WHIZ SEARCH (SAMPLE PAPER)

CLASS – 9ᵗʰ

Important Instructions:

- This paper contains 45 questions among 3 parts (Science, Mathematics, Mental ability & Reasoning).

- All questions are compulsory.

- Each part contains 15 questions.

- Each question is allotted **4 marks for correct response**.

- **1 mark will be deducted** for marking incorrect or multiple responses.

- No deduction will be made from total marks for unattempted questions.

- For each question, there is **only 1 correct** response.

#SECTION# SCIENCE
#PART# SECTION (Maximum Marks: 60)

(1.) A one-inch tall candle is placed three inches from a concave spherical mirror having a one-foot radius of curvature then magnification of resulting image will be (1 foot – 12 inch)
(a.) +2
(b.) 3
(c.) – 2
(d.) – 3

Ans: A
Exp:

(2.) If air resistance (resistance opposite to direction of motion) is not ignored, then maximum height attained by body will be if it is thrown upward with a velocity of $\sqrt{2(g + a)}$ m/s, where a is air resistance in m/sec^2 (i.e. resistance offered by air)
(a.) 1/2 m
(b.) 1m
(c.) 2m
(d.) 4 m

Ans: B
Exp:

(3.) Why the dam of water reservoir is thick at the bottom
(a.) Quantity of water increases with depth
(b.) Density of water increases with depth
(c.) Pressure of water increases with depth
(d.) Temperature of water increases with depth

Ans: C
Exp:

(4.) A planet is 4 times far away than the earth from the sun. Then number of earth days in the year of this planet is
(a.) 2920 days
(b.) 365 days
(c.) 730 days
(d.) 1095 days

Ans: A
Exp:

(5.) What will be the wave velocity, if the radar gives 54 waves per min and wavelength of the given wave is 10 m
(a.) 4m/sec
(b.) 6 m/sec
(c.) 9 m/sec
(d.) 5 m/sec

Ans: C
Exp:

(6.) Which of the following metals will not able to produce hydrogen gas on reacting with alkali solution?
(a.) Zn
(b.) Sn
(c.) Al
(d.) Fe

Ans: D
Exp:

(7.) 87cm^3 of moist nitrogen is measured at 90°C and 659 mm Hg pressure. Find the volume of dry nitrogen at N.T.P. (The vapour pressure of water at 90°C is 9mm Hg).
(a.) 68.6 cm^3
(b.) 74.4 cm^3
(c.) 60.03 cm^3
(d.) 78.00 m^3

Ans: B
Exp:

(8.) Which of the following separation technique is applicable only for separating miscible liquid-liquid mixture.
(a.) Filtration
(b.) Crystallization
(c.) Distillation
(d.) Evaporation

Ans: C
Exp:

(9.) Zinc reacts with dilute nitric acid to give zinc nitrate, nitrous oxide and water, according to following reaction.

aZn + bHNO$_3$ → cZn(NO$_3$)$_2$ + dN$_2$O + eH$_2$O find the value of $\left\{ \dfrac{a+b+c+d+e+6}{10} \right\} = ?$

(a.) 1
(b.) 3
(c.) 2
(d.) 4

Ans: B
Exp:

(10.) Which of the following is not a green house gas.
(a.) Carbon dioxide
(b.) Hydrogen
(c.) Water vapour
(d.) Methane.

Ans: B
Exp:

(11.) A plant cell differs from an animal cell in the absence of
(a.) Endoplasmic reticulum
(b.) Mitochondria
(c.) Ribosomes
(d.) Centrioles

Ans: D
Exp:

(12.) Synapse is
(a.) Junction of two axons
(b.) Junction of two dendrites
(c.) Junction of axon and dendrite
(d.) Junction of cell bodies

Ans: C
Exp:

(13.) Algae can be described as
(a.) Autotrophic and photosynthetic
(b.) Autotrophic and chemosynthetic
(c.) Heterotrophic and photosynthetic
(d.) Heterotrophic and chemosynthetic

Ans: A
Exp:

(14.) Unicellular eukaryotic organisms are included in
(a.) Monera
(b.) Protista
(c.) Fungi
(d.) Plantae

Ans: B
Exp:

(15.) Dengue is caused by
(a.) Fungi
(b.) Bacteria
(c.) Virus
(d.) Protozoa

Ans: C
Exp:

(16.) The surds $\sqrt{2}\sqrt[3]{3}$ and $\sqrt[5]{5}$, in their descending order are :

(a.) $\sqrt[3]{3}, \sqrt[5]{5}, \sqrt{2}$

(b.) $\sqrt{2}, \sqrt[3]{3}, \sqrt[3]{5}$

(c.) $\sqrt{2}, \sqrt[3]{5}, \sqrt[3]{3}$

(d.) $\sqrt[3]{3}, \sqrt{2}, \sqrt[5]{5}$

Ans: D
Exp:

