

SBI Clerk Mains 2016 (Solutions)

REASONING ABILITY

Direction (1-5):

Floor	Person	Color
8	U	Pink
7	Y	Grey
6	S	Yellow
5	Z	Blue
4	T	Purple
3	V	Orange
2	X	Green
1	W	Red

1. (c); 2. (d); 3. (a);
4. (a); 5. (c);

Direction (6-10):

L F G M N H E O ——— Facing North

6. (e); 7. (b); 8. (c);
9. (c); 10. (c);

Direction (11-15):

11. (b); Since the first letter is vowel and the last letter is consonant, so both are to be coded as code of consonant i.e. of B which is *.
12. (c); Since first and last letters are consonants and in between there are two vowels, so both the vowels are to be coded as 8. So the code is 7\$8882.
13. (e); **Explanation:**
Converting the letters into symbols the code is,
D K P R T B
% 6 5 2 \$ *
14. (d); **Explanation:**
Since 1st and last letters are vowels, so both are to be coded as +. So the code is +5#\$2+
15. (a); **Explanation:**
Since 1st letter is a consonant and last is a vowel, so their codes are to be interchanged. So the code for HLEKBI is 13@6*9.

Direction (16-20): Will → ka

- Meet → ja
Us → lu
You → hu
Today → la
temperature → ju
the → fu
of → na
maximum → fa

16. (b); 17. (a); 18. (b);
19. (b); 20. (c);

Direction (21-25): © → <

- @ → ≤
% → >
\$ → ≥
★ → =

21. (a); $B < T = M > F$
 $B < M$ (True) $B < F$ (False)

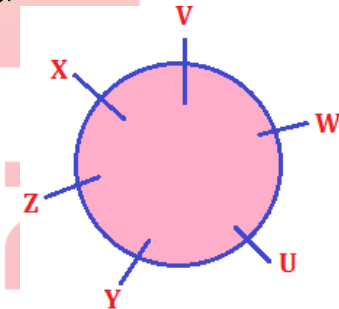
22. (b); $M = R > T \geq K$
 $K \leq M$ (False) $K < M$ (True)

23. (e); $W < D \leq H = N$
 $N \geq D$ (True) $W < N$ (True)

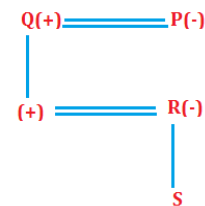
24. (d); $W \leq D \geq R < K$
 $R = W$ (False) $R > W$ (False)

25. (d); $F \geq J > V < N$
 $N \geq F$ (False) $N > J$ (False)

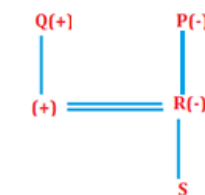
26. (e); From statement I and II both :



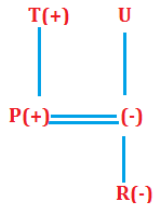
27. (b); From I: P is mother in law of R. or mother of R.



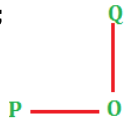
or



From II: P is father of R.



28. (d);
29. (a);



30. (b); Total 37 persons sitting in a row.

Direction (31-35):

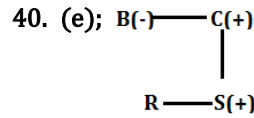
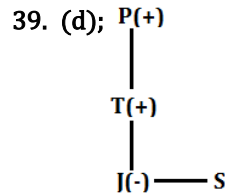
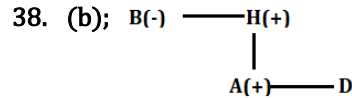
Boys	<u>USPRQT</u>
Girls	<u>FEADBC</u>

31. (e); 32. (b); 33. (c);
34. (e); 35. (a);

Direction (36-37):

36. (a)
37. (d); $16+8+0+2+1=27$

Direction (38-40):



Direction (41-45):

Input: Kite 19 54 Give 31 Right 72 87 Dream Ace.
Step1: Ace Kite 19 54 Give 31 Right 72 Dream 87.
Step2: Dream Ace Kite 19 54 Give 31 Right 87 72.
Step3: Give Dream Ace Kite 19 31 Right 87 72 54.
Step4: Kite Give Dream Ace 19 Right 87 72 54 31.
Step5: Right Kite Give Dream Ace 87 72 54 31 19.
'Step-5' is the final step of this input.

