196. Which of the following is India's largest Mutual Fund organisation?
l) GIC   2) SBI
3) UTI   4) ICICI

197. 'Xtra Premium' is a hi-octane petrol marketed by
1) Indian Oil
2) Bharat Petroleum
3) Hindustan Petroleum
4) None of these

198. The slogan 'The world's local Banks' is associated with

1) HSBC   2) American Express
3) ABN Amro   4) Standard Chartered

199. Who has not been awarded the Pravasi Bhartiya Samman in January 2004?
l) Jean Pierre Harrison
2) Kalpana Chawla
3) Meghnad Desai
4) Sukhi Turner

200. The National Youth Day is observed on 12th January every year on the birthday of
1) Rajiv Gandhi   2) Bhagat Singh
3) Swami Vivekanand 4) Kalpana Chawla

Answers and explanations

1. 4
2. 3; Refer to 'opening up of ... bonanza' (First paragraph)
3. 2; Refer to the second last line of the passage.
4. 1; Since the research finding has a wider and novel implication in treating heart ailments.
5. 3; The research was conducted on a private funding and now there is discussion (not finalisation) on federal funding.
6. 1
7. 2; Because by the technique blood vessels could be made in the clinics and laboratories.
8. 4; This is the root cause of controversy.
9. 3; Refer to "service is the goal and the measure of the development in infrastructure" (second sentence of the passage).
10. 3; Refer to "the causes of ... facing providers" (fifth sentence).
11. 4; Refer to "Poor performers ... consumer satisfaction".
12. 2; Refer to "users and other stakeholders .... infrastructure service"
13. 2; The author advocates linking government guarantees to project performance.
14. 1; The passage only defends nuclear test by different logics.
15. 2; Five explosions counting both May 11 and May 13.
16. 3; Refer to "It is a pity ... weakness" (third paragraph).
17. 3
18. 1; Refer to "more than any ... defence". (third paragraph).
19. 3   20. 2   21. 1   22. 3
23. 2; consideration
24. 3; commonly
25. 1; fever
26. 2; spreads
27. 4   28. 1   29. 3   30. 2   31. 4   32. 3
33. 2   34. 1   35. 3   36. 4   37. 1   38. 2
39. 1   40. 3

41. 2; 6 machines in 4 minutes can produce 1080 bottles. 10 machines in 4 minutes can produce $\dfrac{1080}{6} \times 10 = 1800$ bottles.

Arrow Method:

Machines	Minute	Bottles
6 ↑	1 ↑	270 ↑
10	4	x

or, $\dfrac{10:6}{4:1} :: x : 270$

or, $1 \times 6 \times x = 10 \times 4 \times 270$

$\therefore x = \dfrac{10 \times 4 \times 270}{6} = 1800$ bottles

42. 4; **Quicker Method:** If all the measuring sides of any two dimensional figure is changed by x%, then its area changes by $\left(2x + \dfrac{x^2}{100}\right)\%$.

Here, x = 20

$\therefore$ required per cent increase

$= 2 \times 20 + \dfrac{20 \times 20}{100} = 44\%$

43. 4; In 2 minutes it becomes 2000
In 4 minutes it becomes 4000
In 6 minutes it becomes 8000
Likewise in 18 min it becomes 512000

44. 2; Machine A produces $\dfrac{120}{40} = 3$ bolts per second

Machine B produces $\dfrac{100}{20} = 5$ bolts per second.

Machine A and Machine B produce, if the two machines run simultaneously, 5 + 3 = 8 bolts per second.

$\therefore$ 200 bolts can be produced by them in $\dfrac{200}{8} = 25$ sec.

45. 2; Total parts of both the shipments

$$= (120 + 80) = 200$$

Total defective parts $= 120 \times 5\% + 80 \times 10\%$

$$= 6 + 8 = 14$$

$\therefore$ required per cent $= \dfrac{14}{200} \times 100 = 7\%$

46. 1; Let x be the number.