(17.) $\left[\dfrac{(32)^{0.2} + (81)^{0.25}}{(256)^{0.5} - (121)^{0.5}} \right] =$

(a.) 2

(b.) 5

(c.) 1

(d.) 11

Ans: C
Exp:

(18.) $\sqrt{\sqrt[x]{2^x \sqrt[x^2]{3^{x^3} \sqrt[x^3]{6^{x^6} \sqrt[x^4]{9^{x^{10}}}}}}} =$

(a.) 18

(b.) 54

(c.) 24

(d.) 36

Ans: A
Exp:

(19.) If $(x+1)(x+2)(x+3)(x+k)+1$ is a perfect square then the value of k is:

(a.) 4

(b.) 5

(c.) 6

(d.) 7

Ans: A
Exp:

(20.) The remainder when x^{45} is divided by $x^2 - 1$ is :

(a.) 2x

(b.) $-x$

(c.) 0

(d.) x

Ans: D
Exp:

(21.) If α and β are the roots of the equation $3x^2 - 2x - 8 = 0$ then $\alpha^2 - \alpha\beta + \beta^2 =$

(a.) $\dfrac{76}{9}$

(b.) $\dfrac{19}{6}$

(c.) $\dfrac{16}{6}$

(d.) $\dfrac{-19}{6}$

Ans: A
Exp:

(22.) The mean of first n odd natural numbers is $\dfrac{n^2}{81}$ find n.

(a.) 9

(b.) 81

(c.) 27

(d.) 243

Ans: B
Exp:

(23.) Year X is not a leap year. Find the probability of X containing exactly 53 Sundays.

(a.) $\dfrac{1}{7}$

(b.) $\dfrac{2}{7}$

(c.) $\dfrac{3}{7}$

(d.) $\dfrac{1}{17}$

Ans: A
Exp:

(24.) Find each interior and exterior angle of a regular polygon having 30 sides :
(a.) $144°, 36°$
(b.) $156°, 24°$
(c.) $164°, 16°$
(d.) $168°, 12°$

Ans: D
Exp:

(25.) In the given figure P, Q, R and S are concyclic points and O is the midpoint of the diameter QS if $\angle QPR = 25^0$ then find $\angle SOR$.

(a.) 130°
(b.) 120°
(c.) 75°
(d.) 100°

Ans: A
Exp:

(26.) A solid hemisphere of radius 8 cm is melted and recast into X spheres of radius 2 cm each, find X
(a.) 4
(b.) 8
(c.) 16
(d.) 32

Ans: D
Exp:

(27.) The equation of the diagonal AC of a square ABCD is $3x + 4y + 12 = 0$, find the equation of BD where D is (2, –3)
(a.) $4x - 3y - 8 = 0$
(b.) $4x - 3y - 17 = 0$
(c.) $4x - 3y + 17 = 0$
(d.) $4x + 3y - 17 = 0$

Ans: B
Exp:

(28.) How many pairs of x and y satisfy the equations 2x + 4y = 8 and 6x + 12y = 24?
(a.) 0
(b.) 1
(c.) Infinite
(d.) 2

Ans: C
Exp:

(29.) In a race, Ram beats Shyam by 30m, in the same race Shyam beats Tarun by 60 m, while Ram beats Tarun by 84 m. Find the length of the race (in meter).
(a.) 360
(b.) 270
(c.) 300

(d.) 450

Ans: C
Exp:

(30.) From each corner of a square sheet of side 10 cm, a square of side s cm is cut, where s is an integer. The remaining sheet is folded into a cuboid of volume C cubic cm. Which of the following cannot be a value of C?
(a.) 64
(b.) 72
(c.) 48
(d.) 30

Ans: D
Exp:

#SECTION# MENTAL ABILITY & REASONING
#PART# SECTION 1 (Maximum Marks: 60)

(31.) If > denote +,< denotes −,+ denotes ÷, ∧ denotes ×,− denotes =,x denotes > and = denotes <, choose the correct statement in the question given below.
(a.) $14 > 18 + 9 = 16 + 4 > 1$
(b.) $4 > 3 \land 8 < 1 - 6 + 2 > 24$
(c.) $3 < 6 \land 4 > 25 = 8 + 4 > 1$
(d.) $12 > 9 \land 3 < 6 \times 25 + 5 > 6$

Ans: B
Exp:

(32.) Study the following information to answer the given questions.
(i) Eight friends A, B, C, D, E, F, G and H are seated is a circle facing centre.
(ii) D is between B and G and F is between A and H.
(iii) E is second to the right of A.

