SOLVED PAPER
SSC (10+2) LEVEL
DATA ENTRY OPERATOR & LDC EXAM

First Sitting **Held on : 04.12.2011**

PART III
QUANTITATIVE APTITUDE

101. Of the three numbers, the sum of the first two is 55, sum of the second and third is 65 and sum of third with thrice of the first is 110. The third number is
(a) 25 (b) 30
(c) 35 (d) 28

102. Among the numbers $\sqrt{2}, \sqrt[3]{9}, \sqrt[4]{16}\sqrt[5]{32}$, the greatest one is
(a) $\sqrt{2}$ (b) $\sqrt[3]{9}$
(c) $\sqrt[4]{16}$ (d) $\sqrt[5]{32}$

103. The sum of the numerator and denominator of a positive fraction is 11. If 2 is added to both numerator and denominator, the fraction is increased by 1/24. The difference of numerator and denominator of the fraction is
(a) 5 (b) 3
(c) 1 (d) 9

104. The expression $2^{6n} - 4^{2n}$, where n is a natural number is always divisible by
(a) 15 (b) 18
(c) 36 (d) 48

105. The sum of a pair of positive integers is 336 and their H.C.F. is 21. The number of such possible pairs is
(a) 2 (b) 3 (c) 4 (d) 5

106. The difference between the exterior and interior angles at a vertex of a regular polygon is 150°. The number of sides of the polygon is
(a) 10 (b) 15 (c) 24 (d) 30

107. Each edge of a regular tetrahedron is 3 cm, then its volume is
(a) $\frac{9\sqrt{2}}{4}$ *c.c.* (b) $27\sqrt{3}$ *c.c.*
(c) $\frac{4\sqrt{2}}{9}$ *c.c.* (d) $9\sqrt{3}$ *c.c.*

108. A toy is in the form of a cone mounted on a hemisphere. The radius of the hemisphere and that of the cone is 3 cm and height of the cone is 4 cm. The total surface area of the toy

(taking $p = \frac{22}{7}$) is

(a) 75.43 sq. cm. (b) 103.71 sq. cm.
(c) 85.35 sq. cm. (d) 120.71 sq. cm.

109. The respective heights and volumes of a hemisphere and a right circular cylinder are equal, then the ratio of their radii is

(a) $\sqrt{2}:\sqrt{3}$ (b) $\sqrt{3}:1$
(c) $\sqrt{3}:\sqrt{2}$ (d) $2:\sqrt{3}$

110. The four equal circles of radius 4 cm drawn on the four corners of a square touch each other externally. Then the area of the portion between the square and the four sectors is

(a) $9(\pi-4)$ sq. cm. (a) $16(\pi-4)$ sq. cm.
(c) $9(4-\pi)$ sq. cm. (d) $16(4-\pi)$ sq.cm.

111. Two adjacent sides of a parallelogram are of lengths 15 cm and 18 cm. If the distance between two smaller sides is 12 cm, then the distance between two bigger sides is

(a) 8 cm (b) 10 cm
(c) 12 cm (d) 15 cm

112. A metal pipe is 21 cm long and its exterior diameter is 8 cm. If the thickness of the pipe is 1 cm and the metal weighs 8 gm / cm" the weight of the pipe

(in kg.) is $\left(use\ p = \frac{22}{7}\right)$

(a) 3.696 (b) 3.669
(c) 3.966 (d) 3.699

113. 2 men and 3 women can do a piece of work in 10 days while 3 men and 2 women can do the same work in 8 days. Then, 2 men and 1 woman can do the same work in

(a) 12 days (b) 12 ½ days.
(c) 13 days (d) 13 ½ days

114. A can do a work in 21 days. B is 40% more efficient than A. The number of days required for B to finish the same work alone is

(a) 10 (b) 12
(c) 15 (d) 18

115. A discount series of 10%. 20% and 40% ***is*** equal to a single discount of

(a) 50% (b) 56.8%
(c) 70% (d) 70.28%

116. In a shop, shirts are usually sold at 40% above the cost price. During a sale, the shopkeeper offers a discount of 10% off the usual selling price. If he manages to sell 72 shirts for Rs. 13,608, then his cost price per shirt, in ***Rs. is***

(a) 210 (b) 150
(c) 149 (d) 125

117. If A : B = 4:9and A : C = 2 : 3, then (A + B) : (A + C) is

(a) 15: 13 (b) 10 : 13
(c) 13: 1 0 (d) 13: 15

118. Two vessels A and B contains acid and water in the ratio 4 : 3 and 5 : 3 respectively. Then the ratio in which these mixtures to be mixed to obtain a new mixture in vessel C containing acid and water in the ratio 3 : 2 is

