[回回
SAMPLE PAPER

## for Class X

Time: 3 Hours
Maximum Marks: 225

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose. You are not allowed to leave the Examination Hall before the end of the test.

## INSTRUCTIONS

1. The question paper consists of $\mathbf{3}$ parts (Mental Ability, Science and Maths).
2. The test is of $\mathbf{3}$ hours duration and consists of $\mathbf{7 5}$ questions. Each question has $4 / 5$ choices (A), (B), (C), (D) and (E), out of which ONLY ONE is correct.
3. Each question carries $\mathbf{3}$ marks. For each correct response the candidate will get $\mathbf{3}$ marks. For each incorrect response, one mark will be deducted.
4. Use HB+ pencil only for writing particles on the page / marking responses.
5. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
6. On completion of the test, the candidate must handover the Test Booklet \& Answer Sheet to the invigilator in the Room/Hall.
7. Use of Electronic/Manual Calculator is prohibited.

Name of the Candidate (in Capitals): $\qquad$

Father / Guardian Name (in Capitals): $\qquad$

Present Address: $\qquad$

Ph. No. (Guardian): $\qquad$ Ph. No. (Student): $\qquad$

Candidate's Signature: $\qquad$ Invigilator's Signature $\qquad$

Admission for : $\square$ Ranchi Centre $\square$ Patna Centre

## SECTION - I [MENTAL ABILITY]

Directions - Questions 1 to 5 are based on number series. In each question, a series of number is given, followed by a blank space with a question mark (?) on it. The number to fill in the blank is given as one of the alternatives among the five given under each question. Find the correct alternative in each case and indicate the correct answer.

1. 235711 ? 17
(a) 12
(b) 13
(c) 14
(d) 15
(e) 16
2. $51117 ? 3141$
(a) 19
(b) 21
(c) 23
(d) 25
(e) 27
3. $0726 ? 124215$
(a) 37
(b) 51
(c) 63
(d) 88
(e) 120
4. $118 ? 27964$
(a) 4
(b) 6
(c) 9
(d) 16
(e) 25
5. ak eo is ? qa ue
(a) lv
(b) mw
(c) $n x$
(d) lw
(e) mv

## SECTION - II [SCIENCE]

6. An electric current passes through a straight wire. Magnetic compasses are placed at the points $A$ and B :
(a) Their needles will not deflect

(b) Only one of the needles will deflect
(c) Both the needles will deflect in the same direction
(d) The needles will deflect in the opposite directions.
7. To work properly, wind-electric generators need wind speeds of at least about :
(a) $1.5 \mathrm{~km} / \mathrm{h}$
(b) $15 \mathrm{~km} / \mathrm{h}$
(c) $150 \mathrm{~km} / \mathrm{h}$
(d) $1500 \mathrm{~km} / \mathrm{h}$
8. Which of the following statements does not apply to elements belonging to the same period of the periodic table?
(a) The number of valence electrons increases on moving from left to right
(b) The atomic size increases from left to right
(c) The atomic size goes on decreasing from left to right
(d) The metallic character of elements decreases from left to right.
9. Which of the following is a displacement reaction?
(a) $\mathrm{CaCO}_{3} \rightarrow \mathrm{CaO}+\mathrm{CO}_{2}$
(b) $\mathrm{CaO}+2 \mathrm{HCl} \rightarrow \mathrm{CaCl}_{2}+\mathrm{H}_{2} \mathrm{O}$
(c) $\mathrm{Fe}+\mathrm{CuSO}_{4} \rightarrow \mathrm{FeSO}_{4}+\mathrm{Cu}$
(d) $\mathrm{NaOH}+\mathrm{HCl} \rightarrow \mathrm{NaCl}+\mathrm{H}_{2} \mathrm{O}$.
10. What is blood pressure?
(a) The pressure of blood on the heart muscles
(b) The pressure of flow of blood exerted on the walls of arteries and veins
(c) The pressure of blood on the walls of veins only
(d) The pressure of blood on the walls of arteries only
11. Amoeba captures food with the help of :
(a) teeth
(b) cilia
(c) pseudopodia
(d) tentacles.

## SECTION - III [MATHS]

12. The equations $6 x-9 y=5$ and $5 x-6 y=3$ have :
(a) Unique solution
(b) No solution
(c) Two solutions
(d) Infinite solutions.
13. The sum of reciprocals of the roots of the equation $a x^{2}+b x+c=0, a, b, c \neq 0$ is:
(a) $\frac{1}{a}+\frac{1}{b}$
(b) $\frac{1}{b}+\frac{1}{c}$
(c) $\frac{c}{b}$
(d) $\frac{-b}{c}$
14. The diagonals of a square are 90 m each. The area of the square is:
(a) 8100 sq. m
(b) 4050 sq. m
(c) $180 \sqrt{2} \mathrm{~m}$
(d) None of these.
15. If $x$ men working $x$ hours a day for $x$ days can produce $x$ articles, then the number of articles produced by $y$ men working for $y$ hours a day for $y$ days is:
(a) $\frac{y^{2}}{x^{3}}$
(b) $\frac{x^{2}}{y^{3}}$
(c) $\frac{y^{3}}{x^{2}}$
(d) $\frac{x^{3}}{y^{2}}$
16. If the height and the radius of a cone are doubled, then its volume becomes:
(a) 2 times
(b) Four times
(c) Six times
(d) Eight times.
