SBI PO Preliminary -2021. SBPP – 2021- 100013

HINTS & SOLUTIONS

ANSWER KEY

1. (3)	21. (3)	41. (1)	61. (1)	81. (3)
2. (1)	22. (1)	42. (3)	62. (1)	82. (5)
3. (4)	23. (5)	43. (4)	63. (3)	83. (5)
4. (5)	24. (1)	44. (3)	64. (5)	84. (1)
5. (3)	25. (5)	45. (3)	65. (2)	85. (1)
6. (2)	26. (3)	46. (3)	66. (5)	86. (2)
7. (5)	27. (5)	47. (2)	67. (4)	87. (2)
8. (1)	28. (1)	48. (1)	68. (3)	88. (3)
9. (4)	29. (2)	49. (5)	69. (1)	89. (3)
10. (2)	30. (5)	50. (4)	70. (5)	90. (4)
11. (2)	31. (3)	51. (3)	71. (5)	91. (3)
12. (3)	32. (5)	52. (1)	72. (3)	92. (5)
13. (5)	33. (4)	53. (4)	73. (5)	93. (4)
14. (2)	34. (5)	54. (5)	74. (1)	94. (5)
15. (3)	35. (2)	55. (2)	75. (3)	95. (1)
16. (4)	36. (1)	56. (2)	76. (4)	96. (5)
17. (3)	37. (2)	57. (3)	77. (4)	97. (5)
18. (2)	38. (1)	58. (4)	78. (1)	98. (4)
19. (5)	39. (3)	59. (5)	79. (2)	99. (3)
20. (1)	40. (1)	60. (4)	80. (3)	100. (2)

HINTS & SOLUTIONS

1. (3) "expected to benefit" is the correct phrase to make the sentence meaningful.
2. (1) The word "maintenance" fits into the sentence more appropriately.
3. (4) "estimates" is the correct word that makes the sentence both meaningful and grammatically correct. Also, the verb used in this case should be singular as the subject is singular.
4. (5) "costing" is the correct usage as it means estimating the price of.
5. (3) "disappointing" is the word which suits the most to the sentence structure as it means failing to fulfill someone's hopes or expectations.
6. (2) "collection" is the correct usage as it means the action or process of collecting someone or something.
7. (5) "industry" is the correct usage as the sentence talks about the multiplex companies considering as one.
8. (1) "hit" is the correct usage as it means an instance of striking or being struck.
9. (4) "composition" is the correct usage as it means a thing composed of various elements.
10. (2) "negatively" is the correct usage as it means in a way that is not desirable or optimistic.
11. (2) "was of great historical importance" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Past Tense. If we go by options, all phrases except option (b) are not in correct grammar structure. Hence (b) is the correct choice.
12. (3) "holding together to assure" is the correct phrase to make the sentence grammatically correct as the "holding together" is the correct phrasal verb which means remain or cause to remain united. Other options are in accordance to correct grammar structure.
13. (5) The given sentence is grammatically correct. "that can be worn" is the correct phrase as the sentence is in Present Tense and it is talking about some new invention in the field of science and technology. Hence (e) is the correct choice.
14. (2) "too has done quite well recently" is the correct phrase to make the sentence grammatically correct. It is to be noted that both "China" and "India" are used in Singular number; so "has" will be used in place of "have".
15. (3) "over the growing gap between" is the correct phrase to make the sentence grammatically correct as "expressing concern over something" is the correct phrasal usage. Hence (c) is the correct option.
16. (4) "the transformation to a low carbon economy" is the correct phrase to make the sentence grammatically correct. "transformation into/to" is the correct phrase in context of the sentence. Hence (d) is the correct choice.
17. (3) "will be needed beyond" is the correct phrase to make the sentence grammatically correct. All other options except (c) are not in accordance with correct grammar structure. Hence (c) is the correct option.
18. (2) "has expressed concerns" is the correct phrase to make the sentence grammatically correct. It is to be noted that the sentence is in Present Tense. Hence (b) is the correct option.
19. (5) The given sentence is grammatically correct. "for supply of something" forms the correct grammar structure. Hence (e) is the correct choice.
20. (1) "of which over" is the correct phrase to make the sentence grammatically correct. "Of which" is part of a relative clause. "Which" is the relative pronoun and "of" is a preposition placed at the beginning of the relative clause, instead of at the end. Hence (a) is the correct option.
21. (3)
22. (1)
23. (5)
24. (1)
25. (5)
26. (3)
27. (5)
28. (1)
29. (2)
30. (5)
31. (3) (i) $4x^2 - 17x + 18 = 0$
$4x^2 - 9x - 8x + 18 = 0$
$x[4x - 9] - 2[4x - 9] = 0$
$[4x - 9][x - 2] = 0 \Rightarrow x = 2, \frac{9}{4}$
(ii) $2y^2 - 11y + 15 = 0$
$2y^2 - 5y - 6y + 15 = 0$
$y[2y - 5] - 3[2y - 5] = 0$
$[2y - 5][y - 3] = 0 \Rightarrow y = 3, \frac{5}{2}$

