

**2-C 2015-16 (FOR CLASS-X)**  
**ROLL NO.**

--	--	--	--	--	--	--	--	--	--	--	--

**SCHOLASTIC APTITUDE TEST (SAT)**  
**(QUESTION No. 101 – 200)**

**02**  
**SAT**

**Time : 90 Minutes**

**Max. Marks : 100**

**INSTRUCTIONS TO CANDIDATES**

Read the following instructions carefully before you open the questions booklet.

1. Use blue/black ball point pen only. There is no negative marking.
2. This test booklet contains 100 questions of one mark each. All the questions are compulsory.
3. Answer each questions by darkening the one correct alternative among the four choices on the OMR SHEET with black/blue ball point pen.

Example :

Q.No.	Alternatives
1	<input type="radio"/> 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4
Q.No.	Alternatives
1	<input type="radio"/> 1 <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4

Correct way :

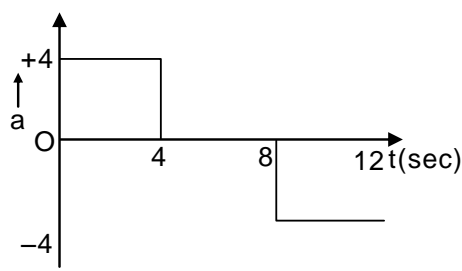
Wrong way :

Student must darken the right oval only after ensuring correct answer on OMR sheet.

4. Students must darken the right oval only after ensuring correct answer on the OMR sheet.
5. Students can not scratch/alter/change out an incorrect answer once marked on OMR sheet, by using white fluid/eraser/blade/tearing/wearing or in any other form.
6. Separate sheet has been provided for rough work in this test booklet.
7. \* Please handover the OMR sheet to the invigilator before leaving the Examination hall.  
\* Take all your question booklets with you.
8. Darken completely the ovals of your answers on OMR sheet in the time limit allotted for that particular paper.
9. Your OMR sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR sheet invalid.
10. Use of electronic gadgets, calculator, mobile etc. is strictly prohibited.

## 02 C

### Physics

101. A body starts from rest at  $t=0$ , the acceleration time graph is shown. The distance travelled by the body from  $t=4s$  to  $t=8s$  will be
1. 0m
  2. 16m
  3. 32m
  4. 64m
- 
102. Which of the following situation is not possible:
1. An object moving in certain direction with an acceleration in perpendicular direction.
  2. An object moving with constant acceleration but zero velocity.
  3. An object moving with variable speed and uniform velocity.
  4. None of the above
103. A large truck and a car are moving with same velocity have a head on collision. Which of the following is an INCORRECT statement?
1. Both vehicles experience equal force of impact.
  2. The car will experience greater force of impact.
  3. The truck will experience lesser acceleration.
  4. The car will experience greater acceleration.
104. A ball thrown vertically upward returns to the thrower after 6s. The ball is 5m below the highest point at  $t=2s$ . The time at which the body will be at same position, (take  $g=10 \text{ m/s}^2$ )
1. 2.5s
  2. 3s
  3. 4s
  4. 5s
105. A particle starts its motion from rest under the action of a constant force. If the distance covered in first 10s is  $S_1$  and that covered in first 20s is  $S_2$  then
1.  $S_2=S_1$
  2.  $S_2=2S_1$
  3.  $S_2=3S_1$
  4.  $S_2=4S_1$
106. The volume of a substance is  $20 \text{ cm}^3$ . The mass of the substances if its relative density is 2.5 will be
1. 5g
  2. 50g
  3. 500g
  4. 5 kg
107. Sound travels fastest in
1. Aluminium
  2. Water
  3. Hydrogen
  4. Oxygen
108. A person clapped his hands near a cliff and heard the echo. The minimum distance of the cliff from the person if the speed of sound is taken as 346 m/s is
1. 17.1m
  2. 17.2m
  3. 17.3m
  4. 34.6m
109. A car with K.E. 100J is moving on a horizontal road. Now 200J work is done on the car. The change in K.E. is
1. Zero
  2. 100J
  3. 200J
  4. 300J
110. Two lamps 'A' rated 100 Watt 220V and 'B' rated 60 Watt 220 are connected in series to electric main supply of 220V. The ratio of heat produced in lamp 'A' to the lamp 'B' would be
1. 3 : 5
  2. 5 : 3
  3. 4 : 5
  4. 5 : 4
111. A particle is moving towards east enters in a magnetic field directed towards north and deflected in vertically downward direction. The charged particle is
1. an electron
  2. a proton
  3. an alpha particle
  4. a neutron

