

PART - IV
NUMERICAL APTITUDE

151. The boys of a class are made to stand in a queue. Amit is standing at 15th place from both ends. How many boys are there in the queue ?
(A) 31
(B) 30
(C) 29
(D) 28
152. If the sum of a rational number and its reciprocal is $13/6$, then the number is
(A) $\frac{1}{2}$
(B) $\frac{1}{6}$
(C) $\frac{2}{3}$
(D) $\frac{5}{6}$
153. In a group of students; 30 students play Cricket, 20 play Tennis and in all 35 play either Cricket or Tennis. How many students play both Cricket and Tennis ?
(A) 10
(B) 12
(C) 15
(D) 18
154. Simplified value of $\frac{(15.4)^2 - (35.4)^2}{25}$ is
(A) - 40.64
(B) - 10.16
(C) 40.64
(D) 50.80
155. Simplified value of $\frac{(0.361)^3 + (0.639)^3}{(0.361)^2 - 0.361 \times 0.639 + (0.639)^2}$ is
(A) 1
(B) 361
(C) 639
(D) 1000
156. If the sum of one-half, one-third and one-fourth of a number exceeds the number by 12, then the number is
(A) 90
(B) 144
(C) 154
(D) 174
157. $32^{\frac{4}{5}} + 32^{-\frac{4}{5}}$ is equal to
(A) 32
(B) $16\frac{1}{16}$
(C) $15\frac{15}{16}$
(D) 1

SPACE FOR ROUGH WORK

158. If $\frac{a}{b} = \frac{5}{3}$ and $8a + 5b = 22$, then a is equal to

- (A) 2
- (B) 4
- (C) 5
- (D) 6

159. $\frac{(698 + 198)^2 - (698 - 198)^2}{698 \times 198}$ is equal to

- (A) 2
- (B) 4
- (C) 9854
- (D) 9874

160. The cube root of $0.027 + 0.064 + 3 \times 0.12 \times 0.7$ is

- (A) 0.30
- (B) 0.40
- (C) 0.12
- (D) 0.70

161. $\frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}} + \frac{\sqrt{3} - \sqrt{2}}{\sqrt{3} + \sqrt{2}}$ is equal to

- (A) 3.464
- (B) 2.828
- (C) 1
- (D) 10

162. $\sqrt{3\sqrt{3\sqrt{3\sqrt{3\sqrt{3}}}}}$ is equal to

- (A) $3^{\frac{33}{32}}$
- (B) $3^{\frac{27}{32}}$
- (C) $3^{\frac{31}{32}}$
- (D) $3^{\frac{5}{32}}$

163. $35 \times 35 \times 35 - 25 \times 25 \times 25 - 10 \times 10 \times 10$ is equal to

- (A) 26,250
- (B) 17,500
- (C) 8,750
- (D) 0

164. $\sqrt[3]{\frac{7}{2401}}$ is equal to

- (A) $\frac{1}{9}$
- (B) $\frac{1}{7}$
- (C) $\frac{1}{21}$
- (D) $\frac{1}{13}$

SPACE FOR ROUGH WORK

165. $\sqrt{7+2\sqrt{12}} + \sqrt{7-2\sqrt{12}}$ is equal to

- (A) 4
- (B) $4\sqrt{3}$
- (C) 6
- (D) $6\sqrt{2}$

166. The smallest perfect square number, which is divisible by each of 2, 3, 4, 5 and 6, is

- (A) 600
- (B) 840
- (C) 900
- (D) 1600

167. $\left(1-\frac{1}{2}\right) \left(1-\frac{1}{3}\right) \left(1-\frac{1}{4}\right) \left(1-\frac{1}{5}\right) \dots$
 $\left(1-\frac{1}{100}\right)$ is equal to

- (A) $\frac{1}{120}$
- (B) $\frac{1}{108}$
- (C) $\frac{1}{100}$
- (D) $\frac{1}{50}$