Which of the following is A's position ?
(a.) left of F
(b.) Right of F
(c.) Between E and F
(d.) can't be determined

Ans: B
Exp:

(33.) Study the following information to answer the given questions.
(i) Eight friends A, B, C, D, E, F, G and H are seated is a circle facing centre.
(ii) D is between B and G and F is between A and H.
(iii) E is second to the right of A.

Which of the following is C's position ?
(a.) Between E and A

(b.) Between G and E
(c.) Second to the left of B
(d.) Can't be determined

Ans: A
Exp:

(34.) Pointing to a man in a photograph, Anita said "His brother's father is the only son of my grandfather" How is the Anita related to the man in the photograph ?
(a.) Mother
(b.) Aunt
(c.) Sister
(d.) Daughter

Ans: C
Exp:

(35.) From point P, Akshay starts walking towards East. After walking 30 metres, he turns to his right and walks 10 metres. He then turns to his right and walks for 30 metres. He again turns to his right and walks 30 metres. How far is he from Point P and in which direction ?
(a.) Point P itself
(b.) 10 metres North
(c.) 20 metres West
(d.) 20 metres North

Ans: D
Exp:

(36.) **Bank** is related to **Money** in the same way **Transport** is related to.
(a.) Goods
(b.) Road
(c.) Terrace
(d.) Floor

Ans: A
Exp:

(37.) In this given questions, three out of the four alternatives are same in a certain way and so form a group. Find the odd one that does not belong to the group.
(a.) Teeth
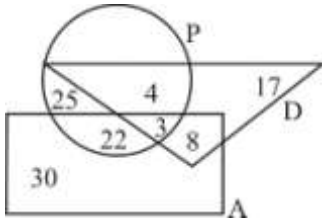(b.) Tongue
(c.) Palate
(d.) Chin

Ans: D
Exp:

(38.) If the alphabets were written in the reverse order, which letter will be the fifth letter to the right of the fourteenth letter from the left.
(a.) R
(b.) I

(c.) S
(d.) H

Ans: A
Exp:

(39.) Study the following figure carefully and answer the questions:
The triangle represented doctors. The circle represents players and the rectangle represents artists.
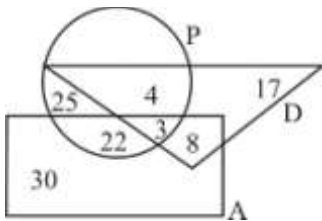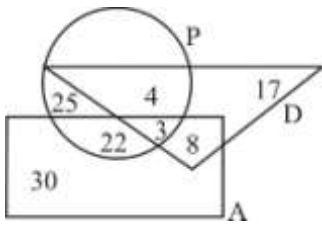

How many doctors are both players and artists?
(a.) 6
(b.) 8
(c.) 4
(d.) 3

Ans: D
Exp:

(40.) Study the following figure carefully and answer the questions:
The triangle represented doctors. The circle represents players and the rectangle represents artists.

How many artists are players?
(a.) 30
(b.) 29
(c.) 25
(d.) 17

Ans: C
Exp:

(41.) Study the following figure carefully and answer the questions:
The triangle represented doctors. The circle represents players and the rectangle represents artists.
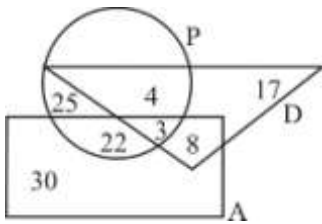
How many artists are neither players nor doctors ?
(a.) 29
(b.) 30
(c.) 22
(d.) 8

Ans: B
Exp:

(42.) Study the following figure carefully and answer the questions :
The triangle represented doctors. The circle represents players and the rectangle represents artists.

How many doctors are neither players nor artists?
(a.) 17
(b.) 30
(c.) 8
(d.) 19

Ans: A
Exp:

(43.) Karan was born on Saturday 22nd March 1982. On what day of the week was he 14 years 7 months and 8 days of age ?
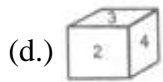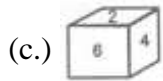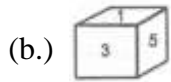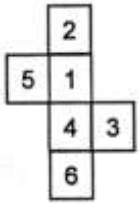(a.) Sunday
(b.) Tuesday
(c.) Wednesday
(d.) Monday

Ans: D
Exp:

(44.) How many times are the hands of a clock coincide in a day ?
(a.) 10
(b.) 11
(c.) 12
(d.) 22

Ans: D

Exp:

(45.) Which of the following dices is identical to the unfolded figure as shown here ?

2	
5	1
	4	3
	6

(a.)

(b.)

(c.)

(d.)

Ans: A
Exp: