

IBPS CLERK MAINS GRAND TEST – ICM180106

ANSWER KEY

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

HINTS & SOLUTIONS

51. (3) Refer to the second last sentence of the second paragraph, "we then decided.....insulin secretion"
52. (4) This was not meant to refute insulin experiment; rather it unraveled another aspect meant to stimulate further studies.
53. (3) The entire passage dwells on the response of the mechanism vis-a-vis different food intakes.
54. (4) Refer the 2nd last sentence of last paragraph, "the more protein is in the meal.....provided to the brain"
55. (2) Refer the 1st sentence of the 2nd paragraph. Both increased brain serotonin level.
56. (2) Refer the second sentence of the 1st paragraph which states "the production and release in brain neurons.....body processes"
57. (1) In the last paragraph it is clearly stated that the increase of protein in the meal will lower the ratio of blood-tryptophan concentration
58. (2) It is implied in the 1st sentence of the 3rd paragraph of the passage, Refer to "surprisingly.....tryptophan levels?"
The word surprisingly indicates that the researchers earlier hypothesis was different than the result.
59. (3) From the last sentence of the passage we can infer that the more the protein in the meal, the lesser will be the serotonin subsequently produced and released.
60. (1) Option (2) is incorrect contextually because of the use of 'countered'.
Option (4) is incorrect contextually too as it is giving a sense that there is some kind of objection towards its offensive policy of multilateralism with the great rising powers, in particular with China.
Option (3) is also incorrect contextually.
61. (1) Option (2) is incorrect because it gives a sense of something is behind the physical object due to the absence of 'in'.
Option (3) and (4) are incorrect contextually.
62. (2) CADEB is the correct sequence. There can be no argument regarding the Choice for the 1st sentence as it is introducing the issue. In C it is mentioned that court proceedings are inaccurate and in sentence A it is only elaborated therefore it is the next sentence of the sequence. The argument is justified in statement D, therefore it is just continuing the paragraph and must be the next statement. E is one of the way to deal with the things and therefore it must come next.

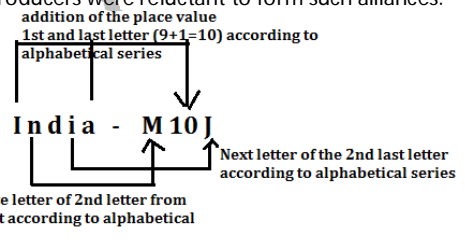
Grand Test – ICM 180106



63. (5) 'though, measure' is the correct set of words making the sentence meaningful.
64. (4) 'negotiations, between' is the correct set of words. Stipulation means a condition or requirement that is specified or demanded as part of an agreement.
65. (1) 'that' will not be used before 'if' as this is an interrogative sentence of indirect speech in which that is replaced by 'if/ whether'.
Ex. He asked me if/ whether I was ready.
66. (4) 'depends' will be used in place of 'depend' as the subject of the sentence 'success' is singular.
67. (3) 'thrown' will be used in place of 'threw' as 'have/ has/ had/ having + V3' is used.
Ex. Having taken breakfast, he went out.
68. (2) 'has been working' will be used in place of 'is working' as the sentence is in present perfect continuous tense 'for+ time'.
69. (1) 'will talk' will be used in place of 'talked' as two actions, that will happen in future are described here.
Ex. He will go to his sister and then he will go to his friend.
70. (3) Solitude means anxiety or concern.
Option (3) is the correct choice as both the words best fits the theme of the paragraph.
71. (4) Option (4) is the correct choice.
Invasion means to enter for conquest or plunder.
Hassle means a heated often protracted argument.
72. (1) Both the words of option (1) are aptly justifying the sense of the paragraph. Further, it is mentioned about the publication of these criminal records in the passage.
73. (5) Option (5) is the correct choice.
74. (5) Option (5) is the correct choice.
Dismal means depressing.
Horrid means dreadful.
75. (1) Option (1) is the right choice.
Conviction means a declaration that a person is guilty of an offense.
Convictions and judgements both the words satisfactorily fill the blank.
76. (2) Option (2) is the correct choice.
Seized means to capture or to take into custody.
77. (4) Option (4) is the correct choice.
Here, the word statistic is used in reference with a numerical fact or datum required to compute and calculate the performance of the police department.
78. (4) Option (4) is the correct choice.
Merely means just; only.
79. (1) Option (1) is the correct choice.
Here, the words behaviour and psychology are representing the general mindset of criminals.
80. (2) 'while, cause, concerns, dismissed' is the correct set of words making the sentence meaningful.
Exonerated means absolve (someone) from blame for a fault or wrongdoing.
81. (3) 'informed, considering, recommend, prevent' is the correct set of words to be replaced.
Preclude means to prevent from happening; make impossible.
Admonish means to reprimand firmly.
82. (2) 'create, discretion, imposes, distorting' is the correct set of words making the sentence meaningful.
Percolate means spread gradually through an area or group of people.
Volition means the faculty or power of using one's will.

83. (5) No improvement is required here.
84. (3) 'aspires, welcome, preserving, expression' is the correct set of words to be replaced.
Dissemination means spread (something, especially information) widely.
Protracting means prolong.
Promulgation means promote or make widely known (an idea or cause).
85. (4) Refer the last sentence of the 1st paragraph, "Today, however, the largest.....distribution"
86. (1) Refer second last sentence of the passage which indicates VHS was preferred over VCRs as VHS gained the advantage of strategic alignment with producers of prerecorded tapes.
87. (3) The 1st paragraph provided the basic paradigm and latter paragraphs substantiated it.
88. (2) It created an impression of frequent availability of an additional feature which will increase and spread its demand in the market.
89. (1) The passage simply illustrates the strategy through which VHS got dominating.
90. (1) In the 2nd paragraph it is explained that VHS sought to maintain exclusive control over VCR distribution; whereas, Beta producers were reluctant to form such alliances.

91-95.



91. (4)

92. (3)

93. (5)

94. (5)

95. (2)

96. (2)

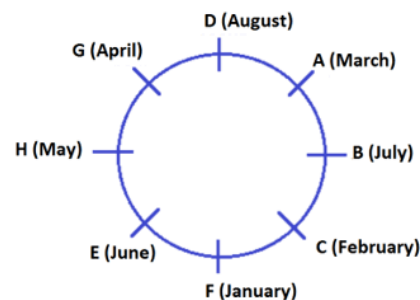
97. (1)

98. (2)

99. (4)

100. (3)

101-105.



101. (1)

102. (2)

103. (2)

104. (4)

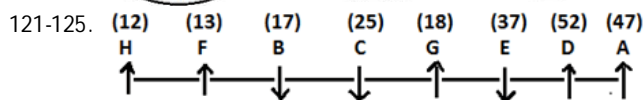
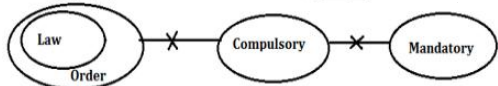
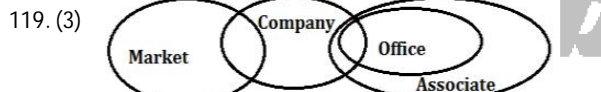
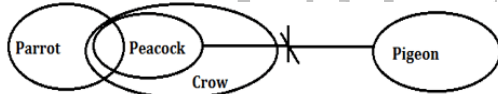
105. (3)

Grand Test – ICM 180106



Persons	Novel	Novelist
P	Tome Jones	Robert boge
I	Pride Prejudice	Elizabeth
R	Le Rouge	Daisy Ashford
B	Moby-Dick	Judy
Z	Madame Bovary	Kingsley
D	Le pere	J.K. Rowling
F	Harry Potter	Robert Black

106. (4)
 107. (1)
 108. (3)
 109. (2)
 110. (3)
 111. (2)
 112. (4) Child labour will reduce skill development. And since children are working, it will also reduce the literacy rate.
 113. (2) Social security will help in improving the living standard and strict laws will create a fear in the minds of people employing child labour.
 114. (3) Increased child labour is creating social evil.
 115. (1)
 116. (4) Argument I is not valid and strong because there are several other animals which give milk but they are slaughtered as well. Argument II is ambiguous.
 117. (2) Argument I is not strong because it would not be wise for India to agree upon every proposal without analyzing its pros and cons. Obviously, II is strong. Our agriculture and industries need protection because of their importance in India's GDP.