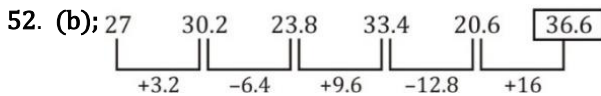
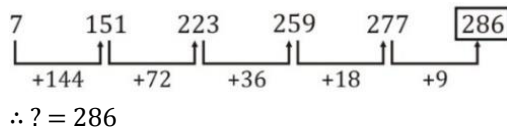
41. (a); 42. (b); 43. (d);
44. (c); 45. (e);

Direction (46-50): Height $\rightarrow R > Q > S > V > T > P$
Weight $\rightarrow S > P > R > Q > T > V$

46. (e); 47. (b); 48. (d);
49. (c); 50. (a);

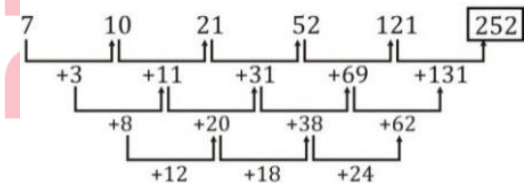
QUANTITATIVE APTITUDE

51. (c); Pattern is —



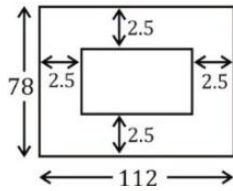
53. (b); Pattern is
 $5 \times 1 - 1 = 4$
 $4 \times 2 - 2 = 6$
 $6 \times 3 - 3 = 15$
 $15 \times 4 - 4 = 56$
 $56 \times 5 - 5 = 275$

54. (d); Pattern is —



55. (e); Pattern is,
 $5 \times 1 - 2 = 3$
 $3 \times 2 - 2 = 4$
 $4 \times 3 - 2 = 10$
 $10 \times 4 - 2 = 38 \Rightarrow ? = 10$
56. (e); Let speed of stream be x km/hr.
 \therefore speed of boat in still water is $3x$ km/hr
 \therefore ATQ,
 $\frac{24}{3x+x} + \frac{24}{3x-x} = 6$
 $\frac{24}{4x} + \frac{24}{2x} = 6 \Rightarrow \frac{6}{x} + \frac{12}{x} = 6$
 $x = \frac{18}{6} = 3 \text{ km/hr}$
 \therefore Speed of boat in still water = 9 km/hr

57. (d);



$$\therefore \text{Required cost} = [112 \times 78 - 107 \times 73] \times 2$$

$$= \text{Rs. } 1850$$

58. (b); Length of BD by pythagores theorem

$$BD = \sqrt{8^2 + 6^2}$$

$$= \sqrt{64 + 36} = 10$$

$$\therefore \text{Length of BC}$$

$$= \sqrt{(24)^2 + (10)^2}$$

$$= \sqrt{576 + 100}$$

$$= \sqrt{676}$$

$$= 26$$

59. (a); Let radius of circle be r meter

$$\therefore 2\pi r = 44$$

$$2 \times \frac{22}{7} \times r = 44$$

$$r = 7 \text{ cm}$$

$$\therefore BC = 14 \text{ m}$$

$$\therefore AB = AC = 7\sqrt{2} \text{ m}$$

$$\therefore \text{Area of } \Delta ABC$$

$$= \frac{1}{2} \times 7\sqrt{2} \times 7\sqrt{2} = 49 \text{ m}^2$$

60. (a); Radius of bigger semicircle = 14
& radius of smaller semicircle = 7
 \therefore Required area

$$= \frac{1}{2} [\pi(14)^2 - 2 \times \pi(7)^2]$$

$$= \frac{1}{2} [196\pi - 98\pi] = \frac{1}{2} \times 98\pi = 154$$

61. (a); There are four cases \rightarrow 3R, (1R, 2G), (2R, 1G), 3G

$$\therefore \text{Required probability}$$

$$= \frac{{}^4C_3 + {}^4C_1 \times {}^6C_2 + {}^4C_2 \times {}^6C_1 + {}^6C_3}{{}^{15}C_3}$$

$$= \frac{4 + 4 \times 15 + 6 \times 6 + 20}{91 \times 5}$$

$$= \frac{4 + 60 + 36 + 20}{91 \times 5} = \frac{120}{91 \times 5} = \frac{24}{91}$$

