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PHYSICS

101. Consider the motion of the tip of the minute hand of a clock in one hour. Which of the following statement is wrong?
(1) The average spead of the top is zero
(2) Average acceleration of the tip is zero
(3) Average velocity of the tip is zero
(4) the displacement of the top is zero

102. A body is projected vertically up with a speed '*u*'. The time taken by the body to return back to ground is….

(1) $t = \dfrac{u}{g}$　　　(2) $t = \dfrac{2u}{g}$　　　(3) $t = \dfrac{1}{2}(ug)$　　　(4) $t = \dfrac{4u}{g}$

103. A body of mass 5 kg initially at rest is moved by a horizontal force of 2N on a smooth horizontal surface. The work done by the force in 10 seconds is……
(1) 10 J　　　(2) 50 J　　　(3) 40 J　　　(4) 20 J

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104. A retardating force of 150 N is applied to a body of mass 50 kg which is moving with a speed of 30 m/s. The time taken by the body to come to rest is….
(1) 20 seconds　　(2) 30 seconds　　(3) 5 seconds　　(4) 10 seconds

105. A man standing between two parallel cliffs fires a gun. If he hears first and second echoes after 1.5 seconds and 3.5 seconds respectively, then the distance between two cliffs is….(Take velocity of sound in air as 340 m/s)
(1) 1190 m　　(2) 850 m　　(3) 595 m　　(4) 510 m

106. The characteristic of sound that would result in an increase in loudness of a sound is…
(1) Amplitude　　(2) Speed　　(3) Pitch　　(4) Quality

107. Of the following, the specific heat is minimum for…
(1) water　　(2) sea-water　　(3) kerosene oil　　(4) mercury

108. A fan produces a feeling of comfort because….
(1) fan supplies a cool air　　(2) evaporation of sweat
(3) fan cools the air　　(4) fan increases humidity in air

109. A radii of curvature of two faces of a biconvex lens of refractive index are in the ratio of 2:3. The focal length of the lens is 12 cm. The radius of curvature of the surface with low value of radius of curvature is…
(1) 5 cm　　(2) 10 cm　　(3) 15 cm　　(4) 20 cm

110. The change in focal length of an eye lense is caused by the action of…
(1) pupil　　(2) retina　　(3) ciliary muscles　　(4) iris

111. If a charge 3 C experiences a force of 3000 N when it is moved in a uniform electric field, then the potential difference between two points separated by distance of 1 cm is….
(1) 10 V　　(2) 1000 V　　(3) 3000 V　　(4) 9000 V

112. n conducting wires of same dimensions, but having resistivities 1, 2, 3,…n are connected in series. The equivalent resistivity of the combination is….
(1) $\dfrac{n(n+1)}{2}$　　(2) $\dfrac{n+1}{2n}$　　(3) $\dfrac{n+1}{2n}$　　(4) $\dfrac{2n}{n+1}$

113. A body of mass 2 kg starts from rest and moves with uniform acceleration. It acquires a velocity of 20 m/s in 4 seconds. The power exerted on the body in 2 seconds is….
(1) 50 watts　　(2) 100 watts　　(3) 150 watts　　(4) 200 watts

CHEMISTRY

114. Miscible liquid among the following is…..
(1) alcohol in water　(2) milk　　(3) oil in water　　(4) kerosene in water

115. The number of atoms constituting a molecule is known as ……
(1) valency　　(2) atomicity　　(3) mole concept　　(4) atomic mass

116. Which of the following is an element?
(1) Mercury　　(2) Ammonia　　(3) Water　　(4) Glucose

117. The dyes of an ink can be separated by….
(1) filteration　　(2) sublimation　　(3) fractional distillation　(4) chromatography

118. Molecular mass of H_2SO_4 is…..
(1) 58.5 (u)　　(2) 98 (u)　　(3) 36.5 (u)　　(4) 35.5 (u)

119. The number of neutrons in an atom of $_{11}^{23}X$ is…
(1) 23　　(2) 11　　(3) 34　　(4) 12

120. The maximum number of electrons that can be accommodated in the 'L' shell of an atom is…..
(1) 2　　(2) 4　　(3) 8　　(4) 16

121. The isotope used in the treatment of cancer is…
(1) Iodine　　(2) Cobalt　　(3) Carbon　　(4) Hydrogen

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122. Molecular formula of baking soda is….
(1) Na_2CO_3 (2) NaCl   (3) $NaHCO_3$ (4) NaOH

123. The Quantum number which explain about size and energy of the orbit or shell is….
(1) Principle quantum number   (2) Angular momentum quantum number
(3) Magnetic quantum number   (4) Spin quantum number

124. The valency of the element with atomic number '10' is……
(1) 2   (2) 8   (3) 10   (4) 0

125. The impurity present in the ore is called…
(1) gangue   (2) flux   (3) slag   (4) mineral

126. The allotrope of Carbon in amorphous form among the following is….
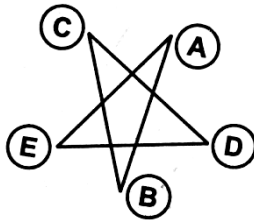(1) Diamond   (2) Graphite   (3) buckminsterfullerene (4) Coal

BIOLOGY

127. Choose the correct statement/statements from the following.
(A) Blood is a substance which contains liquid particles
(B) Lymph is the substance that contains blood without solid particles.
(C) Blood is a substance which contains solid and liquid particles
(D) The liquid portion after formation of a blood clot is serum.
(1) A, B   (2) A, C   (3) B, C, D   (4) A, C, D

128. Which of the following are secondary metabolites?
(A) Carbohydrates   (B) Tannins   (C) Proteins   (D) Gums
(E) Alkaloids
(1) A, D   (2) B, C   (3) A, D, E   (4) B, D, E

129. Master gland is controlled by…
(1) Cerebellum   (2) Cerebrum   (3) Medulla   (4) Diencephalon

130. One of the following is a mismatched pair.
(1) Gibberellins   - delaying dormancy in seeds
(2) Ethylene   - ripening of fruit.
(3) Auxins   - cell elongation
(4) Abscisic acid   - closing of stomata

131. An average Gestation period in Human beings is………..
(1) 290 days   (2) 280 days   (3) 275 days   (4) 300 days

132. An embryo sac of flowering plant contains……..
(1) Eight cells, Seven nuclei   (2) Seven cells, Seven nuclei
(3) Seven cells, Eight nuclei   (4) Eight cells, Eight nuclei

133. Endosperm is…
(1) 2n   (2) 3 n   (3) 4 n   (4) N

134. Choose the correct statement/statements from the following.
(A) Inter phase has three phases
(B) Inter phase is the resting stage between two divisions
(C) Inter phase is the period when genetic material makes its copy.
(D) Inter phase is the active phase between two divisions.
(1) A, B   (2) B, C   (3) A, B, C   (4) A, C, D

135. Selective Permeability means……
(1) it allows entry of certain substances only.
(2) it allows exit of certain substances only.
(3) it allows passage of all solutes and solvents.
(4) it allows entry and exit of certain substances and prevents remaining substances

136. In which of the following organs, cell division does not taken place?
(1) Bone marrow and Brain.   (2) Fertilized egg and Bone marrow.
(3) Cancer cells in different organs   (4) Brain and Heart.

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137. The plants which having naked seeds….
(1) Bryophytes   (2) Gymnosperms   (3) Angiosperms   (4) Thallphytes

138. The largest organ among the following…….
(A) Liver   (2) Stomach   (3) Skin   (4) Lungs

139. Lenticels are found in…..
(A) Leaves   (2) Flowers   (3) Roots   (4) Stems

140. Anger is caused by increased levels of the following hormone.
(A) Somatotropin   (2) Thyroxine   (3) Testosterone   (4) Adrenaline

MATHEMTICS

141. The first term of a sequence is 2005. Each succeeding term is the sum of the cubes of the digits of the previous term. What is the 2005th term of the sequence?
(1) 29   (2) 85   (3) 250   (4) 133

142. Suppose that

$$4^{x_1} = 5, 5^{x_2} = 6,$$

$$6^{x_3} = 7,......127^{x_{124}} = 128$$

what is $x_1.x_2.x_3......x_{124}$?

(1) 2   (2) $\dfrac{5}{2}$ (3) 3   (4) $\dfrac{7}{2}$

143. Let a, b, c, d, e, f, g and h be distinct elements in the set $\{-7, -5, -3, -2, 2, 4, 6, 13\}$.
What is the minimum possible value of

$$(a + b + c + d)^2 + (e + f + g + h)^2 = ?$$

(1) 30   (2) 32   (3) 34   (4) 40

144. A positive integer n has 60 divisors and 7 n has 80 divisors and 7 n has 80 divisors. hat is the greatest integer k such that 7^k divides n?
(1) 0   (2) 1   (3) 2   (4) 3

145. In the five-sided star shown, the letters A, B, C, D and E are replaced by the numbers 3, 6, 7 and 9 although not necessarily in that order. The sums of the numbers at the ends f the line segments $\overline{AB}, \overline{BC}, \overline{CD}, \overline{DE}$ and $\overline{EA}$ form an arithmetic sequence although not necessarily in that order. What is the middle term of the arithmetic sequence?
(1) 9   (2) 10
(3) 11   (4) 12

146. The sum of 49 consecutive integers is 7^5, what their median?
(1) 7   (2) 7^3 (3) 7^2 (4) 7^4

147. The second and fourth terms of geometric sequence are 2 and 6. Which of the following is a possible first term?

(1) $-\sqrt{3}$ (2) $-\dfrac{2\sqrt{3}}{3}$ (3) $-\dfrac{\sqrt{3}}{3}$ (4) $\sqrt{3}$

148. What is the largest integer that is a divisor of (n +1) (n+3) (n+5) (n+7) (n+9) for all positive even integers n?
(1) 3   (2) 5   (3) 11   (4) 15

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149. A regular octagon ABCDEFGH has an area of one square unit. What is the area of the rectangle ABEF?
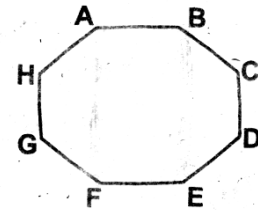
(1) $1 - \dfrac{\sqrt{2}}{2}$ (2) $\dfrac{\sqrt{2}}{4}$

(3) $\sqrt{2} - 1$ (4) $\dfrac{1}{2}$

150. If $\log(xy^3) = 1$ and $\log(x^2y) = 1$, then $\log(xy) = ?$

(1) $\dfrac{3}{5}$ (2) 0 (3) $\dfrac{1}{2}$ (4) $-\dfrac{1}{2}$

151. If a, b, c, d are positive real numbers such that a, b, c, d form an increasing arithmetic sequence and a, b, d form a geometric sequence, then $\dfrac{a}{d}$ is.....

(1) $\dfrac{1}{12}$ (2) $\dfrac{1}{6}$ (3) $\dfrac{1}{4}$ (4) $\dfrac{1}{3}$

152. The sum of 18 consecutive positive integers is a perfect square. The smallest possible value of this sum is…

(1) 169 (2) 225 (3) 289 (4) 361

153. The mean, median, unique mode and range of a collection of eight integers are all equal to 8. The largest integer that can be an element of this collection is…

(1) 11 (2) 12 (3) 13 (4) 14

154. Let A, M and C be non-negative integers such that A + M +C = 12; what is the maximum value of A.M.C + A.M+M.C+C.A?

(1) 112 (2) 62 (3) 72 (4) 92

155. In triangle ABC, 3 sin A + 4 cos B = 6 and 4 sin B + 3 cos A = 1, then Ð C in degrees is……

(1) 30 (2) 60 (3) 90 (4) 120

156. The graph below represents a polynomial p(x)
Which of these is the reminder, when p(x) is divided by the polynomial $x^2 - 5x + 6$?

(1) 1 (2) 3
(3) x-1 (4) 0
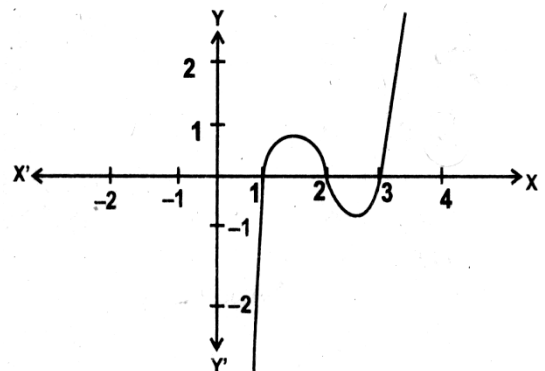
157. If $\sqrt{\log_2 \sqrt{x + 2} - 2} = 0$ then x is equal to…..

(1) 34 (2) 16 (3) 8 (4) 12

158. $2^{3x} = 64^{-1}$ and $10y = 0.01$, then the value of $(50x)^{-1}(10y)^{-1}$ is…

(1) 1 (2) -1 (3) 2 (4) -2

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159. PAB, PCD are two secants. AB = 9 cm, PC = 8 cm and CD = 10 cm, then the length of tangent from P to the circle, will be….
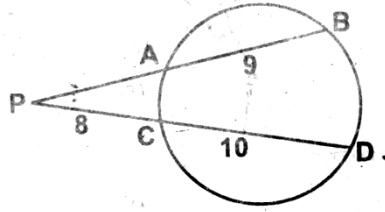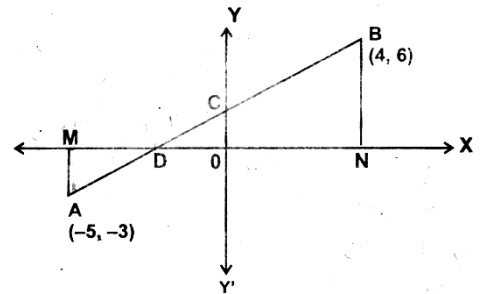

   (1) 7 cm
   (3) 14 cm

160. The join of A(-5, -3) and B(4, 6) intersects the X-axis at D and the Y-axis at C respectively. AM, BN are perpendiculars on the X-axis. Find the area ΔAMD: area ΔDCO.

   (1) 2 : 3   (2) 9: 4
   (3) 4 : 9   (4) 3 : 2

SOCIAL STUDIES

161. Which of the following treaty recognised Greece as an Independent nation?
   (1) Treaty of Vienna of 1815.   (2) Treaty of Constantinople of 1832.
   (3) Treaty of Paris of 1783.   (4) Treaty of Frankford of 1781.
162. In which year was the "Tonkin Free School" established in Vietnam?
   (1) 1907   (2) 1917   (3) 1927   (4) 1937
163. Who was the author of Hind Swaraj?
   (1) Mahatma Gandhi   (2) C.R. Das
   (3) Motilal Nehru   (4) Jawahar Lal Nehru
164. Under whose presidency, the Lahore Congress formalised the demand of 'Puma Swaraj' or Full Independence for India?
   (a) Motilal Nehru   (2) Jawahar Lal Nehru
   (3) Vallabhai Patel   (4) Pattabhi Sitaramaiah
165. United Nations Monetary and Financial Conference was held in
   (1) July 1944   (2) June 1939   (3) September 1945 (4) March 1947
166. The East India Company obtained Bombay from
   (1) The Dutch   (2) The Danes   (3) The French   (4) The Portuguese
167. What does the term "Suffrage" mean?
   (1) Right to Freedom   (2) Right to Live
   (3) Right to Education   (4) Right to Vote.
168. Match list A with B and select the correct answer •from the codes given below the lists.