121. (2)
 122. (4)
 123. (4)
 124. (4)
 125. (2)

126-130. Students let us understand the Logic behind this Question and let's understand how to solve it. When we see the each step, then we can find that
 The machine rearranges one word and one number in each step simultaneously, words are arranged from left end and numbers are arranged from right end.
 (i) In this, words are arranged in decreasing manner according to addition of place values of all the vowels present in the word. (For example: juncture= 21+21+5= 47).
 (ii) Numbers are arranged in decreasing order, according to difference of their digits. (For example: 38 = 8-3=5).
 INPUT: According 79 summer 38 juncture 19 omi 26
 Step 1: Juncture according 79 summer 38 omi 26 19
 Step 2: Juncture summer according 79 omi 26 19 38

Step 3: Juncture summer according omi 79 19 38 26
 Step 4: Juncture summer according omi 19 38 26 79

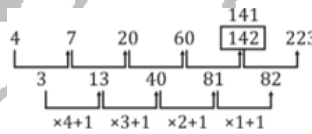
126. (4)
 127. (1)
 128. (4)
 129. (3)
 130. (3)
 131. (5) 19th January
 132. (2) From statement II, R>P>(S,T), Since R is the second heaviest, it means Q is the heaviest.
 133. (1) From I, D>B>C>A,E. Hence C is third highest scorer. Statements II is not sufficient, some more information are needed.
 134. (4) From I, E>L>O and S
 From II, At least one person is taller than E.
 So, data insufficient
 135. (1) From I,
 A's rank= 4th from top
 K's rank= 28th from top
 P's rank= 21st from top.

136-140.

Person	Colour	State	Days
A	Green	Uttarakhand	Saturday
E	Blue	HP	Sunday
D	Red	MP	Monday
F	Pink	Bihar	Thursday
G	Black	WB	Tuesday
B	Brown	UP	Friday
C	Yellow	AP	Wednesday

136. (4)
 137. (2)
 138. (4)
 139. (3)
 140. (1)

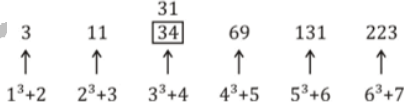
141. (2)



142. (2)



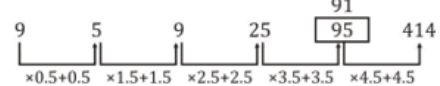
143. (2)



144. (4)



145. (4)



146. (2)

Huge Jackman fans city R = 4641 × 17
 Total fans in all cities together = 464100 + 424100 = 888200
 Required % = $\frac{4641 \times 17}{888200} \times 100 \approx 9\%$

147. (4)

Fans of Chris hemsworth in cities P and Q = 4241 × 25 = 106025
 Fans of Huge jackman in cities P and Q = 4641 × 25 = 116025
 Required % = $\frac{106025}{116025} \times 100 \approx 91\%$

148. (5) Fans of Chris from city Q and S turned into fans of Huges

$$= \frac{50}{100} \times \frac{34}{100} \times 424100$$

$$= 72097$$

Now new fans number of Huges

$$= 4,64,100 + 72,097 = 5,36,197$$
 New fans number of Chris

$$= 4,24,100 - 72,097 = 3,52,003$$
 Required difference

$$= 5,36,197 - 3,52,003 = 1,84,194$$

149. (1) Fans of Huges in city T and M

$$= 4641 \times (32) = 1,48,512$$
 Fans of Chris in city T and M

$$= 4241 \times 25 = 1,06,025$$
 Total fans = 1,48,512 + 1,06,025

$$= 2,54,537$$

150. (5) Huges fans in city M and R = 4641 × 34
 Chris fans in city S and Q = 4241 × 34
 Required Ratio = $\frac{4641 \times 34}{4241 \times 34} = \frac{4641}{4241}$

151. (3) Total illiterate person in village P = $9600 \times \frac{29}{48} = 5800$
 Total illiterate men in village P = $\frac{2000}{5} \times 7 = 2800$
 \therefore Total illiterate women in village P = 5800 - 2800 = 3000
 Similarly, Total illiterate women in village N

$$= \left(9600 \times \frac{17}{48}\right) - \left(\frac{1500}{5} \times 3\right) = 2500$$

$$\therefore \text{Required \%} = \left(\frac{3000 - 2500}{2500}\right) \times 100 = 20\%$$

