reactions are possible :
(i) $Mg + CuSO_4 \rightarrow MgSO_4 + Cu$
(ii) $Ca + MgSO_4 \rightarrow CaSO_4 + Mg$
(iii) $Cu + ZnSO_4 \rightarrow CuSO_4 + Zn$
(iv) $Fe + MgSO_4 \rightarrow FeSO_4 + Mg$
(a) (iii) and (iv) only (b) (i) and (iv) only
(c) (ii) and (iii) only (d) (i) and (ii) only

Q.13 The amount of heat energy produced on complete combustion of 1 kg of a fuel is called
(a) calorific value (b) significant value
(c) heat value (d) internal energy

Q.14 Which of the following is regarded as the best variety of coal :
(a) Bituminous (b) Lignite
(c) Anthracite (d) Peat

Q.15 The glands that have ducts for discharging their secretions in the body are called
(a) endocrine glands (b) exocrine glands
(c) heterocrine glands (d) merocrine glands

Q.16 Which of the following animal has the largest egg?
(a) Kiwi (b) Ostrich
(c) Elephant (d) Blue whale

Q.17 Caterpillars are the larvae of
(a) honey bee (b) butterfly
(c) cockroach (d) none of these

Q.18 Longest Plant cell is :
(a) Tracheid (b) Vessel
(c) Fibre (d) None

Q.19 How many membranes comprise the nuclear envelope ?
(a) 2 (b) 1
(c) 3 (d) zero

Q.20 Number of Nuclei in ciliates is :
(a) One (b) Two
(c) Three (d) More than 3

MATHEMATICS

Q.21 The value of $5\sqrt{3} - 3\sqrt{12} + 2\sqrt{75}$ on simplifying is :
(a) $5\sqrt{3}$ (b) $6\sqrt{3}$
(c) $\sqrt{3}$ (d) $9\sqrt{3}$

Q.22 If $\sqrt{1+\frac{25}{144}}=1+\frac{x}{12}$, then x is_____.

(a) 5 (b) 13
(c) 1 (d) 17

Q.23 The value of $|-5-6|\times|-4+3|$ on simplification is :

(a) 13 (b) 12
(c) 11 (d) 10

Q.24 The value of x on simplifying $x-2|x|=-3$ is :

(a) -1 or 3 (b) 1 or -3
(c) -1 or -3 (d) 1,3

Q.25 If $\sqrt{5}=2.236$ and $\sqrt{3}=1.732$, then the value of $\frac{2}{\sqrt{5}+\sqrt{3}}+\frac{7}{\sqrt{5}-\sqrt{3}}$ is :

(a) 14 (b) 14.39
(c) 14.392 (d) 16

Q.26 Simplify :

$\frac{3}{2}x^2\left(x^2-1\right)+\frac{1}{4}x^2\left(x^2+x\right)-\frac{3}{4}x\left(x^3-1\right)$

(a) $x^4+\frac{1}{2}x^3+\frac{1}{4}x^2+x$

(b) $2x^4+\frac{1}{4}x^3+\frac{3}{4}x^2+\frac{1}{4}x$

(c) $x^4+\frac{1}{4}x^3-\frac{3}{2}x^2+\frac{3}{4}x$

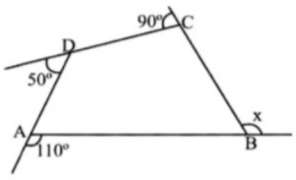
(d) $2x^4+\frac{3}{4}x^3-\frac{1}{4}x^2+\frac{3}{4}x$

Q.27 If $x=\frac{\sqrt{3}}{2}$, then the value of $\sqrt{1+x}+\sqrt{1-x}$ is

(a) $\sqrt{3}$ (b) $\frac{\sqrt{3}}{2}$

(c) $2+\sqrt{3}$ (d) $2-\sqrt{3}$

Q.28 Find the angle measure x in the figure



(a) 80° (b) 90°
(c) 110° (d) 160

Q.29 If $f(x)=x^3-x^2+x+1$, then the value of $\frac{f(1)+f(-1)}{2}$ will be :

(a) 5 (b) 2
(c) 0 (d) -2

Q.30 Twelve years hence a man will be four times as he was 12 years ago, then his present age is :