112. The resistance of a conductor depends-
1. Only on potential difference across the ends of the conductor.
  2. Only on current flowing through the conductor.
  3. On both (1) and (2)
  4. Neither on (1) nor on (2)
113. An ammeter has 10 divisions between mark 0 and mark 2 on its scale. Which of the following reading the ammeter cannot read
1. 0.2A
  2. 1.0A
  3. 1.8A
  4. 1.9A
114. A mirror which can produce a magnification of +1 is
1. Convex mirror
  2. Concave mirror
  3. Plane mirror
  4. Both concave mirror & plane mirror.
115. When a clear aluminium article is made the anode and is electrolyzed with dil sulphuric acid to make a thicker protective and attractive oxide layer around it, then the process is called
1. Galvanisation
  2. Anodising
  3. Leaching
  4. Thermite process
116. A white coloured compound 'XY' is used in photochromic lenses. Choose the incorrect statement from the following:
1. The compound 'XY' decomposes into a metal and a non-metal on exposure to sunlight
  2. The compound 'XY' is completely soluble in aq. ammonia solution
  3. The metal part of 'XY' is grey coloured in elemental form
  4. The non-metal part of 'XY' is violet coloured in elemental form
117. 'Milk of magnesia' is often used as
1. Indicator
  2. Synthetic milk
  3. Source of magnesium
  4. Antacid
118. Which of the following statement is incorrect statement about the trends when going from left to right across the periods of modern periodic table?
1. The number of valence electrons increases
  2. The atoms lose their electrons more easily
  3. The oxides become more acidic
  4. The elements become less metallic in nature
119. Match the items of column I with the items of column II
- | Column - I (Polymers) |  | Column - II |            |
|-----------------------|--|-------------|------------|
| a)                    | aq. NaCl solution                            | i)          | Acidic     |
| b)                    | aq. Na <sub>2</sub> CO <sub>3</sub> solution | ii)         | Basic      |
| c)                    | aq. NH <sub>4</sub> Cl solution              | iii)        | Neutral    |
| d)                    | aq. CaO solution                             | iv)         | Amphoteric |
1. (c)i (d)iii (b)ii (a)i
  2. (d)i (b)iv (a)iii (c)iv
  3. (a)iii (b)ii (c)i (d)iii
  4. (b)ii (a)iiii (d)ii (c)i
120. The total number of electrons present in 16 g of methane gas is
1.  $96.352 \times 10^{23}$
  2.  $48.176 \times 10^{23}$
  3.  $60.22 \times 10^{23}$
  4.  $30.110 \times 10^{23}$
121. Identify the correct oxidant and reductant in the following reaction:
- $$\text{PbS} + 4\text{H}_2\text{O}_2 \longrightarrow \text{PbSO}_4 + 4\text{H}_2\text{O}$$