(A)	(B)
(A) Kandukuri Veereshalingam	(i) Saudamini.
(B) Ramshankar Ray	(ii) Manjughosha.
(C) Chandu Menon	(iii) Rajashekhara Charitam.
(D) Srinivas Das	(iv) Indulekha
(E) Naro Sadashiv Risbud.	(v) ParikshaGuru.

Codes:
(1) a–ii, b–iii, c–i, d–iv, e–v   (2) a–iii, b–i, c–iv, d–v, e–ii

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(3) a–iii, b–iv, c–ii, d–v, e–i   (D) a–ii, b–i, c–iv, d–v, c–iii

169. The Governor-General who persecuted James Augustus Hickey for starting the Bengal Gazette, a weekly magazine was
   (1) Warren Hastings   (2) Lord Cornwallis
   (3) Sir John Shore   (4) Lord Wellesly

170. Who of the following was not one of the founders of the Khilafat Committee formed in the wake of the dismemberment of the Turkish empire which was perceived as undermining the position of the Sultan of Turkey (The Caliph)?
   (1) Mohammed Au Jinnah   (2) Maulana Shaukat Au
   (3) Muhammed Ali   (4) None of the above

171. As a result of the Poona Pact, the number of seats reserved for the depressed classes out of general electorate seats were
   (1) increased   (2) decreased
   (3) retained at the same level   (4) abolished

172. Find the one which is not correct.
   (1) Civil Disobedience Movement   – 1930
   (2) Gandhi-Irwin Pact   – 1931
   (3) Second Round Table Conference   – 1932
   (4) None of the above.

173. Who abolished slavery in the French Colonies?
   (1) Jacobins   (2) Napolean Bonaparte
   (3) Directory Government   (4) National Assembly

174. "Kulaks" are
   (1) Members of Duma.
   (2) The wealthy peasants of Old Russia.
   (3) The majority group of Russian Social Democratic Labour party.
   (4) Small peasants.

175. Who gave the slogan "One people, One empire and One vote"?
   (1) Hitler   (2) Napoleon Bonaparte
   (3) Lenin   (4) Benito Mussolini

176. Which of the following statement is correct?
   (1) Over irrigation responsible for degradation in Punjab Haryana.
   (2) Mining is responsible land degradation Jharkhand.
   (3) Over grazing is one of the main reason for land degradation in Maharashtra.
   (4) All the above.

177. Red soil develops on
   (1) Basalt rocks   (2) Dolomite rocks
   (3) Limestone   (4) Crystalline igneous rocks

178. Initially, Coffee cultivation was introduced on the
   (1) Baba BudanHills   (2) Naga Hills
   (3) Balaghat Range   (4) Nallamala Hills

179. Which of the following is not correctly matched?
   (1) Bandavgarh National Park–Madhya Pradesh
   (2) Periyar Tiger Reserve – Kerala
   (3) Manas Tiger Reserve–Assam
   (4) Buxa Tiger Reserve–Karnataka

180. The largest Solar energy plant is located at
   (1) Manikarm in Himachal Pradesh.   (2) Madhapur in Bhuj.
   (3) Ramagundam in Telangana.   (4) Korba in Madhya Pradesh.

181. Which one of the following minerals is formed by decomposition of rocks, leaving a residual mass of weathered material?
   (1) Coal   (2) Bauxite   (3) Copper   (4) Iron

182. Which of these is the largest producer of Jowar?

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(1) Karnataka   (2) Andhra Pradesh

(3) Madhya Pradesh   (4) Maharashtra

183. Which one of the following minerals is contained in the Monazite sand?

(1) Lignite   (2) Thorium

(3) Barytes   (4) Limestone

184. Jute textiles are located mainly along the banks of the river Hugh. Which of these is not a reason for this?

(1) Proximity of the jute producing areas.

2) Abundant sea water for processing raw jute.