(a) 25 years (b) 20 years
(c) 28 years (d) 30 years

Q.31 The value of $0.\overline{3}+0.\overline{4}+0.\overline{5}+0.\overline{9}$

(a) 18 (b) $\frac{15}{9}$

(c) $\frac{7}{3}$ (d) 2

Q.32 A leap of coconuts is divided into groups of 2, 3 and 5 and each time one coconut is left. The least number of coconuts in the leap is :

(a) 11 (b) 21
(c) 31 (d) 41

Q.33 A person walks from his house at a speed of 4km/hr and reaches his school 5 minutes late. If his speed has been 5 km/hr, he would have reached 10 minutes earlier. The distance of the school from his house is :

(a) 5 km (b) 6km
(c) 7 km (d) 8 km

Q.34 If 391 is divided into three parts proportional to $\frac{1}{2}:\frac{2}{3}:3$, then the first part is :

(a) 150 (b) 160
(c) 180 (d) none

Q.35 Pipe A can fill a tank in 4 hours and pipe B can fill it in 6 hours. If they are opened at alternate hours and if pipe A is opened first, in how many hours will the tank be filled?

(a) 5 hours (b) $5\frac{2}{3}$ hours

(c) 4 hours (d) $4\frac{2}{3}$ hours

Q.36 If $x^2+\frac{1}{x^2}=53$, find the value of $x-\frac{1}{x}$

(a) $\sqrt{51}$ (b) $\sqrt{53}$
(c) $\sqrt{61}$ (d) $\sqrt{63}$

Q.37 If A's income is 20% more than B, then B's income is :
(a) same as A's (b) 20% less than A's
(c) $16\frac{2}{3}$% less than A's (d) 15% less than A's

Q.38 If $\overline{AC}$ and $\overline{BD}$ intersect at O such that AO = CO and BO = DO, then :
(a) BC = AD
(b) BC|| AD and BC = AD
(c) BC || AD
(d) none of these

Q.39 The sum of the exterior angles of a hexagon is :
(a) 360° (b) 540°
(c) 720° (d) none of these

Q.40 The diagonals of a parallelogram ABCD intersect at O. If $\angle BOC = 90°$ and $\angle BDC = 50°$, then $\angle OAB$ is :
(a) 10° (b) 40°
(c) 50° (d) 90°

REASONING

Direction(Q.41 to Q.43): A cube of dimension 5 cm each has been painted on its surfaces in such a way that two opposite surfaces have been painted blue and two adjacent surfaces have been painted red. Two remaining surfaces have been left unpainted. Now the cube is cut into smaller cubes of side 1 cm each.

Q.41 How many cubes will have no side painted?
(a) 48 (b) 27
(c) 45 (d) 50

Q.42 How many cubes will have at least red colour on its surfaces?
(a) 50 (b) 48
(c) 45 (d) 46

Q.43 How many cubes will have at least blue colour on its surfaces?
(a) 48 (b) 45
(c) 32 (d) 50

Q.44 I was talking to my friend face to face. It was morning time and my shadow was to my right. In which direction was my friend facing ?
(a) South (b) South West
(c) North (d) East

Q.45 Complete the following series : A,C,F, J , __, __ :
(a) O, T (b) M, O
(c) O, U (d) R, V

Directions (For question 46 to 48)

3 couples sit on an oval bench. None of the men sits next to his wife i.e., none of the couple sits next to each other. The males are A, B, C and females are D,E, F. They take positions clockwise on the table.

The following conditions are given :

- **C sits between F and D**
- **A takes position I and sits to the right of B**
- **E sits between B and F**

Q.46 Who is A's wife ?
(a) D (b) E
(c) F (d) None of these

Q.47 Who is E's husband ?
(a) A (b) B
(c) C (d) Either A or B

Q.48 Who sits between C and E :
(a) A (b) B
(c) D (d) F

Q.49 Find the missing term in the given series.
LRX, DJP, VBH, NTZ,?
(a) ELS (b) FMR
(c) GKS (d) FLR

Q.50 If 3 rd of the month falls on Friday, what day will be on the 4th day after 21st of the Month?
(a) Monday (b) Saturday
(c) Thursday (d) Friday