Answers and Explanations

1	c	26	b	51	a	76	d	101	c	126	b	151	c	176	a
2	c	27	c	52	b	77	d	102	c	127	b	152	a	177	d
3	d	28	d	53	c	78	c	103	b	128	d	153	a	178	d
4	c	29	c	54	d	79	a	104	d	129	c	154	c	179	b
5	a	30	d	55	d	80	c	105	d	130	b	155	a	180	d
6	d	31	a	56	c	81	b	106	a	131	b	156	d	181	a
7	b	32	d	57	b	82	d	107	a	132	b	157	d	182	c
8	c	33	d	58	a	83	c	108	d	133	c	158	c	183	c
9	d	34	a	59	c	84	a	109	d	134	b	159	a	184	d
10	c	35	a	60	c	85	c	110	a	135	b	160	c	185	d
11	b	36	b	61	b	86	c	111	c	136	a	161	d	186	b
12	d	37	d	62	c	87	c	112	a	137	c	162	a	187	c
13	d	38	d	63	c	88	a	113	d	138	c	163	c	188	b
14	b	39	c	64	c	89	d	114	a	139	d	164	a	189	c
15	b	40	c	65	a	90	c	115	c	140	c	165	b	190	a
16	b	41	b	66	d	91	b	116	a	141	c	166	c	191	a
17	a	42	b	67	c	92	d	117	b	142	c	167	d	192	c
18	c	43	c	68	c	93	c	118	a	143	d	168	c	193	d
19	d	44	a	69	a	94	d	119	d	144	d	169	a	194	c
20	b	45	a	70	b	95	a	120	c	145	d	170	c	195	d
21	c	46	a	71	c	96	b	121	b	146	d	171	d	196	d
22	c	47	a	72	d	97	d	122	b	147	b	172	c	197	a
23	d	48	b	73	a	98	d	123	b	148	d	173	c	198	d
24	b	49	a	74	b	99	b	124	d	149	b	174	b	199	d
25	b	50	d	75	c	100	a	125	b	150	d	175	b	200	b

41. b The answer cannot be (d) as the question talks about two books. *Communist Manifesto* was published along with Frederick Engels, his abstruse work was *Das Capital*.

42. b Para 1 states 'starting as a non-violent revolutionist …' which indicates that he began his career as non-violent in revolution.

43. c The last few lines of the passage clearly indicate that the communist regime in Russia is 'imperialistic'.

44. a Para 3, 1st line 'Marx's philosophy is now generally accepted…'. The answer is a. c and d are too general and may not necessarily be true.

45. a The meaning of 'abstruse' is 'hard to understand'. By intelligent guessing techniques, you can easily eliminate b and d because of the clue given (mature theories) in the passage.

46. a In each of the paragraphs, the author has discussed different methods and measures adopted to relieve the financial burden of keeping prisoners of war. Hence, a seems to be the best answer. b is not good as the author has not 'examined' history. In fact, the entire passage is based on historic events.

47. a Read the first two lines of the passage, 'In Rome ... in the middle ages ...'

48. b Read the sentence - "In those times … nor pay them to do so."

49. a 'Without much distortion' has been used by the author to indicate that it was vital for the prisoners to make a fair assessment of their worth.

50. d Read the sentence – "The promise of material compensation … to participate in a war was the expectation of the spoils." This was not a very profitable operation because the rulers had to share the ransom with the soldiers.

51. a   'Mutation' means 'genetic change'.

52. b   Apathy means 'lack of concern'.

53. c   'Punctilious' means attentive to details of conduct, or petty formality. The opposite is careless.

54. d   A 'loquacious' person is a talkative person and need not necessarily be a good public speaker. So a is out. It is hard to understand the relation of 'convincing' skills and power of speech. c is wrong as the presentation skills do not necessarily make a good orator.

55. d   The answer should be 'by' as you are given something 'by' somebody. The other choices do not make sense anyway.

56. c   The sentence means to start planning now.

57. b   The results of practice will eventually follow.

58. a   'Domesticated' means to behave in a civilized manner.

59. c   The words in the pair have antonym traits.

60. c   Incense emits fragrance just as garbage emits a noxious smell.

61. b   The second polygon in the pair has double the sides of the first polygon.

62. c   There are opposite words in the pair.

63. c   Classification of relationship. Soup and oxygen are categorized under liquid and gas, respectively.

64. c   Old is about age and the rest mean to be young.

65. a   Slack or slowing has nothing to do with the rest.

