# 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 **3 parts (Mental Ability, Science and Maths).**
- 2. The test is of **3 hours** duration and consists of **75 questions**. Each question has 4 / 5 choices (A), (B), (C), (D) and (E), out of which **ONLY ONE** is correct.
- 3. Each question carries **3 marks.** For each correct response the candidate will get **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):			
Father / Guardian Name (in Capitals):			
Present Address:			
Ph. No. (Guardian):	Ph. No. (Student):		
Candidate's Signature:	Invigilator's Signature		
Admission for : Ranchi Centre Patna Centre (✓ relevant)			

7.

### 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.	5 11 17 ? 31 41			
	(a) 19	(b) 21	(c) 23	(d) 25
	(e) 27			
3.	0726?124215			
	(a) 37	(b) 51	(c) 63	(d) 88
	(e) 120			
4.	1 1 8 ? 27 9 64			
	(a) 4	(b) 6	(c) 9	(d) 16
	(e) 25			
5.	ak eo is ? qa ue			
	(a) lv	(b) mw	(c) nx	(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	1 not deflect		A •	1
(a) Their needles will not	a) Their needles will not deflect		<b>B</b> ●	
(b) Only one of the needle	es will deflect			
(c) Both the needles will	deflect in the same dire	ction		
(d) The needles will defle	ct in the opposite direct	tions.		
To work properly, wind-electric generators need wind speeds of at least about :				
(a) 1.5 km/h	(b) 15 km/h	(c) 150 km/h	(d) 1500 km/h	
				1

#### SAMPLE PAPER FOR CLASS X

8.	Which of the following statements does not apply to elements belonging to the same period operiodic table?			g to the same period of the		
<ul><li>(a) The number of valence electrons increases on moving from left to right</li><li>(b) The atomic size increases from left to right</li></ul>						
	(c) The atomic size goes	(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) $CaCO_3 \rightarrow CaO + Co$	$O_2$	(b) CaO + 2HCl $\rightarrow$ Ca	$aCl_2 + H_2O$		
	(c) Fe + CuSO <sub>4</sub> $\rightarrow$ FeS	$O_4 + Cu$	(d) NaOH + HCl $\rightarrow$ 1	(d) NaOH + HCl $\rightarrow$ NaCl + H <sub>2</sub> O.		
10.	What is blood pressure?	,				
	(a) The pressure of bloo	d 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			only			
11. <i>Amoeba</i> captures food with the help of :						
	(a) teeth	(b) cilia	(c) pseudopodia	(d) tentacles.		
		SECTION -	III [MATHS]			
12.	2. The equations $6x - 9y = 5$ and $5x - 6y = 3$ have :					
	(a) Unique solution	(b) No solution	(c) Two solutions	(d) Infinite solutions.		
13.	3. The sum of reciprocals of the roots of the equation $ax^2 + bx + c = 0, a, b, c \neq 0$ is:			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.						
	(a) 8100 sq. m	(b) 4050 sq. m	(c) $180\sqrt{2}$ m	(d) None of these.		
15.				number of articles produced		
	(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 rad	ius of a cone are doubled	l, then its volume becomes:			
	(a) 2 times	(b) Four times	(c) Six times	(d) Eight times.		
				2		