152. (1) Total literate person in village Q

$$= 13000 \times \frac{83}{130} = 8300$$
 Total literate females in village Q = 8300 - 4500 = 3800
 Undergraduate females in village Q

$$= \frac{3800}{2} = 1900$$
 Total illiterate females in village Q

$$= \left(13000 \times \frac{47}{130}\right) - \left(\frac{4500}{9} \times 7\right) = 1200$$

$$\therefore \text{Required \%} = \frac{1900}{1200} \times 100 = 158\frac{1}{3}\%$$

153. (2) Average number of illiterate persons from village O and Q together

$$= \frac{(6300 \times \frac{23}{63}) + (13000 \times \frac{47}{130})}{2}$$

$$= \frac{2300 + 4700}{2} = 3500$$
 Average number of literate men from M and P together

$$= \frac{4200 + 2000}{2} = 3100$$

$$\therefore \text{Required diff.} = 3500 - 3100 = 400$$

154. (2) Total illiterate persons from village P

$$= \frac{29}{48} \times 9600 = 5800$$
 Total illiterate persons from village Q

$$= \frac{47}{130} \times 13000 = 4700$$

$$\therefore \text{Required number} = 5800 - 4700 = 1100$$

155. (4) Literate females in village O

$$= \frac{40}{63} \times 6300 - 3000$$

$$= 1000$$

$$\therefore \text{Contribution of literate females}$$

$$= \frac{1000}{6300} \times 100 = 15\frac{55}{63}\%$$

156. (3) Let present age of A, B, C and D is a, b, c and d respectively.

Now ATQ

$$\Rightarrow b = a + 6 \quad \dots(i)$$

$$\Rightarrow \frac{b+9}{c} = \frac{9}{8} \text{ or } \frac{a+15}{c} = \frac{9}{8}$$

$$c = \frac{8}{9}(a+15) \quad \dots(ii)$$

$$\Rightarrow c + d = 50 \Rightarrow d = 50 - c$$
 Now
 Difference = b + d - (a + c) = 8

Put the value of b, d and c in

$$(a+6) + (50 - \frac{8}{9}(a+15)) - [a + \frac{8}{9}(a+15)] = 8$$

Solving

$$a = 12$$

$$b = 18$$

$$c = 24$$

$$d = 26$$
 d's age after 5 year = 26 + 5 = 31

157. (4) $2\pi rh : \pi r^2 h = 1 : 7$
 (where r is radius and h is height)

$$2 : r = 1 : 7$$

$$\Rightarrow r = 14$$

$$\Rightarrow \text{diameter} : \text{Height} \Rightarrow 2r : h = 4 : 3$$

$$\Rightarrow h = 21$$

Total surface area of cylinder = $2\pi r(r+h)$

$$= 2 \times \frac{22}{7} \times 14 (14 + 21)$$

$$= 88 \times 35$$

$$= 3080$$

158. (1) Sum of the present age of mother, father and son

$$= 42 \times 3 + 6 \times 3 = 126 + 18 = 144 \text{ years}$$
 Sum of the present age of family = 36 × 5 = 180
 Present age of bride = 180 - 144 - 5 = 31 years
 Age of the bride at the time of marriage = 31 - 6 = 25 years.

159. (3) Let initially x number of truck required
 Capacity of one truck = $\frac{60}{x}$
 Extra material left due to lower capacity = $\frac{x}{2}$ tons
 According to the question,

$$\frac{\frac{x}{2}}{\frac{60}{x} - \frac{1}{x}} = 4$$

$$\Rightarrow \frac{120 - x}{2x} = 4$$

$$\Rightarrow x^2 + 4x - 480 = 0$$

$$\Rightarrow x = 20$$

So, 20 Trucks were initially used to transport.
 160. (3) Time taken by Cyclist to reach 25/3 km

$$= \frac{25}{25 \times 3} = \frac{1}{3} \text{ hr} = 20 \text{ min}$$
 Car has taken to reach 25/3 km = 20 - 12 = 8 min