66. d   Pandora does not belong to the story of Achilles being vulnerable in the heel as he was held by the heel when his mother Thetis dipped him as an infant in the River Styx to make him invulnerable; he was killed by a poisoned arrow shot by Paris into the heel.

67. c   'Secret' is not a verb while the rest are not verbs.

68. c   'Reason …. Because' are redundancy in words. You can use either 'reason' or 'because' but not both.

69. a   'Considering all the possibilities' is the right usage.

70. b   'Disinterested' means 'unbiased' or 'not prejudiced'. 'Uninterested' which means bored is the right word here.

71. c   'Every student'. The word 'every' only goes with a singular case verb. So it is 'his paper', not 'their paper'.

72. d   'Will be appreciate' is wrong, 'will be appreciated' is the right usage.

73. a   Oprah calls up.

74. b   (b) carries on the idea of the call.

75. c   The 'prize' is a cheque.

76. d   The 'novelist' is referred to as the 'author'.

77. d   Sales break records.

78. c   The opposite of 'miserable' is 'happy'.

79. a   'Seldom' means 'rarely'. The antonym of 'seldom' is 'often'.

80. c   'Vague' refers to 'arbitrariness'.
        The antonym is 'clear'.

81. b   American cars in 1950-51 = 40.83; in 1979-80 = 61.30.
        $\therefore$ The percentage increase

        $= \dfrac{61.30 - 40.83}{40.83} \times 100 = 50\%$.

82. d   The combined production of these four countries in 1950-51 = 1.51 + 0.06 + 1.25 + 0.64 = 3.46; in
        1976-77 it is 0.91 + 0.09 + 0.98 + 1.07 = 3.05.
        $\therefore$ The percentage change

        $= \dfrac{3.05 - 3.46}{3.46} \times 100 \approx -12\%$, which is not there in any of the first three options.

83. c   In 1971-72, non-passenger vehicles = 138.54 and total two-wheelers = 341.88.
        $\therefore$ The proportion = 140 : 340 $\approx$ 7 : 17 = 0.41.

84. a   In 1950-51, German and Japanese cars.
        = 36.83 + 45.15
        = 81.98; in 1979-80, it is 41.30 + 71.65 = 112.95.
        $\therefore$ The increase $\approx$ 113 – 82 $\approx$ 31 million, which is 310 lakh.

85. c   From 1950-51 to 1979-80, we have a 30-year period, so the total decrease will be $\dfrac{30}{2}$ = 15 percentage points

        [note that the decrease is not 15% of 60%]. So, the American vehicles will constitute 45% of the total non-
        passenger vehicles in 1979-80. In 1950-51, American non-passenger vehicles

        $= [\dfrac{60}{100} \times 74.4] \approx 45$; in 1979-80 it is $[\dfrac{45}{100} \times 146] \approx 65$.

        $\therefore$ The difference $\approx$ 65 – 45 $\approx$ 20 million (increase).

86. c   Air Freight's turnover was 17% of the Rs. 70 crore domestic sector and 41% of the Rs. 40 crore international
        sector.
        So, the total was $0.17 \times 70 + 0.41 \times 40 = 11.9 + 16.4$
        = Rs. 28.3 crore.

87. c   DHL's domestic turnover = 12% of Rs. 70 crore, i.e. Rs. 8.4 crore and its international turnover is 13% of Rs. 40
        crore, i.e. Rs. 5.2 crore.
        So, the difference in the turnovers is 8.4 – 5.2 = Rs. 3.2 crore.

88. a   DTDC's domestic turnover = $\dfrac{36 \times 70}{100} \approx 25.2$ crore. The international turnover of the others

        = 25% of 40 = 10 crore.
        So, the difference in their shares is 15.2 crore.

89. d 35% of DTDC's international cargo revenue
$= 0.35 \times 0.21 \times 40 \approx 2.94$ crore. DTDC's total revenue is $0.21 \times 40 + 0.36 \times 70 = 8.4 + 25.2 = $ Rs. 33.6 crore.

So, the percentage $= \dfrac{2.94 \times 100}{33.6} \approx 9\%$.

90. c Skypak's share of Others for the domestic sector will be $\dfrac{8 \times 100}{35} \approx 22.8(+)\%$.

91. b Lowest capacity utilization is in machine II

$\dfrac{(1 \times 50) + (2 \times 50)}{200} = \dfrac{3}{4}$.

92. d None of the given combinations in first three choices can be produced on all the machines.