(3) In expensive water transport.

(4) Cheap labour from West Bengal and adjoining states of Bihar and Orissa.

185. How many tonnes of Bauxite is needed for the preparation of 1 tonne of Aluminium?

(1) 2 to 4 tonnes   (2) 2 to 6 tonnes   (3) 4 to 6 tonnes   (4) 6 to 8 tonnes

186. When was the Border Road Organisation established?

(1) 1955   (2) 1960   (3) 1965   (4) 1970

187. Identify the rain shadow region from the given areas.

(1) Vishakapattanam   (2) Pune

(3) Karaikal   (4) Chennai

188. What is River Brahmaputra known as in Bangladesh?

(1) Tsang Po   (2) Padma   (3) Dihang   (4) Jamuna

189. Which is the youngest land mass in India?

(1) Northern Plains.   (2) Himalayan Mountains.

(3) Peninsular Plateau.   (4) Andaman and Nicobar islands.

190. "Duns" are formed in between

(1) Greater Himalayas and lesser Himalayas.

(2) Lesser Himalayas and Sivaliks.

(3) Sivaliks and Bhabur.

(4) Bhabur and Terai.

191. The President of the World Bank has always been a citizen of the US, conventionally nominated by the...

(1) UN Secretary General.

(2) Treasure Secretary General of the US Government.

(3) Managing Director, International Monetary Fund.

(4) President of the European Union

192. Which of the following statements is not correct?

(1) In Saudi Arabia, a woman does not have the right to vote.

(2) In Fiji, the electoral systems is such that the vote of an indigenous Fiji has more value than that of an Indian - Fijian.

(3) In Mexico, during 1930 - 2000 elections, PRI (Institutional Revolutionary Party) has been winning through free and fair elections.

(4) None of the above.

193. Using the codes given below the lists, match list A with list B and select the correct answer.

A	B
(a) Garibi Hatao (b) Save Democracy (c) Land to the tiller. (d) Protect the self respect of the Telugus.	(i) Slogan given by N.T. Rama Rao in 1983. (ii) Slogan given by Indira Gandhi in 1971. (iii) Slogan given by Janata Party in 1977. (iv) The Left Front used this slogan in 1977.

(1) a–ii, b–i, c–iii, d–iv

(B) a–iii, b–ii, c–i, d–iv

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    (3) a–iii, b–iv, c–ii, d–i

    (D) a–ii, b–iii, c–iv, d–i

194. "Kittiko- Hachchiko" movement took place in this state.

    (1) Karnataka   (2) Uttarakhand   (3) West Bengal   (4) Rajasthan

195. Which of the following is not a instance of an exercise of a fundamental right?

    (1) Men and women government employees get / the same salary.

    (2) Parents' property is inherited by their children.

    (3) Christian Missionaries set up a chain of missionary schools.

    (4) Workers from Telangana go to Maharasthra to work on the farms.

196. Find the one that is wrongly matched.

    (1) Prime Minister Rozgar Yojana - 1993

    (2) Pradanamantri Gramodaya Yojana – 2000

    (3) Mahatma Gandhi Rural Employment Guarantee Act - 2005

    (4) Swarna Jayanti Gram Swarozgar Ypjana -2009

197. Which among groups had the highest poverty during 2011-12?

    (1) Schedule Castes   (2) Agricultural Labourers

    (3) Casual Labourers   (4) Urban Labourers

198. Who avail benefits under Antyodaya Anna Yojana?

    (1) Indigent Senior citizens   (2) Backward blocks

    (3) Poorest of the poor   (4) All the above.

199. Which of the following neighbouring countries has better performance in terms of life expectancy at birth than India?

    (1) Pakistan   (2) Nepal   (3) Myanmar   (4) Srilanka

200. The founder of "Grameen Bank of Bangladesh" is

    (1) Professor Mohammad Yunus   (2) Khaleda Zia

    (3) Sheik Mujibir Rahman   (4) Maulana Abdul Hamid Kha'n

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