

## PART- IV

## ARITHMETIC

151. If  $\sqrt{3} = 1.732$ , is given, then the value of  $\frac{2+\sqrt{3}}{2-\sqrt{3}}$  is
- (a) 11.732            (b) 13.928  
(c) 12.928            (d) 13.925
152.  $\sqrt{2} + \sqrt{7-2\sqrt{10}}$  is equal to
- (a)  $\sqrt{2}$             (b)  $\sqrt{7}$   
(c)  $\sqrt{5}$             (d)  $2\sqrt{5}$
153. The number, which is to be added to 0.01 to get 1.1. is
- (a) 1.11            (b) 1.09  
(c) 1            (d) 0.10
154. If  $n + \frac{2}{3}n + \frac{1}{2}n = 97$  then the value of n is
- (a) 40            (b) 42  
(c) 44            (d) 46
155. 25, 50, 30, 45, 35, 40, ?
- (a) 30            (b) 35  
(c) 40            (d) 45
156.  $[1 \times 2 + 2 \times 3 + 3 \times 4 + 4 \times 5 + 5 \times 6 + 6 \times 7 + 7 \times 8 + 8 \times 9 + 9 \times 10 + 10 \times 11]$  is equal to
- (a) 770            (b) 660  
(c) 440            (d) 330
157.  $[(7^{-1} - 8^{-1})^{-1} - (3^{-1} - 4^{-1})^{-1}]$  is equal to
- (a) 56            (b) 44  
(c) 50            (d) 48
158. If x, y and z are real numbers such that  $(x-3)^2 + (y-4)^2 + (z-5)^2 = 0$  then  $(x+y+z)$  is equal to
- (a) -12            (b) 0  
(c) 8            (d) 12
159.  $[2^2 + 3^2 + 4^2 + 5^2 + 6^2 + 7^2 + 8^2 + 9^2 + 10^2]$  is equal to
- (a) 385            (b) 2916  
(c) 540            (d) 384
160. The value of  $\frac{137 \times 137 + 137 \times 122 + 133 \times 133}{137 \times 137 \times 137 - 133 \times 133 \times 133}$
- (a) 4            (b)  $\frac{1}{4}$   
(c) 270            (d)  $\frac{1}{270}$
161. The product of two numbers is 120 and the sum of their squares is 289. The sum of the two numbers is
- (a) 23            (b) 7  
(c) 13            (d) 169
162. Numbers 2, 4, 6, 8, 10, ..., 196, 198, 200 are multiplied together. The number of zeros at the end of the product on the right will be equal to—
- (a) 21            (b) 22  
(c) 24            (d) 25
163. A takes twice as much time as B and thrice as much as C to complete a piece work. They together complete the work in 1 day. In what time, will A alone complete the work.
- (a) 9 days            (b) 5 days  
(c) 6 days            (d) 4 days
164. A and B together can do a piece of work in 5 days and A alone can do it in 8 days. B alone can do the same piece of work in
- (a)  $11\frac{1}{3}$  days            (b)  $12\frac{3}{5}$  days  
(c)  $12\frac{3}{5}$  days            (d)  $16\frac{4}{5}$
165. 2 men and 1 women together can complete a piece of work in 14 days, while 4 women and 2 men together can do it in 8 days, how much should a women get per day?
- (a) Rs. 400            (b) Rs. 450  
(c) Rs. 480            (d) Rs. 360