93. c $20 \times (3 + 4 + 1 + 2 + 2 + 1 + 3 + 3) = 380$ will be required.

Hence, idle capacity $= 350 + 200 + 150 + 300 - 380 = 620$.
$\therefore$ Cost of idle capacity $= 620 \times 7.5 = $ Rs. 4,650.

94. d All can be produced on any of the machines.

95. a The maximum production of A is produced by machine A, i.e. $\dfrac{200}{1} = 200$.

96. b $\left(\dfrac{6300 - 1891}{1891 \times 4}\right) \times 100 = 58\%$.

97. d Statement I is false as growth rate of system software is lower than that of financial software.
Statement II is false as nothing is mentioned about growth rate from 88 to 89.
Statement III is false as the ratio of financial software to utilities in 1986 is 2.3.

98. d Since we do not know what percentage of the total share would financial software constitute, we cannot determine the financial software output in 1990.

99. b Statement I: $\dfrac{(2800 - 897)}{897 \times 4} \times 100 = 53\%$

$\therefore$ Statement I is false.

Statement II: $\dfrac{(6300 - 1891)}{1891 \times 4} \times 100 = 58\%$

$\therefore$ Statement II is false.
Statement III: As seen from the table financial software is the only category where the figure in 1988 is more than 4 times that in 1984.

100. a $2660 - (1030 + 1135 + 410) = 85$ cr.

101. c Over the given period, AIR's revenue has increased from 6.26 to 81 crore. So, the increase is $\dfrac{81}{6.26} = 12.9$ times.

102. c AIR's commercial earnings in 1985-86 = 20.19. AIR's commercial earnings in 1995-96 = 81. So, the annual percentage increase

$$= \left(\frac{81 - 20.19}{20.19} \times 100 \right) \times \frac{1}{10} \simeq 30$$

103. b Percentage increase in Vividh Bharati's revenue from 1985-86 to 1995-96

$$= (37.3 - 17.55) \times \frac{100}{17.55} \approx 110 \, (+)\% \, .$$

Percentage increase in Vividh Bharati's revenue from 1975-76 to 1985-86

$$= (17.55 - 6.26) \times \frac{100}{6.26} \approx 180 \, (+)\%.$$

$\therefore$ Change in percentage ≈ -70.

104. d The answer cannot be determined because we cannot assume 1985-86 as the year of inception.

105. d The remaining earnings of 1995-96 were
81 – 10 = Rs. 71 crore. The earnings of 1980-81 were Rs. 12.5 crore.

The percentage is $70 \times \frac{100}{12.5} = 70 \times 8 = 560$. So, the answer is none of these.

106. a Karnataka's total railway network is
65 + 122 + 365 = 552 km.
Percentage of broad gauge railway tracks

$$= 365 \times \frac{100}{552} \approx \frac{200}{3} \approx 67.$$

107. a Madhya Pradesh's total railway network is
220 + 185 + 536 = 941 km.
Total railway network not having broad gauge tracks = 405 km.

Required percentage $= \frac{405}{941} \times 100 = 43.$

108. d Orrisa's total railway network is 154 + 136 + 190 = 480 km. The percentage of metre gauge is $136 \times \frac{100}{480} \approx 28 \, \%$.

So, the answer is none of these.

109. d Rajasthan's railway network is 125 + 181 + 276 = 582 km. So, percentage of narrow gauge and broad gauge combined

$$= 381 \times \frac{100}{582} \approx 69.$$

110. a Total railway network of Union Territories = 135 km.
Length of Delhi's railway track

$$= \frac{35}{100} \times 135 = 47.25 \text{ km.}$$

111. c Statements I and II together provide the information required to answer the question.
Total C.P. = Rs. 186×112
Total S.P. = Rs. 33,060
Profit = S.P. – C.P.

112. a Statement I tells us that $30 < c < 100$. The only perfect cube which is less than 100 and greater than 30 is 64. Thus, statement I alone is sufficient to answer the question.
Statement II gives us more than one value of c, i. e. 8, 64, 216, etc., which are all even numbers and perfect cubes. Thus, using statement II, we cannot determine the value.

113. d Area of the cylinder = Area of the bottom × height.
Neither statement I nor II gives us the height. Thus, we cannot determine the volume of the cylinder.

114. a Statement I gives us an equation in terms of x^3 and x which is difficult to solve. From statement II, we get the value of x, i. e. 1. Substituting this value in the expression $x^3 - 2x^2 + 7$, we can determine the answer.

