

**PART - IV**  
**NUMERICAL APTITUDE**

151. The boys of a class are made to stand in a queue. Amit is standing at 15<sup>th</sup> 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 26<sup>th</sup> 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 12<sup>th</sup> 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

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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 m<sup>2</sup>) 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 cm<sup>2</sup>. 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