32. (5) (i) $3x^2 - 18x - 48 = 0$
$\Rightarrow x^2 - 6x - 16 = 0$
$x^2 - 8x + 2x - 16 = 0$
$x[x-8] + 2[x-8] = 0$
$[x+2][x-8] = 0 \Rightarrow x = 8, -2$

(ii) $4y^2 + 8y - 32 = 0$
$\Rightarrow y^2 + 2y - 8 = 0$
$y^2 + 4y - 2y - 8 = 0$
$y[y+4] - 2[y+4] = 0$
$[y+4][y-2] = 0$
$y = -4, 2$
No relation can be established.

33. (4) (i) $3x^2 + 42x + 144 = 0$
$\Rightarrow x^2 + 14x + 48 = 0$
$\Rightarrow x^2 + 8x + 6x + 48 = 0$
$x[x+8] + 6[x+8] = 0$
$[x+8][x+6] = 0$
$\Rightarrow x = -6, -8$

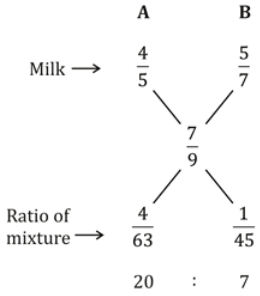
(ii) $4y^2 - 8y = 192$
$y^2 - 2y - 48 = 0$
$y^2 - 8y + 6y - 48 = 0$
$y[y-8] + 6[y-8] = 0$
$[y-8][y+6] = 0$
$\Rightarrow y = 8, -6$
$y \geq x$

34. (5) (i) $x^2 - 19x - 42 = 0$
$x^2 - 21x + 2x - 42 = 0$
$x[x-21] + 2[x-21] = 0$
$[x-21][x+2] = 0$
$x = 21, -2$

(ii) $2y^2 + 38y - 84 = 0$
$2y^2 + 42y - 4y - 84 = 0$
$2y[y+21] - 4[y+21] = 0$
$[y+21][2y-4] = 0$
$y = -21, 2$
No relation can be established

35. (2) (i) $x^{\frac{3}{2}} = 125$
$\Rightarrow x = 25$
(ii) $y^2 + 5y - 750 = 0$
$y^2 + 30y - 25y - 750 = 0$
$y[y+30] - 25[y+30] = 0$
$[y+30][y-25] = 0$
$y = -30, 25$
$x \geq y$

36. (1) Part of milk in A $= \frac{4}{5}$
Part of milk in B $= \frac{5}{7}$
Part of milk in the new mixture $= \frac{7}{9}$
By allegation rule,



20 : 7

Hence the required ratio is 20 : 7

37. (2) (8 days) B + C
(12 days) A + B
(16 days) A + C
6 unit, 4 unit, 3 unit, 48 unit
$\Rightarrow 2(A + B + C) = 13$
$\Rightarrow A + B + C = \frac{13}{2}$ (One day work)
$\therefore$ No. of days required $= \frac{48}{\frac{13}{2}} = \frac{96}{13} = 7\frac{5}{13}$ days

38. (1) Speed of the train $= \frac{200+400}{36} \times \frac{18}{5} = 60$ km/hr

39. (3) Ratio of capitals:

	A	:	B	:	C
	$(x \times 6 + \frac{3}{2}x \times 6)$	:	$(2x \times 6 + 4x \times 6)$	:	$(4x \times 6 + 3x \times 6)$
Capital →	$15x$	:	$36x$	:	$42x$
Profit →	5	:	12	:	14

Required ratio of their profits = 5 : 12 : 14

40. (1) If the first one is found to be black, there will be 11 black balls left out of 17
Hence, the required probability = 11/17

41. (1) LCD TV produced by company 'B'
$= \frac{13}{100} \times 3646500 \times \frac{11}{17} = 306735$

42. (3) LED TV produced by company 'C'
$= \frac{21}{100} \times 3646500 \times \frac{11}{15} = 561561$
LCD TV produced by company 'C'
$= \frac{21}{100} \times 3646500 \times \frac{4}{15} = 204204$
Their difference = 561561 – 204204 = 357357

43. (4) LED TV produced by 'A' $= \frac{15}{100} \times 3646500 \times \frac{8}{13} = 336600$
LCD TV produced by 'F' $= \frac{18}{100} \times 3646500 \times \frac{4}{17} = 154440$
Their ratio = 336600 : 154440 = 85 : 39

44. (3) LCD TV produced by 'E' $= \frac{11}{100} \times 3646500 \times \frac{8}{13} = 246840$
Total T.V's produced 'F'$= \frac{18}{100} \times 3646500 = 656370$
Required % $= \frac{246840}{656370} \times 100 = 37.6\%$