115. c From statement I, we can calculate the value of w.
Substituting the value of w in the equation in statement II, we get the value of $(u + v)$.
Thus, statements I and II together give us the information required to answer the question.

116. a In order to determine the profit made by A, we need the following information.
(i) The profit percentage during the transaction " from A to B".
(ii) The sales price of the article for A (which would be the same as the cost price of the article for B).
While the information in (i) above is provided in the question statement, the information in (ii) above can be obtained from statement II. [A 10% profit is equivalent to Rs. 120 and hence, if the cost price of the article for B is Rs. x, we get $0.1x = $ Rs. 120, x = Rs. 1, 200]. As we get the CP of B, we can calculate profit of A. Thus, only statement II is sufficient to answer the question. The information provided in statement I is not sufficient.

117. b In order to determine the total number of books of all the three sections put together, we need following information:
(i) - (a) The number of books in each section.
(i) - (b) The relationship between the number of books of each section.
While the information in (i) (a) above is directly provided in statement I, the information (i) -(b) above is given in statement II. Thus, either statement I or II is independently sufficient to answer the questions.

118. a In order to determine the distance between the office and the home, we need the following information.
(i) The duration of the journey by the given mode of travelling.
(ii) The speed of travel by the same mode.
While the information in (i) above is provided in the question statement, the information in (ii) above is provided in statement I. Thus, statement I alone is sufficient to answer the question.

119. d In order to determine the number of students participated in school play, we need the following information
(i) The number of boy participants.
(ii) The number of girl participants.
While the information in (ii) above is provided in statement II, the information in (i) above can be generated from the relationship provided in statement I. Thus both the statements I and II together are sufficient to answer the question.

120. c In order to determine the circumference of the smaller circle, we need the following information:
(i) The numerical relationship between the radii of two circles.
(ii) The radius of the smaller circle.
The information provided in the question statement as also in statement I gives the comparative relationship only, and hence is insufficient to answer the question. Statement II is redundant.

121. b Let age of Sita be X and age of Nidhi be Y. Thus, according to the information provided in the question, we have
$X - 10 = 4(Y - 10)$
$X + 10 = 2(Y + 10)$
$Y = 20, X = 50.$

122. b Let the total number of votes be x.
Percentage of votes to the winner = 59%
So $(59\% - 41\%) x = 2412$

$$x = \frac{2412}{18} \times 100 = 13400.$$

123. b Cost price

$$= \frac{\text{More gain} \times 100}{\text{Difference in percentage profit}} = \frac{18 \times 100}{18 - 12}$$
$$= \text{Rs. } 300.$$

124. d Let x be the total distance travelled

$$\frac{\frac{x}{2}}{30} + \frac{\frac{x}{4}}{45} + \frac{\frac{x}{4}}{10} = 2 \text{ hours } 50 \text{ min.}$$

125. b $\dfrac{n}{n-1} \times \dfrac{(n-1)\,(n+1)}{(n+1)^2} \times \dfrac{n\,(n+1)}{n^2} = 1$

126. b $x \left(1 + \dfrac{10}{100}\right)^3 - x - \dfrac{x \times 10 \times 3}{100} = 77.5$

$$x \left[\frac{11^3}{10^3} - 1 - \frac{3}{10}\right] = 77.5$$

$$x = \frac{77.5 \times 1000}{1331 - 1000 - 300} = \text{Rs. } 2,500$$

127. b Total number of boys = x
Girls = 3x
Thus, $7x + 3x = 600$ ∴ $x = 60$
Now, according to the available information, we have,
$$2 \left[(7x)^2 + (3x)^2\right] = 2\left[(7 \times 60)^2 + (3 \times 60)^2\right]$$
$$\Rightarrow 2 \times [420 \times 420 + 180 \times 180]$$
$$\Rightarrow 176400 + 32400$$
$$\Rightarrow 2\,(208800) = 4,17,600$$

128. d $\dfrac{1}{24} + \dfrac{1}{36} - \dfrac{1}{30}$

$$\frac{15 + 10 - 12}{360} = \frac{13}{360}$$

Therefore total time

$$= \frac{360}{13}$$

129. c

Radius of the quarter circle over which each cow can graze without encroaching on another's territory is $\frac{x}{2}$

and there are 4 such quarters. Shaded part is the area over which the cows can graze.
Required area = Area of square – 4 × Area of a quarter

$$= x^2 - 4 \times \left(\frac{90}{360} \times \pi \times \frac{x^2}{4} \right) = x^2 \left(1 - \frac{\pi}{4} \right) \text{ sq. units.}$$

130. b During every 1 hour period, the hands are at straight angles once. In 12-hour period they are at straight angles 12 times and in a day, 24 times.