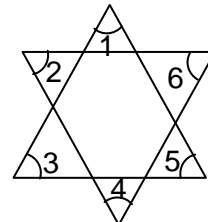
1. PbS – Oxidant  
H<sub>2</sub>O<sub>2</sub> – Reduc tant
2. PbS – Reduc tant  
PbSO<sub>4</sub> – Oxidant
3. PbS – Reduc tant  
H<sub>2</sub>O<sub>2</sub> – Oxidant
4. H<sub>2</sub>O<sub>2</sub> – Oxidant  
H<sub>2</sub>O – Reduc tant
122. The pH of pure water at 25°C is 7. If water is heated to boil, then
- pH will decrease and water will become acidic
  - pH will increase and water will become basic
  - pH will decrease but water will remain neutral
  - pH will remain 7
123. The correct order of acidic strength of the following oxides is:
- CaO < Na<sub>2</sub>O < CO<sub>2</sub> < ZnO
  - Na<sub>2</sub>O < CaO < ZnO < CO<sub>2</sub>
  - ZnO < CO<sub>2</sub> < CaO < Na<sub>2</sub>O
  - CO<sub>2</sub> < ZnO < Na<sub>2</sub>O < CaO
124. Consider the chemical formulae CH<sub>3</sub>COOH and HCOOCH<sub>3</sub> and choose the incorrect statement:
- Both have the equal boiling point
  - Both have the equal molecular weight
  - Both have the equal number of covalent bonds
  - Both are not the same compound
125. The average atomic mass of a sample of an element 'X' is 16.2u. What are the percentage of isotopes  ${}^{16}_8\text{X}$  and  ${}^{18}_8\text{X}$  in the sample?
- ${}^{16}_8\text{X} = 80\%$ ,  ${}^{18}_8\text{X} = 20\%$
  - ${}^{16}_8\text{X} = 60\%$ ,  ${}^{18}_8\text{X} = 40\%$
  - ${}^{16}_8\text{X} = 90\%$ ,  ${}^{18}_8\text{X} = 10\%$
  - ${}^{16}_8\text{X} = 45\%$ ,  ${}^{18}_8\text{X} = 55\%$
126. The path of light gets illuminated when passed through the solution:
- Blood solution(aq)
  - Brine solution (aq)
  - Copper sulphate solution(aq)
  - Acetic acid solution(aq)
127. If 10<sup>21</sup> molecules of CO<sub>2</sub> are removed from 200 mg of CO<sub>2</sub> sample, then the number of moles of CO<sub>2</sub> left are
- 2.88 × 10<sup>-3</sup>
  - 4.54 × 10<sup>-3</sup>
  - 1.66 × 10<sup>-3</sup>
  - 1.66 × 10<sup>-2</sup>
128. If pepsin is lacking in gastric juice, then the event in the stomach will be affected:
- Digestion of starch into sugars
  - Proteins break down into peptides
  - Breaking of fats into glycerol and fatty acids
  - Digestion of nucleic acids
129. The lipids and proteins essential for the formation of cell membrane are synthesized in
- Golgi bodies
  - Mitochondria
  - Endoplasmic reticulum
  - Lysosomes
130. The part of brain which controls the balance and posture of the body is
- Cerebellum
  - Cerebrum
  - Pons
  - Medulla
131. Uric acid is the main excretory product of:
- Insects
  - Birds
  - Terrestrial reptiles
  - Human being
- A, B and C are correct
  - A and B are only correct
  - Only B and D are correct
  - Only A and C are correct

132. Growth of plants is not promoted by  
 1. Cytokinins                      2. Auxins                      3. Gibberellins                      4. Abscisic acid
133. The decomposers in an ecosystem convert  
 1. Inorganic substance into organic substance  
 2. Simpler substance into complex substance  
 3. Solar energy into chemical energy  
 4. Organic substance into inorganic substance
134. The direction of movement of sap in Phloem of higher plants can be  
 1. Unidirectional                      2. Multidirectional                      3. Bidirectional                      4. Direction less
135. Which of the following is an Italian variety of Honey bee?  
 1. Apis florum                      2. Apis cerana indica  
 3. Apis mellifera                      4. Apis dorsata
136. The group of plants that bears naked seeds  
 1. Gymnosperms                      2. Angiosperms                      3. Bryophyta                      4. Pteridophyta
137. Period of complete development of foetus starting with implantation till the birth of young one called as  
 1. Gestation period                      2. Parturition                      3. Pregnancy                      4. both (1) and (3)
138. In seed plants, the non-motile gametes are carried to female gamete by:  
 1. Air                      2. Pollen tube                      3. Water                      4. Insects
139. Menopause is the stage in female when  
 1. Menstruation starts                      2. Puberty  
 3. Reproduction capacity arrested                      4. Ovaries enlarges
140. Perforations are not found in cell wall of the following cells  
 1. Tracheid                      2. Companion                      3. Sieve tube                      4. Vessels
141. The coefficient of  $x^{49}$  in the product  $(x-1)(x-3)(x-5)\dots(x-99)$  is  
 (1) 1                      (2) -999                      (3) -2990                      (4) -2500
142. Let  $\alpha \neq \beta, \alpha^2 + 3 = 5\alpha$  and  $\beta^2 = 5\beta - 3$ . The quadratic equation whose roots are  $\frac{\alpha}{\beta}$  and  $\frac{\beta}{\alpha}$  will be  
 (1)  $3x^2 - 19x + 3 = 0$     (2)  $3x^2 + 19x + 3 = 0$     (3)  $3x^2 - 19x - 3 = 0$     (4)  $3x^2 - 3x + 1 = 0$
143. If  $x = (5)^{1/3} + 2$ , then value of  $x^3 - 6x^2 + 12x - 10$  is  
 (1) 1                      (2) -2                      (3) -1                      (4) 3
144. A point is selected at random from the interior of a circle. The probability that the selected point is closer to the centre than the boundary of the circle is  
 (1)  $\frac{1}{2}$                       (2)  $\frac{1}{3}$                       (3)  $\frac{1}{4}$                       (4)  $\frac{1}{5}$
145. If  $3 \sin \theta + 4 \cos \theta = 5$  then value of  $4 \sin \theta - 3 \cos \theta$  is  
 (1) 0                      (2) 1                      (3) -1                      (4) 2
146. If  $\frac{2 \sin \alpha}{1 + \sin \alpha + \cos \alpha} = \lambda$  then  $\frac{1 + \sin \alpha - \cos \alpha}{1 + \sin \alpha}$  is equal to  
 (1)  $-\lambda$                       (2)  $\lambda$                       (3)  $\frac{1}{\lambda}$                       (4)  $1 - \lambda$

147. A cone, a right circular cylinder and a hemisphere stand on equal base and have same height. The ratio of their volume is  
 (1) 1:2:3 (2) 1:3:2 (3) 2:3:1 (4) 2:1:3

148. The sum of seven consecutive natural numbers is 1617. How many of these are prime?  
 (1) 4 (2) 5 (3) 2 (4) 7

149. In given figure measure of  $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 + \angle 6$  is  
 (1)  $90^\circ$  (2)  $180^\circ$   
 (3)  $270^\circ$  (4)  $360^\circ$



150. The ratio of in-radius and circum-radius of a square is  
 (1) 1:2 (2)  $1:\sqrt{2}$  (3) 1:3 (4)  $1:\sqrt{3}$

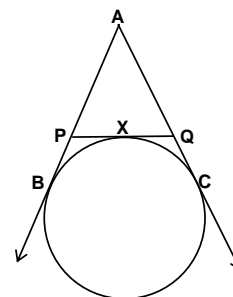
151. Total percentage by which  $\frac{5}{7}$  of 122 is greater than  $\frac{4}{5}$  of 70 will be  
 (1) 42% (2) 30% (3) 24% (4) 36%

152. The mean of 100 observations is 24. If 4 is added to each of the observation and then each of them is multiplied by 2.5 then new mean is  
 (1) 70 (2) 80 (3) 65 (4) 75

153. If  $2^m - 2^{m-1} - 4 = 0$ . Then value of  $m^m$  is  
 (1) 4 (2) 27 (3) 6 (4) 29

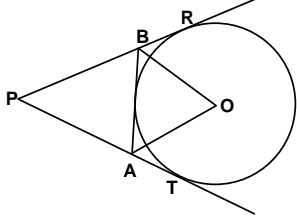
154. Given that  $a^2+b^2=1$ ,  $c^2+d^2=1$ ,  $p^2+q^2=1$ , where a, b, c, d, p, q are all real numbers, then  
 (1)  $ab + cd + pq \geq 1$  (2)  $ab + cd + pq \geq 3$  (3)  $ab + cd + pq < 3$  (4)  $ab + cd + pq \leq \frac{3}{2}$

155. If AB, AC, PQ are tangents in the figure and  $AB = 5\text{cm}$  then perimeter of  $\triangle APQ$  is  
 (1) 5cm (2) 10cm  
 (3) 12cm (4) 15cm