62. (a); $4x + 7y = 42$... (i)

$$3x - 11y = -1$$
 ... (ii)

Multiplying (i) by 3 and (ii) by 4

$$12x + 21y = 126$$
 ... (iii)

$$12x - 44y = -4$$
 ... (iv)

Solving (iii) & (iv)

$$x = 7 \text{ \& } y = 2$$

$$\therefore x > y$$

63. (c); I. $9x^2 - 29x + 22 = 0$

$$9x^2 - 18x - 11x + 22 = 0$$

$$9x(x - 2) - 11(x - 2) = 0$$

$$\therefore x = 2 \text{ or } \frac{11}{9}$$

II. $y^2 - 7y + 12 = 0$

$$y^2 - 3y - 4y + 12 = 0$$

$$y(y - 3) - 4(y - 3) = 0$$

$$y = 3, 4$$

$$\therefore y > x$$

64. (d); I. $3x^2 - 12x + 8x - 32 = 0$

$$3x(x - 4) + 8(x - 4) = 0$$

$$\therefore x = 4, \frac{-8}{3}$$

II. $2y^2 - 17y + 36 = 0$

$$2y^2 - 9y - 8y + 36 = 0$$

$$y(2y - 9) - 4(2y - 9) = 0$$

$$\therefore y = 4, \frac{9}{2}$$

$$\therefore y \geq x$$

65. (a); I. $3x^2 - 19x - 14 = 0$

$$3x^2 - 21x + 2x - 14 = 0$$

$$3x(x - 7) + 2(x - 7) = 0$$

$$\therefore x = 7 \text{ or } \frac{-2}{3}$$

II. $2y^2 + 5y + 3 = 0$

$$2y^2 + 2y + 3y + 3 = 0$$

$$2y(y + 1) + 3(y + 1) = 0$$

$$y = -1 \text{ or } \frac{-3}{2}$$

$$\therefore x > y$$

66. (e); I. $x^2 + 2 \times 7 \times x + (7)^2 = 0$

$$\therefore (x + 7)^2 = 0$$

$$\therefore x = -7$$

II. $y(y + 9) = 0$

$$\therefore y = 0 \text{ or } -9$$

$$\therefore \text{No relation.}$$

67. (e); Average salary = $\frac{1000 \times 43000}{1600} = 26875$

68. (b); Number of employees in :

$$\text{PNB} = 1600$$

$$\text{OBC} = 1700$$

$$\text{SBI} = 2100$$

69. (e); Required ratio = $15000 \times 600 : 35000 \times 900$

$$= 2 : 7$$

70. (e); Required percentage = $\frac{400}{600} \times 100$

$$= 66\frac{2}{3}\%$$

71. (b); Required percentage = $\frac{20000 \times 900}{25000 \times 800} \times 100 = 90\%$

72. (b); Required No. = $\frac{280 + 354 + 343 + 535 + 433}{5} = 389$

73. (d); Required difference = $(235 + 567) - 134 = 668$

74. (e); Required % = $\frac{320 + 346 + 436}{255 + 343 + 545 + 546 + 453} \times 100$

$$= \frac{1102}{2142} \times 100 \approx 51\%$$

75. (d); Required animals

$$= \frac{65}{100} \times (411 + 535 + 534) = 962$$

76. (c); Required No. of lions = $\frac{3}{4}(135 + 325 + 345 + 267)$

$$= 804$$

77. (c); Let their salaries be 100, 300 and 400

$$\text{Their new salaries} = 105 : 330 : 460$$

$$= 21 : 66 : 92$$

78. (b); Work done by the third pipe in 1 min.
 $= (1/50) - [(1/60) + (1/75)] = [(1/50) (3/100)]$
 $= (1/100)$
 \therefore The third pipe can alone fill the tank in 100 minutes.