166. If the lengths of the three sides of a triangle are 6 cm, 8 cm and 10 cm, then the length of the median to its greatest side is  
 (a) 8 cm (b) 6 cm  
 (c) 5 cm (d) 4.8 cm
167. The circumference of a circle is 11 cm and the angle of a sector of the circle is  $60^\circ$ . The area of the sector is (use  $\pi = \frac{22}{7}$ )  
 (a)  $1\frac{29}{48}$  cm<sup>2</sup> (b)  $2\frac{29}{48}$  cm<sup>2</sup>  
 (c)  $1\frac{27}{48}$  cm<sup>2</sup> (d)  $2\frac{27}{48}$  cm<sup>2</sup>
168. The perimeter of a rhombus is 100 cm. if one of its diagonals is 14 cm, then the area of the rhombus is  
 (a) 144 cm<sup>2</sup> (b) 225 cm<sup>2</sup>  
 (c) 336 cm<sup>2</sup> (d) 400 cm<sup>2</sup>
169. The surface areas of two spheres are in the ratio 4 : 9. Their volumes will be in the ratio  
 (a) 2 : 3 (b) 4 : 9  
 (c) 8 : 27 (d) 64 : 729
170. The height of the cone is 30 cm. A small cone is cut off at the top by a plane parallel to its base. If its volume is  $\frac{1}{27}$  of the volume of the cone, at what height, above the base, is the section made?  
 (a) 6 cm (b) 8 cm  
 (c) 10 cm (d) 20 cm
171. The discount series 10%, 20%, 40% is equivalent to a single discount of  
 (a) 50% (b) 56.8%  
 (c) 60% (d) 62.28%
172. A train is travelling at the rate of 45 km/hr. How many seconds, it will take to cover a distance of  $\frac{4}{5}$  km ?  
 (a) 36 (b) 64  
 (c) 90 (d) 120
173. A shopkeeper allows 4% discount on his marked price. If the cost price of an article is Rs. 100 and he has to make a profit of 20%, then his marked price must be  
 (a) Rs. 96 (b) Rs. 120  
 (c) Rs. 125 (d) Rs. 130
174. If A : B = 3 : 5 and B : C = 4 : 7, Then A : B : C is  
 (a) 6 : 9 : 14 (b) 3 : 5 : 7  
 (c) 12 : 20 : 21 (d) 12 : 20 : 35
175. If  $\frac{a}{2} = \frac{b}{3} = \frac{c}{5}$ , then  $\frac{a+b+c}{c}$  is equal to  
 (a) 2 (b) 4  
 (c) 5 (d) 6
176. The ratio of the quantities of sugar, in which sugar costing Rs. 20 per kg. and Rs. 15 per kg. should be mixed so that there will be neither loss nor gain on selling the mixed sugar at the rate of Rs. 16 per kg. is  
 (a) 2 : 1 (b) 1 : 2  
 (c) 4 : 1 (d) 1 : 4
177. A sum of Rs 86, 700 is to be divided among A, B and C in such a manner that for every rupee that A gets, B gets 90 paise and for every rupee that B gets, C gets 100 paise. B's share will be  
 (a) Rs. 26,010 (b) Rs. 27,000  
 (c) Rs. 28,000 (d) Rs. 28,090
178. Two types of alloys possess gold and silver in the ratio of 7 : 22 and 21 : 37. In what ratio should these alloys be mixed so as to have a

- new alloy in which gold and silver would exist in the ratio 25 : 62?
- (a) 13 : 8                      (b) 8 : 13  
(c) 13 : 12                     (d) 6 : 9
179. The average of consecutive odd numbers is 53. The least odd number is
- (a) 22                              (b) 27  
(c) 35                              (d) 45
180. The average age of group of 20 girls is 15 years and that of another group of 25 boys it is 24 years. The average age of the two groups mixed together is
- (a) 19.5 years                  (b) 20 years  
(c) 21 years                     (d) 21.5 years
181. Five years ago, the average age of P, Q and R was 25 years and seven years ago, the average age of Q and R was 20 years. The present age of P is
- (a) 36 years                      (b) 29 years  
(c) 24 years                      (d) 21 years
182. The average per day income of A, B and C is Rs. 450. If the average per day income of A and B be Rs. 400 and that of B and C be Rs. 430, the per day income of B is
- (a) Rs. 300                      (b) Rs. 310  
(c) Rs. 415                      (d) Rs. 425
183. A man sold an article at a loss of 20%. If he had sold it for Rs. 50 more, he would have gained 5%. The cost price of the article was
- (a) Rs. 250                      (b) Rs. 300  
(c) Rs. 180                      (d) Rs. 200
184. By selling 14 watches of equal cost price at the rate of Rs. 450 each, there is a profit equal to the cost price of 4 watches. The cost price of a watch is
- (a) Rs. 350                      (b) Rs. 360  
(c) Rs. 375                      (d) Rs. 400
185. A person bought two articles A and B for Rs 5,500. He sold A at 20% profit and B at 10% loss. He thus gained 2% on his outlay. The cost price of A was
- (a) Rs. 3,000  
(b) Rs. 2,500  
(c) Rs. 2,000  
(d) Rs. 3,500
186. If the total cost of 73 articles having equal cost is Rs. 5,110 and the total selling price of 89 such articles is Rs. 5,607, then in the transaction, there will be
- (a) a loss of 15%              (b) a gain of 10%  
(c) a loss of 10%              (d) a gain of 15%
187. What was the percentage increase of disbursement of loans of all banks together from 1997 to 1998 ?
- (a) 6%                              (b)  $6\frac{22}{113}\%$   
(c)  $6\frac{11}{113}\%$                       (d)  $7\frac{11}{113}\%$
188. Nitin's salary was reduced by 10% and then the reduced salary was increased by 10%. His new salary in comparison with his original salary is
- (a) the same                      (b) 1% more  
(c) 1% less                        (d) 5% less
189. The number of seats in a cinema hall is increased by 25%. The cost of each ticket is also increased by 10%. The effect of these changes on the revenue collection will be an increase of
- (a) 37.5%                        (b) 45.5%  
(c) 47.5%                        (d) 29.5%
190. A man spends 40% of his monthly salary on food and one-third of the remaining on transport. If he saves Rs. 4,500 per month,