131. b Let the capacity of the bucket be x litres. Originally, milk $= \frac{4}{5}x$, water $= \frac{x}{5}$.

When 5 litres mixture is removed, the contents of milk and water left in the bucket are $\frac{4}{5}x - 4$; $\frac{x}{5} - 1$.

Now, 5 litres of water is added so that milk is

$\frac{4}{5}x - \frac{3}{5}x = 4$ or x = 20 litres.

132. b In 2 days, A and B do $\frac{1}{40} + \frac{1}{20} = \frac{3}{40}$ of the work. They do 1 work in 26 plus days.

Work left after 26 days = 1 – (work completed in 26 days) $= 1 - \left(\frac{26}{2} \times \frac{3}{40} \right) = \frac{1}{40}$

Since B has worked on the 26th day (Note: A works on odd days and B on even days),

A can finish $\frac{1}{40}$ of the work on the 27th day.

Questions 133 and 134:

10 students took all 3 rides. Since 45 students took at least 2 rides, number of students who took only 2 rides

= Students who took (at least 2 rides – 3 rides) = 45 – 10 = 35.
Since total receipt were Rs. 246,
receipt from students who took one ride only
= 246 – Receipt from students taking (2 rides + 3 rides)
$= 246 - 2(35 \times 2 + 10 \times 3) = \text{Rs. } 46$
Since each ride is for Rs. 2, it implies that 23 students took exactly one ride.
Therefore, the number of students who did not try any of the rides = 85 – (23 + 10 + 35) = 7.

135. b Area of the 4 walls of the 2 halls are $\frac{6000}{5}$ and $\frac{6100}{5}$, i.e. 1200 m² and 1220 m²

respectively. Let 'L' and 'H' be the length and height, respectively.
∴ $2(L + L) \times H = 1200$ …….. (i) and $2(L + 1 + L + 1) \times H = 1220$ ……. (ii)
Solving (i) and (ii), we get 4H = 20
∴ H = 5 m.

136. a Let the man has n boxes initially.

$$\therefore n - \left(\frac{n}{2} + \frac{1}{2} + \frac{1}{2}\right) = 0$$
$$\therefore n = 2$$

137. c If the total profit is Rs. 20x, A's wages = Rs. 5x.
Of the balances of Rs. 15x, A's share = 4x,
B's share = Rs. 5x and C's share = Rs. 6x
$\therefore (5x + 4x + 100) = (5x + 6x)$ or $x = 50$; Total profit $= 20x = $ Rs. 1,000

Alternative method:
Let p be the profit for this year.

Then the profit earned by $A = \frac{p}{4}$

The remaining $\frac{3p}{4}$ is distributed as

$$A = \frac{3p}{4} \times \frac{4}{15}, \quad B = \frac{3p}{4} \times \frac{5}{15}, \quad C = \frac{3p}{4} \times \frac{6}{15},$$

We have $\frac{p}{4} + \frac{p}{5} + 100 = \frac{p}{4} + \frac{3p}{10}$, $p = $ Rs.1, 000

138. c If there are n members, the number of handshakes are $^nC_2$.

$$\frac{n \times (n-1)}{2} = 190$$
$$\therefore \frac{n \times (n-1)}{2} = \frac{20 \times 19}{2}$$
$$\therefore n = 20.$$

139. d 120% of 80% of expenditure = 96% of expenditure. So, decrease in the expenditure is 4%.

Short cut:

Use $x + y + \frac{xy}{100}$

$$\therefore 20 - 20 - \frac{20 \times 20}{100} = -4\% \quad \text{(decrease)}.$$

140. c A′E = 40 m.
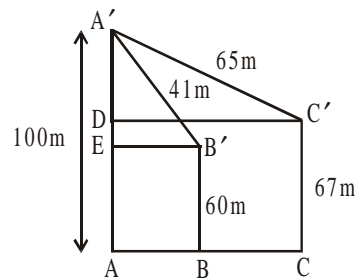
EB' $= \sqrt{41^2 - 40^2} = 9$ m, i.e. AB $= 9$ m. Also C'D

$= \sqrt{65^2 - 33^2} = 56$ m $=$ AC.

$\therefore$ BC $=$ AC $-$ AB $= 47$ m.