(a) 5 : 8 (b) 7 : 8
(c) 7 : 5 (d) 4 : 7

119. The batting average for 40 innings of a cricket player is 50 runs. His highest score exceeds his lowest score by 172 runs. If these two innings are excluded, the average of the remaining 38 innings is 48 runs. The highest score of the player is

(a) 165 runs (b) 170 runs
(c) 172 runs (d) 174 runs

120. Five years ago, the average age of P and Q was 25. The average age of P, Q and R today is 25. Age of R after 5 years will be

(a) 15 (b) 20
(c) 40 (d) 35

121. Some toffees are bought at the rate of 11 for Rs. 10 and the same number at the rate of 9 for Rs 10. If the whole lot is sold at one rupee per toffee, find the gain or loss %.
(a) Gain 2% (b) Loss 2%
(c) Loss 1 % (d) Gain 1 %

122. If the cost price of 25 articles is equal to the selling price of 20 articles, then the gain percentageis
(a) 20% (b) 22.5%
(c) 25% (d) 27.5%

123. Shelf A has 4 / 5of the number of books that shelf B has. If 25% of the books in A are transferred to B and then 25% of the books from B are transferred to A, then the percentage of the total number of books that A will have is
(a) 25 (b) 50
(c) 75 (d) 100

124. A vessel has 60 litres of solution of acid and water having 80% acid. How much water be added to make it a solution in which acid forms 60% ?
(a) 48 litres (b) 20 litres
(c) 36 litres (d) None of these

125. A man rows 40 km upstream in 8 hours and a distances of 36 km downstream in 6 hours. Then speed of stream is
(a) 0.5 km / hr (b) 1.5 km / hr
(c) 1 km / hr (d) 3 km / hr

126. The difference between simple and compound interest on a certain sum of money at 5% p.a. for 2 years is Rs. 160. Find the sum.
(a) Rs. 64,000 (b) Rs. 60,000
(c) Rs. 40,000 (d) Rs. 48,000

127. If $x+\frac{1}{2x}=2$, find the value of $8x^3+\frac{1}{x^3}$.
(a) 48 (b) 88
(c) 40 (d) 44

128. If $x = 2-2^{1/3}+2^{2/3}$, then the value of $x^3-6x^2+18x+18$ is
(a) 22 (b) 33
(c) 40 (d) 45

129. If $x+\frac{1}{x}=2$ and k is real, then the value of $x^{17}+\frac{1}{x^{19}}$ is
(a) 1 (b) 0
(c) 2 (d) –2

130. If $x^2+y^2-4x-4y+8=0$, then the value of $x-y$ is
(a) 4 (b) – 4
(c) 0 (d) 8

131. If $a^3-b^3-c^3-3abc = 0$, then
(a) $a=b=c$ (b) $a+b+c=0$
(c) $a+c=b$ (d) $a=b+c$

132. In Δ ABC, O is the centroid and AD, BE, CF are three medians and the area of Δ AOE = 15 cm^2, then area of quadrilateral BDOF is
(a) 20 cm^2 (b) 30 cm^2
(c) 40 cm^2 (d) 25 cm^2

133. The radius of two concentric circles are 9 cm and 15 cm. If the chord of the greater circle be a tangent to the smaller circle, then the length of that chord is
(a) 24 cm (b) 12 cm
(c) 30 cm (d) 18 cm

134 O and C are respectively the orthocentre and circumcentre of an acute-angled triangle PQR. The points P and 0 are joined and produced to meet the side QR at S. If ∠PQS = 60° and ∠QCR = 130°, then ∠RPS =
(a) 30^0
(b) 350
(c) 100° (d) 60^4

135. The length of a chord of a cir-cle is equal to the radius of the circle. The angle which this chord subtends in the major segment of the circle is equal to
(a) 30° (b) 45°
(c) 60° (d) 90°

136. In Δ ABC, AD is the internal bisector of LA, meeting the side BC at D. If BD = 5 cm, BC = 7.5 cm, then AB : AC is
(a) 2 : 1 (b) 1 : 2
(c) 4 : 5 (d) 3 : 5

137. If $\sin\alpha + \cos\beta = 2\ (0° \le \beta < \alpha \le 90°)$, then $\sin\left(\frac{2\alpha+\beta}{3}\right) =$
(a) $\sin\frac{\alpha}{2}$ (b) $\cos\frac{\alpha}{3}$
(c) $\sin\frac{\alpha}{3}$ (d) $\cos\frac{2\alpha}{3}$

138. If $\cos^4\theta - \sin^4\theta = 2/3$, then the value of $2\cos^2\theta - 1$ is
(a) 0 (b) 1
(c) $\frac{2}{3}$ (d) $\frac{3}{2}$