$$\text{Speed of Car} = \frac{25}{8} \times 60 = 62.5 \text{ km/h}$$

Now time taken by cyclist to go further 30 km

$$= \frac{30}{25} = \frac{6}{5} \text{ hr} = 72 \text{ min}$$

Car will go in 72 min = $\frac{72}{60} \times 62.5 = 75 \text{ km}$

Now, according to question,
 distance between first meeting and second meeting is 30
 So,
 distance between first meeting and point B will be

$$= \frac{75+30}{2} = 52.5 \text{ km}$$
 Required answer = 52.5 + 8.33 = 60.833 km

161. (1) From I : D + E = 14

From II : A + B + C + F = 200

\therefore From I and II average age can be find out.

162. (5) Only I or II is sufficient.

Grand Test – ICM 180106



163. (5) $8M + 6W = \frac{W}{21}$
 $1.5(8M + 6W) = 1.5 \times \frac{W}{21}$
 $12M + 9W = \frac{W}{14} = 14 \text{ days}$

164. (4) Can't be answered because direction of the trains are not given .

165. (1) From A; $600 - 500 = 10\%$ of cost price
 Hence cost price = $\frac{100}{10} \times 100 = 1000$
 From B
 $\frac{10 \times 10}{100} \% \text{ of cost price} = 10,$
 $1\% \text{ of Cost price} = 10; 100\% \text{ of Cost price} = 1000$

166. (3) Let investment of A, B, C and D is a, b, c and d respectively.
 $\frac{A}{A} \quad \frac{B}{B} \quad \frac{C}{C} \quad \frac{D}{D}$
 Now in first year $\rightarrow a \times 12 : b \times 12 : c \times 12$
 In 2nd year $\rightarrow 2a \times 12 : \frac{4b}{3} \times 12 : \frac{6c}{5} \times 12$
 In 3rd year $\frac{6c}{5} \times 12 : d \times 12$
 A : B : C : D
 $\Rightarrow (a \times 12 + 2a \times 12) : (b \times 12 + \frac{4}{3}b \times 12) : c \times 12 + 2 \times \frac{6}{5}c \times 12 : d \times 12$
 $3a : \frac{7b}{3} : \frac{17}{5}c : d = 12 : 14 : 17 : 8$
 $\Rightarrow a : b : c : d = 4 : 6 : 5 : 8$
 Difference between B and C initial investment = 1150
 Total Investment of A and D together
 $= \frac{1150}{1} \times 12 = 13800$

167. (5) X and Y can do a work $\rightarrow 10$ days
 Z can destroy the work $\rightarrow 28$ days
 $X + Y (10) \rightarrow 14 \text{ unit/day}$
 $Z (28) \rightarrow 5 \text{ unit/day}$
 After 12 days
 $14 \times 12 - 5 \times 12 = 108$ -unit work done
 Y complete the work in 4 days
 $\frac{140 - 108}{4} = 8 \text{ unit/day (Y's efficiency)}$
 X's efficiency = $14 - 8 = 6 \text{ unit/days}$
 X can complete work
 $= \frac{140}{6} \text{ day} = 23\frac{1}{3} \text{ days}$

168. (1) Let cost price of article is = 100
 And profit = x
 ATQ,
 $\frac{x}{100 + (100 + x)} = 16\frac{2}{3}\% \quad [100 + x \Rightarrow \text{S.P.}]$
 $\frac{x}{200 + x} = \frac{1}{6}$
 $x = 40$
 profit percent = 40%
 S.P. = 140
 Mark price = $\frac{140}{9} \times 10 = \frac{1400}{9}$

Now
 $100 \rightarrow 1350$
 $\frac{1400}{9} \rightarrow \frac{1350}{100} \times \frac{1400}{9} = 2100$

169. (1) Let speed of boat and stream is x and y respectively.
 ATQ,
 $\frac{75}{x+y} = \frac{60}{x-y}$
 $75x - 75y = 60x + 60y$
 $15x = 135y$
 $x = 9y$
 Required percentage = $\frac{10y}{9y} \times 100$
 $= 111\frac{1}{9}\%$