141. c 24! has 8 multiples of 3, i.e. 3, 6, 9, 12, 15, 18, 21, 24. Since each of them has 3 as its factor, we know that 3^8 is definitely a factor of 24!. However, 9 and 18 have an additional 3 each, as their factor. Thus, the maximum power of 3 in 24! is $(8 + 2) = 10$.

142. c With pipes A and B together, the tank would have been full in 12 hours $\left(\dfrac{1}{20} + \dfrac{1}{30} = \dfrac{1}{12} \right)$

now since pipe C was also opened during these 12 hours the tank would be full as follows

$\left[1 - \dfrac{1}{60} \times 12 \right] = \dfrac{4}{5}$ th part,

rest $= 1 - \dfrac{4}{5} = \dfrac{1}{5}$ th part

To fill $\left(\dfrac{1}{5} \right)^{th}$ part of the bank the time taken, by pipes A and B

$= \dfrac{12 \times 1}{5} = 2.4$ hours.

143. d If H is the highest score, $8 \times 87 = H + (H - 2) + 6 \times 85$.

144. d Original area $= 81\pi$.   Final area $= 49p$.

$\therefore$ reduction in area $= 32p$ $\therefore$ Percentage of reduction $= \dfrac{32\pi}{81\pi} \times 100 = 39.5$ approx.

145. d The thief has a lead of 100 m and the policeman gains 2 kmph over him, i.e. $\dfrac{5}{9}$ m/sec.

$\therefore$ Time taken to catch the thief $= 100 \times \dfrac{9}{5}$ seconds or 180 seconds or 3 minutes. In this time the thief runs

$\dfrac{8}{20}$ km or 400 m.

146. d $9261 = 8000 \left(1 + \dfrac{5}{100} \right)^n \Rightarrow \dfrac{9261}{8000} = \left(\dfrac{21}{20} \right)^n$ or $\left(\dfrac{21}{20} \right)^3 = \left(\dfrac{21}{20} \right)^n$ or   n $= 3$ years.

147. b Let the first odd number be N, then according to the question $N + N + 2 + N + 4 = N + 20$
or, $3N + 6 = N + 20$ or, $3N - N = 20 - 6$ or, $2N = 14$
$N = 7$ So, the middle odd number is $7 + 2 = 9$.

148. d $3W = 2M$.

$1W = \dfrac{2}{3} M \Rightarrow 21W = \dfrac{2}{3} \times 21 = 14 M$

Let the number of days be x.
$m_1 d_1 h_1 = m_2 d_2 h_2 \Rightarrow 15 \times 21 \times 8 = 14 \times 6 \times x$ days

$\Rightarrow x = \dfrac{15 \times 21 \times 8}{14 \times 6} = 30$ days

149. b The possible combinations of numbers in the ratio
3 : 1 and less than 10 are 3 and 1, 6 and 2, 9 and 3. Their products are 3, 12 and 27, respectively. Thus, the answer is 12.
Aliter: Go with the options.

150. d The least square number is obviously a multiple of the L.C.M. of 3, 4, 5 and 8, i.e. of 120.

Now $120 = 3 \times 5 \times 2^2 \times 2.$ For any number to be a perfect square, the factors must occur an even number of times, i.e. the required number

$= 3^2 \times 5^2 \times 2^2 \times 2^2$ or 3,600
Aliter: Go with the options.

151. c $\dfrac{A \times 4}{(A+500) \times 3} = \dfrac{280}{240} \Rightarrow \dfrac{A}{(A+500)} = \dfrac{7}{8}$

$\Rightarrow A = Rs. \, 3,500.$

152. a Let the lengths of the trains be 2x and x respectively.
Relative speed of train $= 36 + 54 = 90$ kmph.
(moving in opposite directions)

$\therefore \quad \dfrac{3x \times 18}{90 \times 5} = 12$

$\Rightarrow x = 100\,m$
$\therefore$ Length of the train 200 m.
Let the length of the platform be y. Then

$\dfrac{(200+y) \times 18}{36 \times 5} = 1.5 \times 60$

$\Rightarrow 200 + y = 900$
$\therefore \; y = 700\,m.$

153. a Reduction in Rs. 1.25 is Re 0. 25.

$\therefore$ percentage reduction $= \dfrac{25}{125} \times 100 = 20$.

154. c The required number $=$ (a multiple of the L.C.M. of 6, 9, 12) $+ 1$, i.e. it is in the form of $36n + 1$, where n is 1, 2, 3, …..
$\therefore$ The greatest number of 3 digits which is of this form is $972 + 1$ (n = 27) = 973.
Aliter: Go by options.