168. The sum of the first 51 terms of the arithmetic progression, whose 26th term is 300, is

- (A) 15,100
- (B) 15,300
- (C) 15,500
- (D) 15,700

169. The sum of all even numbers upto 100 is

- (A) 1000
- (B) 2000
- (C) 2500
- (D) 2550

170. $\frac{1}{1 \times 4} + \frac{1}{4 \times 7} + \frac{1}{7 \times 10} + \frac{1}{10 \times 13}$ is equal to

- (A) $\frac{2}{7}$
- (B) $\frac{3}{13}$
- (C) $\frac{3}{7}$
- (D) $\frac{4}{13}$

171. The average of all odd numbers less than 100 is

- (A) 49
- (B) 50
- (C) 51
- (D) 52

172. A batsman has a certain average of runs for 11 innings played by him. In his 12th innings he scored 90 runs, thereby decreased his average of runs by 5. His average of runs for 12 innings is

- (A) 217
- (B) 150
- (C) 145
- (D) 127

SPACE FOR ROUGH WORK

173. The average of monthly salaries of A, B and C is Rs. 40,000 and that of B, C and D is Rs. 50,000. If D's monthly salary is Rs. 60,000, then A's monthly salary is
- (A) Rs. 30,000
(B) Rs. 40,000
(C) Rs. 50,000
(D) Rs. 60,000
174. The selling price of a commodity is reduced by 25%. As a result its daily sale is increased by 30%. Due to this effect the revenue collected, compared to the previous daily sale, will be
- (A) 5% more
(B) 5% less
(C) 2.5% more
(D) 2.5% less
175. In an examination, a student got 30% marks out of 180 in the first paper of a subject. How much must he get in the second paper out of 150 so that he gets 50% marks in the subject ?
- (A) 70%
(B) 74%
(C) 76%
(D) 80%
176. Let us suppose that when water freezes in the form of ice, its volume is increased by 10%. What percent decrease will there be when ice melts in the form of water ?
- (A) 10
(B) 9
(C) $11\frac{1}{9}$
(D) $9\frac{1}{11}$
177. If $A : B = 2 : 3$ and $B : C = 4 : 5$, then $5A : 3C$ is
- (A) 8 : 9
(B) 5 : 8
(C) 7 : 9
(D) 6 : 7
178. The ratio of two numbers is 5 : 8 and their difference is 69. The smaller of the two numbers is
- (A) 184
(B) 140
(C) 115
(D) 108
179. The incomes of A and B are in the ratio 3 : 2 and their expenditures in the ratio 5 : 3. If each saves Rs. 10,000, A's income is
- (A) Rs. 30,000
(B) Rs. 40,000
(C) Rs. 60,000
(D) Rs. 90,000

SPACE FOR ROUGH WORK

180. A person took two equal loans for 2 years and 3 years respectively each at 8% simple interest. If at the end of the terms, the difference of interests was Rs. 560, then the amount of each loan was
- (A) Rs. 7,000
 - (B) Rs. 7,200
 - (C) Rs. 7,500
 - (D) Rs. 7,800
181. A sum of money at compound interest, compounded half-yearly becomes $\frac{676}{625}$ times of itself in one year. The rate of interest per annum is
- (A) 10%
 - (B) 8%
 - (C) 6%
 - (D) 5%
182. A sum of money at compound interest amounts to Rs. 10,648 in 3 years and to Rs. 9,680 in 2 years. The rate of interest per annum is
- (A) 20%
 - (B) 16%
 - (C) 15%
 - (D) 10%
183. Two successive discounts of 10% and 5% are equivalent to a single discount of
- (A) 15%
 - (B) $7\frac{1}{2}\%$
 - (C) $12\frac{1}{2}\%$
 - (D) $14\frac{1}{2}\%$
184. The marked price of an article is 20% above its cost price. If the trader allows 20% discount on its marked price, he will get
- (A) 4% profit
 - (B) 4% loss
 - (C) 5% profit
 - (D) 5% loss
185. A man can complete one-third of a work in 18 days. How many days will he need to complete 0.5 part of the work ?
- (A) 36
 - (B) 27
 - (C) 24
 - (D) 21