156. A circular piece of metal of maximum area is cut out from a square piece and then a square piece of maximum area is cut out of the circular piece. The total area of wasted metal is  
 (1)  $\frac{1}{4}$  of the area of original square (2)  $\frac{1}{2}$  of the area of original square  
 (3)  $\frac{1}{2}$  of the area of the circular piece (4)  $\frac{1}{4}$  of the area of the circular piece

157. A cuboid of unit length, unit breadth and of height 10 units is cut into 10 cubical pieces of edge of 1 unit length each. The total surface area of these ten cubes will be  
 (1) 20 sq. units (2) 40 sq. units (3) 42 sq. units (4) 60 sq. units

158. The base of a triangle is  $b$  and altitude is  $h$ . A rectangle of height  $x$  with the base of the rectangle on the base of triangle has its two vertices on other two sides of the triangle. The area of rectangle is  
 (1)  $\frac{bx(h-x)}{h}$       (2)  $\frac{hx}{b}(b-x)$       (3)  $\frac{(b-x)}{h}$       (4)  $\frac{(h-x)}{b}$
159. Four congruent triangular corners are cut off a rectangle of dimension  $11\text{cm} \times 13\text{cm}$ . The resulting Octagon has eight edges of equal length. The length of the edge of octagon is  
 (1) 7cm      (2) 3cm      (3) 4cm      (4) 8cm
160.  $\triangle PAB$  is formed by three tangents to a circle with centre  $O$ . If  $\angle APB = 40^\circ$ . Then  $\angle AOB$  equals  
 (1)  $45^\circ$       (2)  $55^\circ$   
 (3)  $60^\circ$       (4)  $70^\circ$
- 
161. Otto Von Bismarck was the Chief Minister of  
 1. Germany      2. Italy      3. France      4. Britain
162. "Young Italy" an underground Society founded by:  
 1. Garibaldi      2. Wilhelm Wolff  
 3. Giuseppe Mazzini      4. Napoleon
163. "Swaraj Party" founded by  
 1. Subhash Chandra Bose, Jawaharlal Nehru  
 2. C.R. Das, Moti Lal Nehru  
 3. Mohammad Ali, Saikat Ali  
 4. Ramchandra, Sitaram Raju
164. "National Song" of India is the part of Novel  
 1. Durgesh Nandini      2. Gora      3. Gitanjali      4. Anandmath
165. The Autobiography of Hitler is  
 1. Mein Kampf      2. The Secret Book      3. Nazi Leaflet      4. Gypsy
166. Gandhiji's "Champaran Satyagrah" was associated with  
 1. Rubber Farming      2. Cotton Farming      3. Tea Farming      4. Indigo Farming
167. Who hosted the Vienna Congress?  
 1. Duke Metternich      2. Napoleon      3. Bismarck      4. Mazzini
168. Who was founder of Hoa Hao Movement  
 1. Liang Kichao      2. Huynh Phu so      3. Duy Tan Hoi      4. Boi Chau
169. Who announced dominion status for India in October 1929  
 1. Lord Reading      2. Lord Irwin      3. Lord Minto      4. Lord Curzon
170. Who began to edit the Bengal Gazette from 1780?  
 1. Walter Scot      2. Raja Ram Mohan Roy  
 3. James Augustus Hicky      4. Devendra Thakur
171. Federation of the Indian chamber of commerce and Industries (FICCI) was formed in which year.  
 1. 1921      2. 1925      3. 1927      4. 1929
172. In which of the following rivers is the Majuli River Island situated?  
 1. Ganga      2. Brahmaputra      3. Godavari      4. Indus