79. (e); Both the statements together is not sufficient.

80. (d); Both statements alone is sufficient.

Let age of A is x and age of B is y.

$$\therefore 3x = y \quad \dots (i)$$

From statement I: $\frac{x+10}{y+10} = \frac{3}{7} \dots (ii)$

Solving equations (i) and (ii), $x = 20, y = 60$

From statement II:

$$\frac{x-10}{y-10} = \frac{1}{5}$$

$$\Rightarrow 5x - 50 = y - 10$$

$$\Rightarrow 5x - y = 40 \quad (iii)$$

From equations (i) and (iii), $x = 20, y = 60$

81. (c); Let length the train be x.

From statement I:

$$\text{Speed} = \frac{x}{8}$$

From statement II:

$$\text{Speed} = \frac{x+50}{20}$$

$$\text{Solving this, } x = \frac{400}{12} = \frac{100}{3} \text{ meter}$$

82. (e); From I and II we find $a + b = 2z$
 we can not find $a + b$ from I and II together.

83. (e); Let age of A, B and C be x year, y year and z year respectively

Data is not sufficient.

From statement I:

$$x = \frac{80}{100} \times z$$

From statement II:

$$y = \frac{60}{100} \times z$$

From these two equations $\frac{x}{y} = \frac{4}{3}$ but cannot find x

and y separately.

84. (d); Let the present age of Ranjana and Rakhi be 15x and 17x

$$\frac{15x+6}{17x+6} = \frac{9}{10}$$

$$x = 2$$

\therefore Age of Ranjana after 6 years

$$= 15 \times 2 + 6 = 36 \text{ years.}$$

85. (b); S.I. = 7200

$$R = \frac{S.I \times 100}{P \times T} = \frac{7200 \times 100}{20,000 \times 3} = 12\%$$

$$C.I = 20000 \left[\left(1 + \frac{12}{100} \right)^3 - 1 \right]$$

$$= 8098.56$$

86. (a); Here volume of water emptied by the second pipe will be 4 times to that of first Hence, Time take will be 1/4 of the first pipe. When both the pipes are open the part of the tank emptied in 1 minute = 1/8 Hence the tank will be emptied in 8 minutes.

87. (b); Total CP = 2000 + 750 = 2750

$$\text{Total SP} = \frac{120}{100} \times 2000 + \frac{95}{100} \times 750$$

$$= 2400 + 712.5$$

$$= 3112.5$$

$$\therefore \text{Total gain} = 3112.5 - 2750 = 362.5 \text{ Rs.}$$

88. (a); Let Man = x

$$\text{Woman} = 2x$$

$$\therefore \frac{8}{x} + \frac{4}{2x} = \frac{1}{6}$$

$$\frac{20}{2x} = \frac{1}{6}$$

$$x = 60$$

$$\therefore \text{Man} = 60, \text{ woman} = 120$$

$$\text{Required No. of days} = \frac{\frac{2}{3}}{\frac{4}{60} + \frac{8}{120}}$$

$$= \frac{2 \times 120}{3(16)}$$

$$= 5 \text{ days}$$

89. (c); Let their investment be x, 2x and 4x

$$\therefore A \rightarrow 6x + 6 \times \left(x + \frac{x}{2} \right) = 6x + 9x = 15x$$

$$B \rightarrow 6 \times 2x + 6 \times 4x = 36x$$

$$C \rightarrow 6 \times 4x + 6 \times \left(4x - \frac{1}{4} \times 4x \right) = 24x + 18x = 42x$$

$$\therefore \text{Required Ratio} = 15 : 36 : 42$$

$$= 5 : 12 : 14$$

90. (b); Number of questions attempted correctly =

$$70\% \text{ of } 10 + 50\% \text{ of } 30 + 60\% \text{ of } 45$$

$$= 7 + 15 + 27 = 49$$

$$\text{Passing grade} = (60/100) * 85 = 51$$

$$\text{Reqd. Ans} = 51 - 49 = 2$$

91. (c); Age of new man = 28 + 28 = 56 years

92. (b); 11% \rightarrow 5236

$$1\% \rightarrow 476$$

$$\therefore (11 + 19 + 7) = 37\% \rightarrow 17612 \text{ Rs.}$$

93. (c); Probability = $\frac{2c_1 \times 3c_2 + 2c_2 \times 3c_1}{5c_3}$

$$= \frac{2 \times 3 + 1 \times 3}{10} = \frac{9}{10}$$

94. (d); $B = \frac{1}{\frac{1}{12} - \frac{1}{20}} = \frac{1}{\frac{5-3}{60}}$

$$B = 30 \text{ days}$$

$$\therefore \text{Required No. of days} = \frac{1}{\frac{1}{20} + \frac{1}{60}} = \frac{60}{4} = 15 \text{ days}$$