SPACE FOR ROUGH WORK

186. A and B together can do a piece of work in 12 days, B and C together in 15 days and C and A together in 20 days. In how many days can A alone do the same work ?
 (A) 22
 (B) 25
 (C) 30
 (D) 40
187. A is twice as good a workman as B and together they complete a piece of work in 14 days. In how many days can A alone complete the work ?
 (A) 21
 (B) 28
 (C) 30
 (D) 35
188. If 1 man or 2 women or 3 boys can do a piece of work in 55 days, in how many days, will 1 man, 1 woman and 1 boy together do the same work ?
 (A) 40
 (B) 36
 (C) 33
 (D) 30
189. A car completes a certain journey in 8 hours. It covers half the distance at 40 km/hr and the rest at 60 km/hr. The length of the journey is
 (A) 420 km
 (B) 400 km
 (C) 384 km
 (D) 350 km
190. In going from station A to station B, a distance of 100 km, a train moves with speed 40 km/hr and in returning back from B to A, it runs with speed 60 km/hr. The average speed (in km/hr) of the train for the entire journey is
 (A) 45
 (B) 48
 (C) 50
 (D) 55
191. A man walking at 3 km/hr crosses a square field diagonally in 2 minutes. The area (in m²) of the field is
 (A) 2500
 (B) 3000
 (C) 5000
 (D) 6000
192. A runs twice as fast as B and B runs thrice as fast as C. In how many minutes, will the journey, covered by C in 42 minutes, be covered by A ?
 (A) 36
 (B) 28
 (C) 14
 (D) 7
193. The total surface area of a solid hemisphere is 1848 cm². Its diameter is
 (use $\pi = \frac{22}{7}$)
 (A) 28 cm
 (B) $14\sqrt{6}$ cm
 (C) $7\sqrt{6}$ cm
 (D) 14 cm

SPACE FOR ROUGH WORK

194. Each of the radius of a sphere and that of the base of a right circular cylinder is 3 cm. If their volumes are equal, the height (in cm) of the cylinder is

- (A) 4
- (B) 9
- (C) 12
- (D) 22

195. The ratio of the area of an equilateral triangle and that of a square is $\sqrt{3} : 2$. If the length of a diagonal of the square is 60 cm, then the perimeter of the triangle is

- (A) 150 cm
- (B) 180 cm
- (C) 210 cm
- (D) 240 cm

196. The difference between the circumference and the diameter of a circle is 15 cm. The radius (in cm) of the circle is (Take $\pi = \frac{22}{7}$)

- (A) 7
- (B) 4.5
- (C) 3.5
- (D) 2.25

197. 6% more is gained by selling a radio for Rs. 475, than by selling it for Rs. 451. The cost price of the radio is

- (A) Rs. 434
- (B) Rs. 400
- (C) Rs. 446.50
- (D) Rs. 427.50

198. By selling an article for Rs. 255, a man incurs a loss of 15%. For what price should he sell it so that he makes a profit of 20% ?

- (A) Rs. 275
- (B) Rs. 300
- (C) Rs. 375
- (D) Rs. 360

199. A production-house sells their items at 20% profit. If the production cost is increased by 10%, but the selling price remains unaltered, the profit is

- (A) $9\frac{1}{11}\%$
- (B) 10%
- (C) 11%
- (D) $11\frac{1}{9}\%$

200. A shop-keeper had to sell an article at 20% loss. He could gain 5%, if he had sold the article for Rs. 200 more. The cost price of the article was

- (A) Rs. 700
- (B) Rs. 800
- (C) Rs. 900
- (D) Rs. 1,000

SPACE FOR ROUGH WORK