155. a The following table shows the possible situations if X picks up coins in his first chance.

X picks up	Y picks up	Coins left	X picks up	Y has to pick up
4 coins	5 coins	2 coins	1 coin	Last 1 coin
4 coins	4 coins	3 coins	2 coins	Last 1 coin
4 coins	3 coins	4 coins	3 coins	Last 1 coin
4 coins	2 coins	5 coins	4 coins	Last 1 coin
4 coins	1 coin	6 coins	5 coins	Last 1 coin

156. d Total number of events $= 6^3 = 216$
Number of favourable cases $= (6, 6, 3)\,(6, 3, 6)\,(3, 6, 6)\,(5, 5, 5),\,(6, 5, 4)\,(5, 4, 6)\,(6, 4, 5) = 7$

Required probability $= \dfrac{7}{216}$

157. d $6 \times (\text{side})^2 = 150$ or side $= 5$

Diagonal $= \sqrt{3} \times$ side $= 5 \times \sqrt{3}$ cm.

158. c Let the cost of milk be Re. 1 a litre; S.P. of 1 litre of milk = Re. 1.10 a litre; S.P. of 1.1 litre of mixture = 1.1 x Re. 1.10 = 1.21. Profit increase by 11 paise on an investment of 100p, i.e. it increases by 11%.

159. a 53 paise becomes 56 paise, which becomes 672 paise, which when rounded to a multiple of 25 becomes 675 paise = Rs. 6.75.

160. c

Let X be the meeting point. Distance travelled by
A = BP + PX and distance travelled by B = BX.
Total distance covered by both $= 2 \times 192$ with respective speeds 18 kmph and 14 kmph.

$\therefore$ Time taken to cover 384 km $= \dfrac{384}{32} = 12$ hours.

Distance travelled by B in 12 hours $= 12 \times 14 = 168$ km
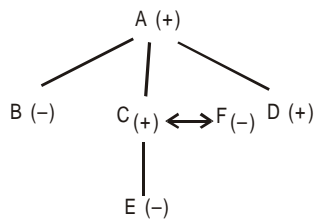At the time of meeting , B $= 192 - 168 = 24$ km away from Pune.

Questions 161 to 163:
The answers of these questions can be arrived easily with the help of the diagrams given:

Questions 164 and 165:
The given information can be summarized in the diagram given below. With the help of which rest of the questions can be solved very easily.

165. b

Note: Since E is the niece of B and D. F is the wife of C and mother of E.

166. c 'Father of the brother of my father' is also the father of my father and hence is my (woman's) grandfather.

167. d The series follows the following rule
$\div 6, \div 5, \div 4, \div 3, \div 2$

$8640 \div 6 = 1440; \quad 1440 \div 5 = 288;$

$288 \div 4 = 72; \qquad 72 \div 3 = 24;$

$24 \div 2 = 12$

so, the missing term is 288
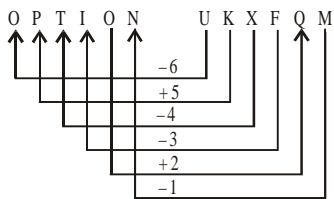
168. c The series follows the following rule
$+13, +15, +17, +19, +21, +23$
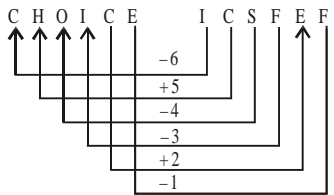$5 + 13 = 18; 18 + 15 = 33; 33 + 17 = 50;$
$50 + 19 = 69; 69 + 21 = 90$
so, 50 is the missing term.

169. a There is gap of two letters between the letters of each group. So, the appropriate choice is KN as two letters L and M come in-between them.

170. c Letters in the series are at a gap of 3, 4, 5, 6, 7 letters respectively.
C + 3 = F, F + 4 = J, J + 5 = O,
and O + 6 = U,   Also U + 7 = B.

171. d Each letter is coded by its preceding and succeeding letters, i.e. M by L and N, and so on.

172. c Each letter is coded in a successive difference of 1, 2, 3, 4, 5 letters, i.e. T by U, and so on.

173. c From first two coded statements, kew = she and from first and last coded statements deko = apples; hence, choice (c) is the answer.

174. b From first two coded statements 'are' = is and from the last two coded statements 'wise' = fast; hence, code for train is 'we'.