95. (b); $\frac{132 \times 5}{18} = \frac{100 + 165}{t}$
 $t = \frac{275 \times 18}{132 \times 5}$
 $t = 7.5$ seconds

96. (b); $\frac{3x}{12x+3} = \frac{3x}{15x}$
 \therefore New ratio = 1 : 5
 \therefore Required % = $\frac{1}{6} \times 100\%$
 $= \frac{50}{3}\% = 16\frac{2}{3}\%$

97. (d); $3 \text{-----} A \text{-----} 30$
 $2 \text{-----} B \text{-----} 45$ \searrow 90
 Let B turned off after T min
 $2T + 3 \times 20 = 90$
 $T = 15$ min

98. (a); $(2M + 3B)10 = (3M + 2B)B$
 $20M + 30B = 3MB + 2B^2$
 $20M = 3MB + 2B^2 - 30B$
 $2M = 7B$
 $\therefore 10B = 10$ days
 $\therefore B = \frac{1}{100}$ days
 $\therefore 2M + 1B = 7B + B$

$= 8B$
 $= \frac{8}{100} = \frac{2}{25}$
 \therefore Required No. of days = $12\frac{1}{2}$ days

99. (a); Ratio of their speeds = $\sqrt{\frac{28}{5}} : \sqrt{\frac{20}{7}}$
 $\therefore \sqrt{\frac{28}{5}} \rightarrow 14$
 $\therefore \sqrt{\frac{20}{7}} \rightarrow \frac{14}{\sqrt{28}} \times \sqrt{5} \times \frac{\sqrt{20}}{\sqrt{7}}$
 $= \frac{14}{2\sqrt{7}} \times \sqrt{5} \times \frac{2\sqrt{5}}{\sqrt{7}} = \frac{14 \times 5}{7} = 10$ kmph

100. (a); Area = $2x^2$ m²



$\therefore 2x^2 \times 2 = 256$
 $x^2 = 64$
 $x = 8$
 \therefore Required length = $2 \times 8 = 16$ m

ENGLISH LANGUAGE

101. (c); 102. (e); 103. (c);
 104. (c); 105. (b); 106. (b);
 107. (d); 108. (e); 109. (e);
 110. (d); 111. (e); 112. (d);
 113. (e); 114. (e); 115. (e);
 116. (c);
 117. (c); 'Earn a decent living' is the only suitable syntax to be used. It means 'to earn well' that fulfils the sentence's context.
 118. (c); After 'to' we should use 'V₁' to show purpose.
 119. (c); 'Disowning' is the improper usage. We have to use 'disown' here so that syntax gets correct
 120. (b); 'Art' is singular subject, so it should agree with a singular verb. Hence, 'requires' is suitable expression.
 121. (a); To express the subjunctive mood. Auxiliary 'were' is used in the sentence.

122. (c); Accost means to approach someone with an allegation or blame, so 3rd option is the most appropriate one.
 123. (c); Harmful-not good for health, so 3rd option is most appropriate one
 124. (b); downturns means- a decline in economic, knell means -the sound of a bell
 125. (c); survived means- continue to live or exist, unscathed means- without suffering any injury, damage, or harm.
 126. (b); downturn, out "dole out" is the correct phrase which means to help someone with money and gifts.
 127. (d); 128. (a); 129. (c);
 130. (a); 131. (e); 132. (c);
 133. (d); 134. (b); 135. (e);
 136. (b); For questions (136-140) THE CORRECT SEQUENCE IS ECADBF
 137. (c); 138. (e); 139. (c);
 140. (e);