According to the question,

$(x + 12) \div 6 = 112$

or, $\dfrac{x + 12}{6} = 112$

or, $x = 112 \times 6 - 12$

or, $x = 672 - 12 = 660$

$\therefore$ correct answer

$= \dfrac{x}{6} + 12 = \dfrac{660}{6} + 12 = 110 + 12 = 122$

47. 1; Let SP of x articles = Rs 100 = CP of 20 articles

$\therefore$ CP of one article = Rs 5, Profit = 25%

$\therefore$ SP of one article = 6.25

$\Rightarrow$ SP of x articles = 6.25x

$\therefore$ 6.25x = 100

$\Rightarrow$ x = 16

Quicker Method: If cost price of x articles is equal to the selling price of y articles, then profit

percentage $= \left(\dfrac{x - y}{y} \right) \times 100\%$

Now, $\dfrac{20 - x}{x} \times 100 = 25$

or, $80 - 4x = x$

or, $5x = 80$

$\therefore$ x = 16

48. 2; There is a net annual increase of 5%. Let the initial population be 100. Then population after 2 years $= 100 \times 1.05 \times 1.05 = 110.25$

$\therefore$ % increase in population

$$= (110.25 - 100) = 10.25\%$$

49. 3; Let r be the side of the larger cube.

$\therefore$ volume of the larger cube = Sum of the volumes of the smaller cubes

ie $r^3 = 3^3 + 4^3 + 5^3 = 27 + 64 + 125 = 216$

$\Rightarrow r = 6$

$\therefore$ Total surface area of the larger cube = 216 sq cm. Total surface area of the three smaller cubes

$= 6[y + 4^2 + 5^2] = 300$ sq cm

Required ratio = 300 : 216 = 25 : 18

50. 4; Sides of a triangle are in the ratio $\dfrac{1}{2} : \dfrac{1}{3} : \dfrac{1}{4}$ ie

6 : 4 : 3.

Let the sides be 6K, 4K and 3K respectively. According to the question,

$\therefore 13K = 52 \Rightarrow K = 4$

$\therefore$ Sides of the triangle are 24 cm, 16 cm and 12 cm respectively.

51. 4; Radii of the two pipes are 1cm and 2 cm. Squares of the radii of the two pipes are 1 cm and 4 cm.

According to the question,

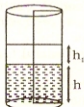$\therefore$ rates of flow of the two pipes are in the

ratio $1 : \dfrac{1}{4}$, ie 4 : 1

52. 3; Let h_1 be the height to which the water in the cylinder will rise after gently dropping the

sphere of radius $\dfrac{3}{2}$ cm in the cylinder of radius 3 cm, which is partially filled with water. Let h be the height to which the water was filled in the cylinder initially.

Now, according to the question,

$$\pi \times 3^2 \times h_1 = \dfrac{4}{3} \times \pi \times \dfrac{3}{2} \times \dfrac{3}{2} \times \dfrac{3}{2}$$

$\Rightarrow h_1 = 1/2$

53. 3; Perimeter of the circular track

$$= 2\pi r = 2 \times \dfrac{22}{7} \times 70 = 440 \text{ metres.}$$

When A and C meet, then both of them together would have covered exactly 440 metres after 88 seconds, ie their combined speed is 5m/ sec. Similarly when B and C meet, then both of them together would have covered exactly 440 metres after 110 seconds, ie their combined speed is 4m/second.

$\therefore$ Difference in the speeds of A and B (ie relative speed of A and B, because A and B are running in the same direction) is 1 m/sec, ie they will meet after 440 seconds.

54. 4; Total students = 400

Number of girls = 100

$\therefore$ Number of boys = 300

$\therefore$ Number of hostel dwellers

$$= \dfrac{1}{2} \times 100 + \dfrac{1}{3} \times 300 = 150$$

$\therefore$ Required ratio = 150 : 400 = 3 : 8 = 3/8

55. 3; If both the pumps are working together then the tank will be emptied because the work ef-

ficiency of pump emptying is more than that of pump filling it. Hence in 1 min net work done

$$= \left(\frac{1}{8} - \frac{1}{16}\right) = \frac{1}{16} \text{ tanks.}$$
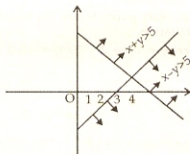
or, 1 tank will be emptied in 16 min.

or, $\frac{1}{2}$ tank will be emptied in 8 min.