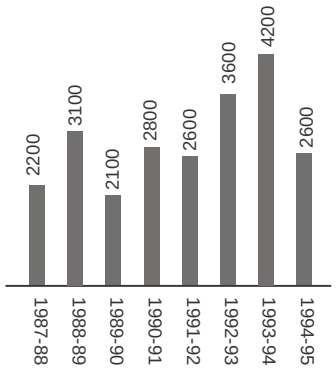
139. The value of cot 10° . cot 20° . cot 60° . cot 70° . cot 80° is
(a) 1 (b) –1
(c) $\sqrt{3}$ (d) $\frac{1}{\sqrt{3}}$

140. At a point on a horizontal line through the base of a monument, the angle of elevation of the top of the monument is found to be such that its tan gent is $\frac{1}{5}$. On walking 138 metres towards the monument the secant of the angle of elevation vation is found to be $\frac{\sqrt{193}}{12}$. The height of the monument (in metre) is
(a) 35 (b) 49
(c) 42 (d) 56

141. If sin a sec (30° + α) = 1 (0 < α < 60°), then the value of sin α + cos 2α is
(a) 1 (b) $\frac{2+\sqrt{3}}{2\sqrt{3}}$
(c) 0 (d) $\sqrt{2}$

Directions (142- 146): Read the following graph and answer questions 142 to 146.

Trade Deficit of a Country in Crores of Rupees



142. The deficit in 1993-94 was roughly how many times the deficit in 1990-91 ?
(a) 1.4 (b) 1.5
(c) 2.5 (d) 0.5

143. Percentage increase in deficit in 1993-94 as compared to deficit in 1989-90 was
(a) 200 (b) 150
(c) 100 (d) 2100

144. In which of the following years, the percent increase of deficit was highest over its preceding year?
(a) 1992-93 (b) 1990-91
(c) 1993-94 (d) 1988-89

145. The ratio of the number of years, in which the trade deficit is above the average deficit, to those years in which the trade deficit is below the average deficit, is
(a) 3 : 5 (b) 5 : 3
(c) 4 : 4 (d) 3 : 4

146. The deficit in 1992-93 was approximately how many percent of the average deficit?
(a) 150 (b) 140
(c) 125 (d) 90

Directions (147 - 150): Study the following table and answer questions 147 to 150

Employees Source of income of (in `)	***K***	***L***	***M***	***N***	***O***
Salary	12,000	6,000	21,000	9,000	12,000
Bonus	2,400	1,200	4,500	2,400	3,000
Overtime	5,400	2,100	6,000	5,100	6,000
Arrears	6,000	5,400	12,000	4,200	7,500
Miscellaneous	1,200	300	1,500	300	1,500
Total	27,000	15,000	45,000	21,000	30,000

147. The employee who has mini-mum ratio of income from arrears to income from salary is
(a) K (b) L
(c) M (d) N

148. The employee who earns max-imum bonus in comparison to his total Income.
(a) M (b) N
(c) L (d) K

149. The employee who has maxi-mum percentage of his salary out of the total income.
(a) K (b) L
(c) M (d) O

150. The income from overtime is what percent of the income from the arrears in case of employees in category O ?
(a) 80 (b) 75
(c) 25 (d) 20

ANSWERS

101. (c)	102. (b)	103. (c)	104. (d)	105. (c)	106. (c)	107.(a)	108. (b)	109. (c)	110. (d)
111. (b)	112. (a)	113. (b)	114. (c)	115. (b)	116. (b)	117. (c)	118. (b)	119. (d)	120. (b)
121. (c)	122. (c)	123. (b)	124. (b)	125. (a)	126. (a)	127. (c)	128. (c)	129. (c)	130. (c)
131. (d)	132. (b)	133. (a)	134. (b)	135. (a)	136. (a)	137. (b)	138. (c)	139. (c)	140. (c)
141. (a)	142. (b)	143. (c)	144. (d)	145. (a)	146. (c)	147. (d)	148. (b)	149. (c)	150. (a)

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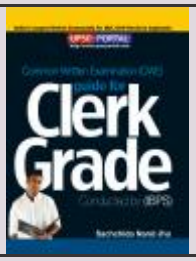

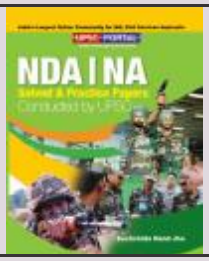

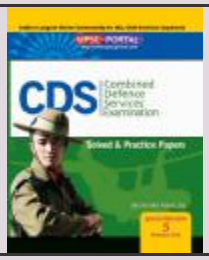

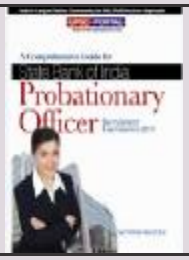

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