173. Which of the following minerals is a non-metallic mineral?  
1. Bauxite                      2. Manganese                      3. Iron Ore                      4. Mica
174. Which of the following interior layers of the Earth is also called "Nife"?  
1. Crust                      2. Mantle                      3. Core                      4. Sial
175. What causes rainfall on the coastal areas of Tamil Nadu in the beginning of winters?  
1. South-West Monsoon                      2. Temperate Cyclones  
3. North-East Monsoon                      4. Local Air Circulation
176. Boundaries of which of the following states does not touch Myanmar?  
1. Mizoram                      2. Meghalaya                      3. Manipur                      4. Nagaland
177. Which one of the following is the Eastern terminal of East-West corridor?  
1. Shillong                      2. Silvassa                      3. Silchar                      4. Singrauli
178. Which of the following lakes has formed as a result of tectonic activity?  
1. Wular Lake                      2. Chilika Lake                      3. Pulkit Lake                      4. Kolleru Lake
179. What is the name of the Indian Research centre located in Antarctica?  
1. Dakshin Gangotri                      2. Shwet Baharti  
3. Him Putra                      4. Shivalik Mani
180. Arable land in the irrigated zone of India is turning saline due to which of the following reasons?  
1. Addition of Gypsum                      2. Over Irrigation  
3. Over Grazing                      4. Use of Fertilizers
181. Which of the following minerals is found in monazite sands of Kerala?  
1. Gold                      2. Thorium                      3. Bauxite                      4. Nickel
182. Sandal wood is an example of  
1. Evergreen forest                      2. Thorny forest                      3. Deciduous forest                      4. Deltaic forest
183. Which type of ruling Government most of the countries have at present?  
1. Ruler Government                      2. Democratic  
3. Dictatorship                      4. Army dictatorship
184. Which country of the world started 'Adult Franchise'?  
1. America                      2. England                      3. New Zealand                      4. Switzerland
185. President of India is elected by  
1. By the people  
2. By all the elected members of Parliament and State Legislature  
3. By the members of Lok Sabha and Vidhan Sabha  
4. By the members of Rajya Sabha
186. 'End of Racial Discrimination' this fundamental right is a part of  
1. Right to equality                      2. Right to Freedom  
3. Right to Education and Culture                      4. Right against exploitation
187. In which list does Agriculture and Irrigation falls?  
1. State List                      2. Union List                      3. Concurrent List                      4. Both (1) and (2)
188. 'Singhali and Tamil' languages are main languages of which country?  
1. Nepal                      2. Maldives                      3. Sri Lanka                      4. Myanmar
189. What is the basis of Social Division?  
1. Birth                      2. Religion                      3. Living                      4. Occupation



190. In India, Women's reservation quota is available in
1. Lok Sabha
  2. Vidhan Sabha
  3. Mantri Mandal
  4. Panchayati Raj Organisation
191. There is third kind of Government apart from the Central and State Government in Belgium. What is this Government known as:
1. Regional Government
  2. Provincial Government
  3. Community Government
  4. Local Government
192. What is the meaning of 'Transparency'?
1. When decisions are taken by the ruler
  2. When decisions are made by leader's conclusion
  3. When decisions are taken with honesty and proper follow of rules
  4. When decisions are made for individual greeds
193. "Alliance" means
1. Only one party contest election
  2. Many parties join hands together to contest the election
  3. Only two parties can contest
  4. None of the above
194. The financial year in India starts from
1. 01 February
  2. 01 July
  3. 01 April
  4. 01 January
195. Which of the following sectors is engaged in production of services?
1. Primary Sector
  2. Secondary Sector
  3. Tertiary Sector
  4. Joint Sector
196. Which of the following estimates national income in India?
1. National Sample Survey Organization
  2. Central Statistical Organization
  3. Reserve Bank of India
  4. Industrial Finance Corporation
197. The rate at which Central Bank gives credit to commercial banks is called?
1. Bank Rate
  2. Interest Rate
  3. Cash Reserve Ratio
  4. Statutory Liquidity Ratio
198. Which five year plan was suspended on year before the time schedule?
1. Second Five Year Plan
  2. Third Five Year Plan
  3. Fifth Five Year Plan
  4. Seventh Five Year Plan
199. 'NABARD' is a \_\_\_\_\_
1. Poverty alleviation Programme
  2. Bank
  3. Social Security Scheme
  4. Agriculture Marketing agency
200. What was the aim of 'Antyodaya Programme'?
1. Helping the poorest of poor
  2. Upliftment of SC/ST
  3. Women empowerment
  4. Children welfare