175. b

```
O  P  T  I  O  N        U  K  X  F  Q  M
↑  ↑  ↑  ↑     ↑                    ↑
            −6
            +5
            −4
            −3
            +2
            −1
```

Similarly,

```
C  H  O  I  C  E        I  C  S  F  E  F
↑  ↑  ↑  ↑                          ↑
            −6
            +5
            −4
            −3
            +2
            −1
```

176. a Sum of the first three elements added to the unit place = fourth element of that row.
i.e. 7 + 8 + 9 = 24 = 2 + 4 = 6
4 + 3 + 7 = 14 = 1 + 4 = 5
3 + 8 + 7 = 18 = 1 + 8 = 9

177. d In each column
I^{st} row + 2nd row − 3rd row = 4th row

178. d In each row

3rd column = I^{st} column $\times 2^{nd}$ column

4th column = I^{st} column + 2nd column

Questions 179 to 183:
Based on rules II and III, we can say that the three dice with the same number either show 1 or 2 or 3.

179. b 2 + 2 + 2 + 6 + 5 + 4 = 21

180. d 3 + 3 + 3 + 6 + 2 + 5 = 22

181. a 5 + 5 + 5 + 6 + 5 + 5 = 31

182. c 2 because 1 dice shows 6, one shows 1 and three are ≤ 3. Hence, only one more can be > 4.

183. c One dice should show 6. But there cannot be more than 3 dice showing 4 or more than 4. The maximum number that 3 dice can show is 3.

184. d The movement is like

185. d
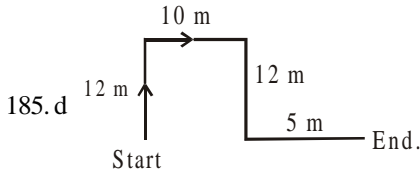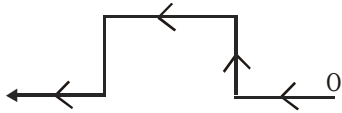
Obviously he is $(10 + 5)$m = 15 m towards East.

186. b
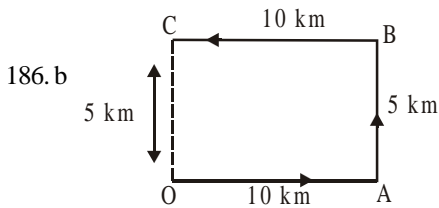
187. c S, U and N are the third, sixth and ninth letters of the word RESTAURANT. SUN is the only meaningful word therefore, S is the first letter of SUN.

188. b When the first and the seventh, the second and the eighth, and so on ...... letters are interchanged, the new word is:
O N S H I P R E L A T I
Now, the third letter from the right, if the second half of this word is reversed, [ONSHIPITALER] will be L.

189. c Top 15th $\rightarrow$ Bablu $\leftarrow$ 28th bottom
$\therefore$ No. of passed students = 28 + 15 + 1 (Bablu) = 44
$\therefore$ Total no. of boys = 44 + 6 + 5 = 55

190. a Nageena > Sonia
Nageena < Manish
Rama > Namita
Rama < Sonia
$\therefore$ Manish > Nageena > Sonia > Rama > Namita; therefore, Manish is the tallest.

191. a The initial cube has $4 \times 4 \times 4$ smaller cubes. The required bigger cube will have $6 \times 6 \times 6$ such cubes.
$\therefore$ Number of additional cubes = 216 – 64 = 152.

192. c Let Q's capacity be x. $\therefore$ P's capacity = 3x.

$\therefore$ In 1 turn, P fills 3x of the drum $= \dfrac{1}{50}$

$\therefore x = \dfrac{1}{150}$

Number of turns taken by both the buckets together to fill the drum $= \dfrac{150}{4} = 37.5$.

193. d During every one hour period, the hands are at right angles twice. However, between 3 o'clock and 4 o'clock and between 9 o'clock and 10 o'clock, they are at right angles only once. Hence, in a 12-hour period, they are at right angles 22 times and in a day, 44 times.

194. c Both the arguments are weak because it cannot be justified that a country giving sophisticated arms to another country, it will probably lead to arms race.

195. d Both the arguments are strong. After following a new economic order we can stop the economic exploitation of poor country to some extent. Also, no economic order can remove the disparities completely.

196. d Both of them are equally strong looking them in the real context.

197. a Obviously argument I is correct.

198. d If d is not true we cannot reach the conclusion stated above.

199. d Choice d is not even remotely related to the passage.

200. b Choice b suggests how Nicholas could have been a threat to the new regime.