45. (3) LED T.V

A = $\frac{15}{100}$ x 3646500 x $\frac{8}{13}$ = 336600

B = $\frac{13}{100}$ x 3646500 x $\frac{6}{17}$ = 154440

C = $\frac{21}{100}$ x 3646500 x $\frac{11}{15}$ = 561561

D = $\frac{22}{100}$ x 3646500 x $\frac{8}{11}$ = 583440

E = $\frac{11}{100}$ x 3646500 x $\frac{5}{13}$ = 154275

F = $\frac{18}{100}$ x 3646500 x $\frac{13}{17}$ = 501930

Average = 384186

46. (3) $\frac{5106}{37}+\frac{9\times5681}{23}=3x$

138 + 2223 = 3x $\Rightarrow$ x = 787

47. (2) $\sqrt[3]{12167}+\sqrt[3]{4096}=\sqrt{x}$

23 + 16 = $\sqrt{x}$

39 = $\sqrt{x}$

x = 1521

48. (1) $\frac{17.76}{0.37}+\frac{24.32}{0.38}=x$

x= 48 + 64

x = 112

49. (5) $\frac{0.32}{100}\times1684+\frac{0.48}{100}\times2145$

5.3888 + 10.2960

$\Rightarrow$15.688

50. (4) 716.4 + 59.7 x 7.85 = 716.4 + 468.645 = 1185.045

51. (3) The series is ×0.5 + 0.5, ×1 + 1, ×1.5 + 1.5, ×2 + 2, ×2.5 + 2.5

Therefore, 29 × 2.5 + 2.5 = 75.

52. (1) The series is + 2^2 - 1, + 3^2 + 1, + 4^2 - 1, + 5^2 + 1, + 6^2 - 1

$\therefore 55 + 6^2 - 1 = 90$

53. (4) The series is $\times 1+3,\ \times 2+4,\ \times 3+5,\ \times 4+6,\ \times 5+7$

$\therefore 53\ \times 4+6=218$

54. (5) The series is - 3^3, + 4^3, - 5^3, + 6^3, - 7^3

$\therefore 443 - 7^3 = 100$

55. (2) The series is + 0 × 1, + 2 × 3, +4 × 5, +6 ×7, +8 × 9

Therefore, 74 + 8 × 9 = 146.

56. (2) Average run scored by 'E'

= $\frac{92+105+21+27+47}{5}=\frac{292}{5}=58.4$

57. (3) Total players Score in M_2 = 47 + 67+54+33+105+26 = 327

Total players Score in M_3 = 81+61+13+41+21+08 = 225

Their difference = 327 – 225 = 102

58. (4) Required % = $\frac{92}{325}$ x 100 = 28.3%

59. (5) Required % = $\frac{63-40}{40}$ x 100 = 57.5%

60. (4) Required % = $\frac{47-27}{27}$ x 100 = 74.07% ≈ 74%

61. (1) Ratio of efficiency of A and B is 4 : 3

Let in one day A does $4x$ unit of work and

In one day B does $3x$ unit of work

In 30 days 60% work is completed.

So, in 50 days whole work will be completed.

In 2 day $7x$ unit is completed so in 50 days

$= 50\times\frac{7x}{2}$ unit done

Whole work is completed by A in $=\frac{50\times7x}{4x\times2}=\frac{175}{4}$ days

62. (1) When move in same direction

Then,

$\frac{100}{x-y}=25$

or $x-y=4$ ... (i)

When move towards each other

$\frac{100}{x+y}=\frac{1}{5}\times25$

$x+y=20$ ... (ii)

Solving (i) and (ii)

$x = 12$ km/hr.

$y = 8$ km/hr.

63. (3) Let shopkeeper has 4 kg of pure rice & 1 kg of impure rice and Let cost price of pure rice and impure rice is be 10 Rs/kg and 5 Rs/kg

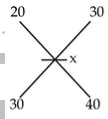
So overall C.P. for shopkeeper = 4 × 10 + 5 × 1 = 45 Rs.

But he sell all 5 kg at C.P. of pure rice = 5 × 10

= 50 Rs.

% profit $=\frac{5}{45}\times100=\frac{100}{9}\%$

64. (5)



$\frac{30-x}{x-20}=\frac{3}{4}$, $120-4x=3x-60$, $7x=180$, $x=\frac{180}{7}$

So, selling price should be $=\frac{140}{100}\times\frac{180}{7}=\frac{7}{5}\times\frac{180}{7}=36$ Rs./kg.