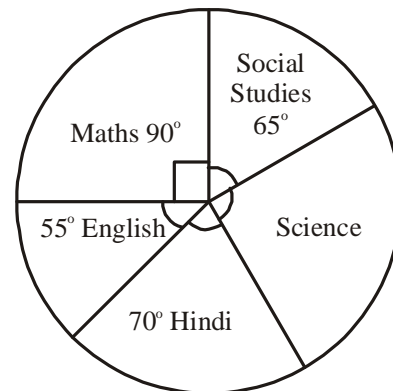
which is equal to half the balance after spending on food and transport, his monthly salary is

- (a) Rs. 11,250 (b) Rs. 22,500  
 (c) Rs. 25,000 (d) Rs. 45,000
191. If 80% of a number added to 80 gives the result as the number itself, then the number is  
 (a) 200 (b) 320  
 (c) 400 (d) 480
192. A bus moving as a speed of 45 km/hr overtakes a truck 150 meters ahead going in the same direction in 30 seconds. The speed of the truck is  
 (a) 27 km/hr (b) 24 km/hr  
 (c) 25 km/hr (d) 28 km/hr
193. A train crosses a pole in 15 seconds and a 100 meters long platform in 25 seconds. The length of the trains is  
 (a) 125m (b) 130m  
 (c) 150m (d) 175m
194. In how much time, will a sum of money become double of itself at 15% per annum simple interest?  
 (a)  $6\frac{1}{4}$  years (b)  $6\frac{1}{4}$  years  
 (c)  $6\frac{1}{3}$  years (d)  $6\frac{2}{3}$  years
195. The difference between compound and simple interest on a sum of money for 2 years at 8% per annum is Rs 768. The sum is  
 (a) Rs. 1,00,200 (b) Rs. 1,30,000  
 (c) Rs. 1,20,000 (d) Rs. 1,02,000
196. The difference between compound interest on Rs. 5,000 for  $1\frac{1}{4}$  years at 8% per annum,

according as the interest is payable half-yearly or yearly is

- (a) Rs. 8.16 (b) Rs. 8  
 (c) Rs. 4.08 (d) Rs. 4

**Directions (197-200):** The pie-chart given below shows the marks obtained by a student in an examination. If the total marks obtained by him in the examination were 540, answer the questions given below based on this pie chart.



197. In which subject, did the student obtain 105 marks?  
 (a) Maths (b) Social studies  
 (c) Science (d) Hindi
198. What is the central angle corresponding of Science?  
 (a) 40° (b) 80°  
 (c) 75° (d) 60°
199. How many more marks were obtained by the student in Maths than those in Hindi?  
 (a) 30 (b) 20  
 (c) 10 (d) 40
200. How many marks were obtained by the student in Science?  
 (a) 130 (b) 120  
 (c) 125 (d) 140

# ANSWER SHEET

151 (b) 152 (c) 153 (b) 154 (b) 155 (c) 156 (c) 157 (b) 158 (d) 159 (d) 160 (b)  
161 (a) 162 (c) 163 (c) 164 (c) 165 (a) 166 (c) 167 (a) 168 (c) 169 (c) 170 (d)  
171 (b) 172 (b) 173 (c) 174 (d) 175 (a) 176 (d) 177 (b) 178 (a) 179 (d) 180 (b)  
181 (a) 182 (b) 183 (d) 184 (a) 185 (c) 186 (c) 187 (b) 188 (c) 189 (a) 190 (b)  
191 (c) 192 (a) 193 (c) 194 (d) 195 (c) 196 (a) 197 (d) 198 (b) 199 (a) 200 (b)



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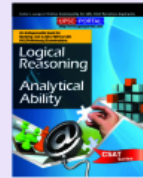
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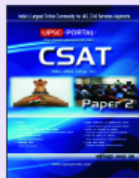
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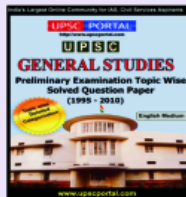
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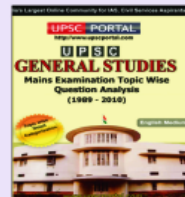


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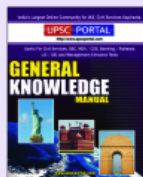


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