56. 2; Due to stoppages the train travels $(45 - 36) = 9$ km less in 1 hour and the time taken to travel 9 km is the time taken at stoppages. Therefore time taken to cover 9 km $= \frac{9}{45} \times 60 = 12$

57. 2;

For all values of x satisfying $x + y > 5$ and $x - y > 3$, $x > 4$

58. 4; $(n + 1)^2 = n^2 + 2n + 1$

59. 2; Product of two negative integers is always positive.

60. 3; Let the capacity of the tank be x litres.
Now, according to the question,

$$\frac{3}{4}x + 5 = \frac{4}{5} \Rightarrow x = 100 \text{ litres}$$

61. 2

62; 2; Let the original price of screw driver and hammer be Rs 100 each.
Then price of 3 screw driver and hammer = Rs 600
Now, after 5% increase in price, the price of 3 screw drivers = Rs 315
And after 3% increase in price, the price of 3 hammers = Rs 309.
Price of 3 hammers and 3 screw drivers = Rs 624

$$\therefore \text{ \% increase in price} = \frac{24}{600} \times 100 = 4\%$$

63. 4; Cannot be determined

64. 3; Let the total capital of the company = x
$\therefore$ The capital that the man held last year

$$= \frac{1}{4}x - \frac{1}{3} \text{ of } \frac{1}{4}x = \frac{x}{4} - \frac{x}{12} = \frac{x}{6}$$

The capital that the man holds this year

$$= \frac{x}{6} - \frac{5}{12} \text{ of } \frac{x}{6} = \frac{x}{6} - \frac{5x}{72} = \frac{7x}{72}$$

65. 1

66. 3; 30 kg of solution contains 2% of pure salt and 98% of water ie 0.6 kg of pure salt and 29.4 kg of water.
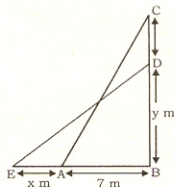Let x gm of pure salt be added to the solution such that
$x + 0.6 = 10\%$ of $(x + 30)$

$$\Rightarrow \quad x + 0.6 = \frac{x}{10} + 3$$

$$\Rightarrow \quad \frac{9x}{10} = 2.4 \Rightarrow x = 2\frac{2}{3} \text{ kg}$$

67. 2;

DE = 25 = AC
= Length of the ladder
CD = 4 metres
Let BD = y metres
$\therefore (y + 4)^2 + 7^2 = 25^2$
$\Rightarrow y = 20$

Now from $\triangle$ DBE,
$(20)^2 + (x + 7)^2 = (25)^2$
$\Rightarrow (x + 7)^2 = (15)^2 \Rightarrow x = 8.$
$\Rightarrow$ Foot of the ladder slides 8 metres.

68. 4; Second number $= \dfrac{\text{HCF} \times \text{LCM}}{\text{First number}}$

$$= \frac{4800 \times 160}{480} = 1600$$

69. 3; Value of the scooter at the end of 3 years

$$= 25000\left(1 - \frac{20}{100}\right)^3 = 25000 \times \frac{4}{5} \times \frac{4}{5} \times \frac{4}{5} = 12800$$

Note: Rate of depreciation = 20%

70. 3; Let the three-digit number be $100x + 10y + z$.
According to the question,
$(100x + 10y + z) - (x + y + z)$
$= 99x + 9y = 9(11x + y)$
Which is always divisible by 9.

