

SCIENCE

- Materials which allow larger currents to flow through them are called:
 - Insulators
 - Conductors
 - Semiconductors
 - Alloys
- The magnetic field intensity produced due to a current carrying coil is maximum at :
 - any point
 - the centre of the coil
 - any point lying on the axis of the coil
 - points lying between centre of the coil and its circumference
- The reaction $H_2 + Cl_2 \longrightarrow 2HCl$ is a
 - Decomposition reaction
 - Combination reaction
 - Double displacement reaction
 - Displacement reaction
- Dark reaction is also called -
 - Hill reaction
 - Calvin-benson cycle
 - Both
 - None of these
- The water held tightly by the soil particles around them is known as :
 - Capillary water
 - Hygroscopic
 - Runaway water
 - Gravitational water

MATHEMATICS

- The pair of linear equations $kx + 4y = 5$, $3x + 2y = 5$ is consistent only when –
 - $k \neq 6$
 - $k = 6$
 - $k \neq 3$
 - $k = 5$
- Which of the following polynomials has degree 2
 - $\frac{x^2 + 1}{x^2}$
 - $3x^2 + 5$
 - $4x^3 - 3x^2 + 7$
 - $8x^3 - 2$
- The decimal fraction $0.\overline{12}$ is equal to
 - $\frac{1}{6}$
 - $\frac{11}{90}$
 - $\frac{14}{99}$
 - $\frac{5}{33}$
- The sum of 10 terms of the series $\sqrt{3} + \sqrt{12} + \sqrt{27} + \sqrt{48} + \dots$ is
 - 55
 - 66
 - $45\sqrt{3}$
 - $55\sqrt{3}$

- If $x = \sin^2 \theta \cos \theta$ and $y = \cos^2 \theta \sin \theta$, then :
 - $(x^2 y)^{2/3} + (xy^2)^{2/3} = 1$
 - $\left[\frac{x^2}{y}\right]^{2/3} + \left[\frac{y^2}{x}\right]^{2/3} = 1$
 - $x^2 + y^2 = x^2 y^2$
 - None of these

MENTAL ABILITY

- Directions:** In each of the following questions, a number 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.
1, 2, 3, 6, 9, 18,?....., 54
 - 18
 - 27
 - 36
 - 81
- If the first three letters of the word COMPREHENSION are reversed, then the last three letters are added and then the remaining letters are reversed and added, then which letter will be exactly in the middle ?
 - H
 - N
 - R
 - S
- Directions :** In each of the following question there is a certain relation between two given numbers on (LHS) of : : and one number is given in (RHS) of : : while another number is to be found out at the ? mark of given alternatives having the same relation with this number.
 $9 : 79 :: 100 : ?$
 - 901
 - 1009
 - 9889
 - 9998
- In each of the following questions one statement and two assumptions (I) and (II) are given. Decide which of the assumptions is implicit in the statement. Give answer :
 - If only assumption (I) is implicit
 - If only assumption (II) is implicit
 - If either (I) or (II) is implicit
 - If neither (I) nor (II) is implicit

Statement : "If you break discipline of the school, you will be expelled from the school" - a teacher told to a student

Assumptions:

 - All students do not like discipline.
 - Examination result of the school will be better.
- In each of the following questions two statements (I) and (II) are given. There may be cause and effect relationship between the two statements. Read both the statements and mark your answer as.

- (1) If statement (I) is the cause and statement (II) is its effect.
- (2) If statement (II) is the cause and statement (I) is its effect.
- (3) If both the statements (I) and (II) are independent causes.
- (4) If both the statements (I) and (II) are effects of independent causes.

Statement (I) : It is the target of the civic committees of the city to reduce the air pollution 20% in the next two months.

Statement (II) : The number of asthma cases in the city is constantly increasing.

ANSWER KEY

1	-	2	6	-	1	11	-	2
2	-	2	7	-	4	12	-	4
3	-	2	8	-	2	13	-	4
4	-	2	9	-	4	14	-	4
5	-	2	10	-	2	15	-	4

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National Talent Search Exam

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FOR CLASS 7 - 10