170. (3) Let R is the rate of interest in C.I.
 ATQ,
 $\frac{P \times 11 \times 4}{100} = P \left[\left(\frac{100+R}{100} \right)^2 - 1 \right]$
 $\frac{44}{100} = \left(\frac{100+R}{100} \right)^2 - 1$
 $\frac{144}{100} = \left(\frac{100+R}{100} \right)^2$
 $\frac{12}{10} = \frac{100+R}{100}$
 $R = 20\%$

Now
 $10920 = P \left[\frac{100 + 20}{100} \right]^3 - P$
 $P = 15000$

171. (3) I. $2x^2 + 5x + 2 = 0$
 $\Rightarrow 2x^2 + 4x + x + 2 = 0$
 $\Rightarrow (x+2)(2x+1) = 0$
 $\Rightarrow x = -2, -\frac{1}{2}$
 II. $y^2 + 5y - 6 = 0$
 $\Rightarrow y^2 + 6y - y - 6 = 0$
 $\Rightarrow (y+6)(y-1) = 0$
 $\Rightarrow y = 1, -6$

No relation
 I. $7y^2 + 52y + 85 = 0$
 $\Rightarrow 7y^2 + 35y + 17y + 85 = 0$
 $\Rightarrow (y+5)(7y+17) = 0$
 $\Rightarrow y = -5, -\frac{17}{7}$

II. $x^2 = 1225$
 $\Rightarrow x = \pm 35$

No relation
 I. $y = \sqrt[3]{2197}$
 $y = 13$

II. $x^4 - 25x^2 + 144 = 0$
 $\Rightarrow x^4 - 16x^2 - 9x^2 + 144 = 0$
 $\Rightarrow (x^2 - 16)(x^2 - 9) = 0$
 $\Rightarrow x = \pm 4, \pm 3$

174. (3) I. $2x^2 + 7x + 6 = 0$
 $\Rightarrow 2x^2 + 4x + 3x + 6 = 0$
 $\Rightarrow (x+2)(2x+3) = 0$
 $\Rightarrow x = -2, -\frac{3}{2}$

II. $3y^2 + 11y + 8 = 0$
 $\Rightarrow 3y^2 + 3y + 8y + 8 = 0$
 $\Rightarrow (y+1)(3y+8) = 0$
 $\Rightarrow y = -1, -\frac{8}{3}$

No relation
 I. $x^2 + 112x + 2352 = 0$
 $\Rightarrow x^2 + 84x + 28x + 2352 = 0$
 $\Rightarrow (x+84)(x+28) = 0$
 $\Rightarrow x = -84, -28$

II. $y^2 - 168y + 7056 = 0$
 $\Rightarrow (y-84)^2 = 0$
 $\Rightarrow y = 84, 84$

$y > x$

176-180. Degree measure of B + D = $360^\circ - (80^\circ - 72^\circ - 74^\circ + 62^\circ)$
 $= 72^\circ$

Also, difference b/w degree measures of B & D = 28°
 \therefore Degree measure of B and D is 50° and 22° respectively as B is more than D.

Now total literates in all villages together
 $= \frac{5500}{50} \times 360$
 $= 39600$

176. (3) Illiterate persons in village B

$$= \left(1 - \frac{1}{11}\right) \times 5500$$

$$= 5000$$

Illiterates in Village E

$$= \frac{75}{100} \times \frac{74}{360} \times 39600 = 6105$$

$$\therefore \text{Total sum} = 5000 + 6105 = 11105$$

177. (1) Illiterate persons of village A

$$= 39600 \times \frac{80}{360} \times \left(1 + \frac{3}{22}\right) = 10,000$$

$$\therefore \text{Required \%} = \frac{10,000}{39600} \times 100 \approx 25.3\%$$

178. (4) Required ratio =

$$\frac{A+D}{B+F} = \frac{80^\circ + 22^\circ}{50^\circ + 62^\circ} = \frac{51}{56}$$