71. 3; Required probability
$$= P(A) \times P(B) = 0.2 \times 0.3 = 0.06$$

72. 1; Clearly, $6 : 4 = h : 50$

or, $h = \dfrac{50 \times 6}{4} = 75$ m

73. 2; Given 18 carat $= \dfrac{3}{4}$ pure gold $= \dfrac{3}{4} \times 24 = 18$

20 carat $= \dfrac{5}{6}$ pure gold $= \dfrac{5}{6} \times 24 = 20$

$\therefore$ required ratio $= 18 : 20 = 9 : 10$

74. 3; Area of the circular field $= \pi (52)^2 - \pi (50)^2$

$= \pi (52 - 50)(52 + 50)$

$= \pi \times 2 \times 102 = 204\,\pi$ sq m

75. 3; Let the population of the two villages A and B will be equal after x years.
Now, according to the question,
$6800 - 120x = 4200 + 80x$
$\Rightarrow 200x = 2600$
$\Rightarrow x = 13$

76. 3; Let the salary of Ram be Rs 100 then the salary of Amit = Rs 80 and the salary of Ravi = Rs 120
$\therefore$ Ratio of Ram's salary to Ravi's salary
$= 100 : 120 = 5 : 6$

77. 1; $\dfrac{x}{100} \times y = y \times \dfrac{x}{100}$

$\therefore$ x% of y is y% of x

78. 2; Let radius of the cylindrical wire be r metres.
$\therefore$ Radius of the sphere = 10r metres
Now, according to the question,

$\dfrac{4}{3} \pi \times (10r)^3 = \pi \times r^2 \times 4$

$\Rightarrow \dfrac{4}{3} \times 1000\,r^3 = 4r^2$

$\Rightarrow r = \dfrac{3}{1000}$ m $= 3$ mm

79. 2; Six students can be arranged in a row in 6! ways
Another six students can be arranged in 6! ways
Hence total number of ways = 6! × 6!

80. () 81. 2 82. 4 83. 3 84. 2 85. 1 86. 3

87. 4; From the graph it is clear that the personal profile is highest in economic grade.

88. 2; It is lowest in religious grade.

89. 2; Difference between average female profile and personal profile is maximum in religious attribute.

90. 2; The graphs of average female profile and personal profile meet (coincide) under Aesthetic attribute.

91. 4; None of these

(92-95):

Newspapers	Kerala	Punjab	UP	HP	Total
A	123	227	96	78	524
B	105	220	117.2	97	539.2
C	12.2	14.6	9.7	17.2	53.7
D	82.4	44	145	9.3	280.7
E	24.4	23	10	100	157.4

Note: Unit = thousand.

92. 2; Clearly, news paper B has the highest number of circulation.

93. 2; Difference $= (539.2 - 524) = 15.2$ thousands $= 15200$

94. 1; $x \times 97 = 227$

$\therefore x = \dfrac{227}{97} = 2.34 \approx 2.35$

95. 4; Required ratio $= 44 : 9.3 = 440 : 93 = 5.5 : 1.16$

96. 4; All sets are inter-related except set I and II for the cases 9 and 10 only.
Sets I and II show a positive correlation except for the cases 9 and 10 only.
Sets II and III are positively correlated except for the cases 9 and 10 only.
Sets II and III positively correlated.

97. 4; Sets I and II are positively correlated except for the cases 9 and 10 only.
Sets II and III are positively correlated.

98. 3; 250

99. 2; Total time taken by students two in all the 5 trials is less, hence he is a better performers.

100. 1; Errors made by students one in all the trials is less, hence he is a better performer on the basis of the error graph.

101. 1; Student one is a better performer in both time as well as error graph.

102. 2; Inverse relationship between time and error is most pronounced in case of performance of student two.

103. 2; % increase from April to May

$= \dfrac{250 - 150}{150} \times 100 = 66\%$

104. 1; Clearly, product A has maintained a rise over the three months.