179. (2) Total illiterate male persons in village F

$$= 39600 \times \frac{62}{360} \times \left(1 + \frac{2}{11}\right) \times \frac{15}{26}$$

$$= 4650$$

Total literate male persons in village F

$$= 39600 \times \frac{62}{360} \times \frac{13}{22} = 4030$$

$$\therefore \text{Total number of males in village F} = 4650 + 4030 = 8680$$

180. (3) Required average

$$= \frac{1}{4}(50 + 72 + 22 + 74)$$

$$= 54.5^\circ$$

181. (2) Required average C.P. per kg

$$= \frac{46400}{125} = \text{Rs. } 371.2$$

182. (4) New S.P. = $\frac{80}{100} \times 475 = \text{Rs. } 380/\text{kg}$

$$\therefore \text{Loss\%} = \frac{40}{420} \times 100 = 9 \frac{11}{21} \%$$

183. (3) Total sweets bought = $30 + 50 + 45 = 125 \text{ kg}$

184. (1) Total C.P. = $50 \times 400 = \text{Rs. } 20,000$

Total S.P. = $40 \times 450 = \text{Rs. } 18,000$

$$\therefore \text{Required loss\%} = \frac{2000}{20000} \times 100 = 10\%$$

185. (2) Required percentage = $\frac{80}{500} \times 100$

$$= 16\%$$

186. (3) Let P ltr. of mixture are taken out from all 3 containers.

Quantity of X, Y and Z from A container

$$\rightarrow \frac{2P}{6}, \frac{3P}{6}, \frac{P}{6}$$

From B container

$$\rightarrow \frac{P}{8}, \frac{2P}{8}, \frac{5P}{8}$$

From C container

$$\rightarrow \frac{3P}{7}, \frac{P}{7}, \frac{3P}{7}$$

$$\text{Quantity of Y} \rightarrow \frac{3P}{6} + \frac{2P}{8} + \frac{P}{7}$$

$$= \frac{84P + 42P + 24P}{168}$$

$$= \frac{150P}{168}$$

$$\text{Quantity of X} \rightarrow \frac{2P}{6} + \frac{P}{8} + \frac{3P}{7}$$

$$= \frac{56P + 21P + 72P}{168}$$

$$= \frac{149P}{168}$$

$$\text{Diff.} = \frac{150P}{168} - \frac{149P}{168} = \frac{1}{8}$$

$$P = 21 \text{ liter}$$

187. (4) Distance between P and Q is 150 km.

Now X bus cover 40 km in 1 hour

Y bus cover 60 km in 1st hour

Remaining distance = 50 km

Remaining time to cross each other

$$= \frac{50}{40 + 50} = \frac{50}{90} = \frac{5}{9} \text{ hr}$$

Distance which is covered by 'Y' in $\frac{5}{9}$ hr

$$= 40 \times \frac{5}{9} = \frac{200}{9} \text{ km}$$

Distance between Q and the point where buses crosses each other

$$= 60 + \frac{200}{9} = 82 \frac{2}{9} \text{ km}$$

188. (4) Let Pankaj and Dinesh marks in Gate is a and b respectively.

And Marks of Pankaj and Dinesh in NET is $2a, \frac{5b}{3}$ respectively.

ATQ,

$$2a + \frac{5b}{3} = 120 \quad \dots (i)$$

$$a + b = 65 \quad \dots (ii)$$

solving (i) and (ii)

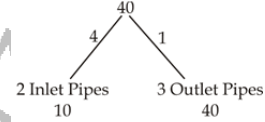
$$a = 35, b = 30$$

Required difference

$$35 + 70 - 30 - 50 = 25$$

189. (2) 2 inlet pipes can fill the tank in 10 hours

3 outlet pipes can empty the same tank in 40 hours



Efficiency of 2 inlet pipes $\rightarrow 4$ unit/hour

Efficiency of 3 outlet pipes $\rightarrow 1$ unit/hour

9 more outlet pipes are required to maintain constant level

Total 12 outlet pipes required.

Let x kg is quantity of type 1 Rice

y kg is quantity of type 2 Rice

Let cost of type 2 Rice = $5a$ per kg

So cost of type 1 Rice = $6a$ per kg

Now cost price of mixture = $6ax + 5ay$

Selling price of mixture = $5.5a$ per kg

$$= 5.5ax + 5.5ay$$

$$\text{Profit} = \frac{0.5ay - 0.5ax}{5ay + 6ax} \times 100 = \frac{100}{43}$$

$$x : y = 3 : 5$$