105. 2; Total production in April
$= 150 + 100 + 200 = 450$
Total production in May
$= 250 + 150 + 200 = 600$
$\therefore$ Ratio $= 450 : 600 = 3 : 4$

106. 2; Total production of item A in 3 months
$= 150 + 250 + 300 = 700$

Total production of item B in 3 months
= 100 + 150 + 150 = 400
Total production of item C in 3 months
= 200 + 200 + 50 = 450
∴ required ratio = 700 : 400 : 450 = 7 : 4 : 4.5

107. 3; Growth in November

$$\frac{200933 - 200189}{200189} \times 100$$

$$= \frac{4744}{200189} \times 100 = 2.37\%$$

Growth in December

$$\frac{211885 - 204933}{204933} \times 100$$

$$= \frac{6952}{204933} \times 100 = 3.39\%$$

Average growth during November and December

$$= \frac{2.37 + 3.39}{2} = \frac{5.76}{2} = 2.88\%$$

108. 4; Let the circulation in October is x times to that of July = 200189 = K × 173182

$$\Rightarrow K = \frac{200189}{173182} = 1.15$$

109. 1; In the month of August the growth rate is the least.

110. 2; Corporate income tax + gift tax = 50
∴ required ratio = 50 : 100 = 1 : 2

111. 1; Wealth tax + Corporate tax = 5 + 40 = 45
Interest outlay = 15
Ratio = 45 : 15 = 3 : 1

112. 1; Space programme outlay

$$= \frac{2403}{7} \times 13 = Rs\ 4463\ crore$$

113. 2; Amount collected by way of custom
= 26256 × 15% = Rs 3938 crores

114. 4; Amount of 200 crore and above is represented with the help of bar graph.

115. 2; West Bengal will be ranked at 13th place if all the states are arranged in ascending order.

116. 1; UP, Maharashtra, Bihar and Orissa.

117. 1; $\frac{1}{6}$ th of 1208.4 = Rs 201.4 crore

All the States which are not represented by Bars have allocation of less than Rs 201.4 crore

118. 1; Allocations made during the three years
= 7566.2 crore

∴ Average allocation

$$= \frac{7566.2}{3} = 2522 = 2520\ crore$$

119. 2; Required average = $\frac{1119.5}{11} \approx 101.8$ crore

120. 3

121. 4; Time from 1 pm on Tuesday to 1 pm on Thursday = 48 hours
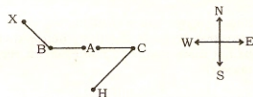The watch gains (1 + 2) = 3 min in 48 hours
It will gain 1 min in 16 hours
Hence it will be correct at 5 am on Wednesday.

122. 2; Let the girl earn Rs x in other month. Then earning in the month of December = Rs 2x
Then, total annual salary = 2x + 11x = 13x

∴ required ratio = $\frac{2x}{13x} = \frac{2}{13} = 2 : 13$

123. 4; Clearly, B is the farthest west.

124. 3; Total no. of boys in the class = $\frac{4}{3} \times 18 = 24$

Total strength of the class = $\frac{24 \times 3}{2} = 36$

∴ Total no. of girls = 36 - 24 = 12

125. 2; $n(P \cup S) = n(P) + n(S) - n(P \cap S)$

or, $19 = 11 + 14 - n(P \cap S)$

or, $n(P \cap S) = 25 - 19 = 6$

126. 3

127. 4; 6 – 9 – 1970 falls on Sunday.
6 – 9 – 1971 falls on Monday.
6 – 9 – 1972 falls on Wednesday. (Leap Year)
6 – 9 – 1973 falls on Thursday.
6 – 9 – 1974 falls on Friday.
6 – 9 – 1975 falls on Saturday.
6 – 9 – 1976 falls on Monday. (Leap Year)
6 – 9 – 1977 falls on Tuesday.
6 – 9 – 1978 falls on Wednesday.
6 – 9 – 1979 falls on Thursday.
6 – 9 – 1980 falls on Saturday. (Leap Year)
6-9-1981 falls on Sunday.

128. 1; 'ki' means 'playing'
'ma' means 'is'
'kop' means 'tennis'
'ja' means 'Asha'

129. 4; 2b means 'Truth'
3a and 7c means 'is eternal'
8b means 'not'
9a means 'enmity'

130. 4; B = 3, R = 35, E = 16, A = 4, D = 7

132. 4; C = 5, H = 15, A = 4, N = 27, G = 13, E = 16

133. 3; Number of empty seats between the two children is only one.

134. 4; From the statements A to D can be deducted