65. (2) Let A and B can complete work in $4x$, $5x$ days respectively

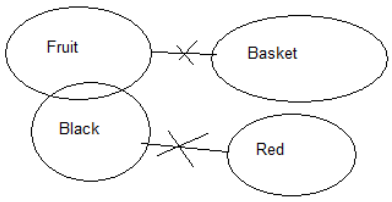
So, According to question

$\frac{6}{4x}+\frac{8}{5x}=\frac{31}{100}$, $\frac{30+32}{20x}=\frac{31}{100}$, $\frac{62}{20x}=\frac{31}{100}$, $x=10$

They both will complete the work in $=\frac{4\times5\times10\times10}{4\times10+5\times10}=\frac{40\times50}{90}$

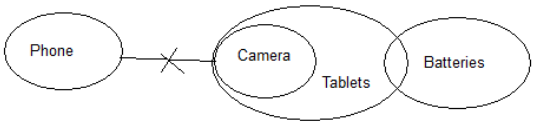
$=\frac{200}{9}$ days

66. (5)



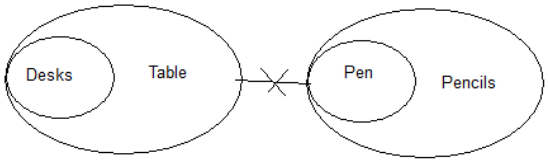
(i) X (ii) ✓

67. (4)



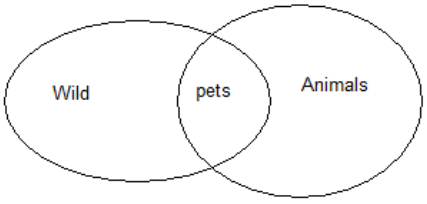
(i) X (ii) X

68. (3)



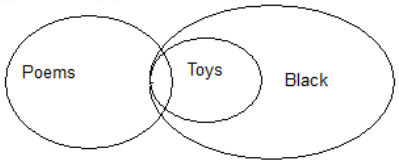
(i) X✓ (ii) ✓X

69. (1)



(i) ✓ (ii) X

70. (5)



(i) ✓ (ii) ✓

71 – 75. It is given that their age are considered as on the same month and day of 2027 as their date of births so their ages are-

Year	1994	1956	1977	1982	1992	1999	2002
ages	33	71	50	45	35	28	25

The difference between the ages of H, Who likes Mussoorie and I is twice the square root of the age of one of the persons so $H-I=2\sqrt{25}=2*5=10$. Hence H or I is either 35 or 45 years old. The Difference between the ages of I and J, who likes Manali is the same same as the number obtained by dividing ages of any of two among the other five persons so there can be two possibilities.

Case 1- when H=35, I=45 then I-J = 2(50/25) hence J's age is either 43 or 47 years but it cannot be possible so this case will be eliminated.

Case 2- when H=45 years, I= 35 years then I-J = 2 hence J's age is 33 years.

The Age of the person who likes Nainital is greatest amongst those whose age is a multiple of five so his age is 50 years. K likes Dharamshala. L does not like either Gangtok or Shimla. I does not like either Manali or Nainital.

Persons	Age	Year	Hill station
	50	1977	Nainital
H	45	1982	Mussoorie
I	35	1992	
J	33	1994	Manali
	71	1956	
	25	2002	
	28	1999	

K is older than the person who likes Gangtok, who is not the youngest. So K's age is 71 years. The one who was born in 1992 does not like Gangtok hence the one who was born in 1999 likes Gangtok. L likes hill station which starts from the alphabet D so L likes Darjeeling and was born in 2002. M is younger than H so M likes Gangtok and G likes Nainital.

Persons	Age	Year	Hill station
G	50	1977	Nainital
H	45	1982	Mussoorie
I	35	1992	Shimla
J	33	1994	Manali
K	71	1956	Dharamshala
L	25	2002	Darjeeling
M	28	1999	Gangtok

71. (5)
72. (3)
73. (5)
74. (1)
75. (3)

76 – 80. From the first two lines, H can stay on 6th or 8th floor and A can stay on 6th or 4th floor as E stay on 2nd floor. There can be two possibilities according to H's floor.(1)when H stays on 6th floor (2) When H stays on 8th floor

(1)H stays on 6th floor, so A stays on 4th floor. There are two persons stay between the persons who were born in March and September so the person who stays on top floor was born in September so A was born either in April or June. D and I stay 9th and 8th floor respectively. F can stay on 5th or 7th floor.

F stays on 5th floor so G stays on 7th floor and C stays on 3rd floor so C was born in July but It is given that the one who stays on top floor was born before C so this arrangement can't be possible.

F stays on 7th floor so G stays 5th floor and C stays on 1st floor and C was born in October because C was born after September but It is given that the person who stays on fourth floor was born after C so this arrangement can't be possible.

Floor	Person	Month
9	D	September
8	I	
7	G	
6	H	March
5	F	
4	A	(April/June)
3	C	July
2	E	
1	B	

Floor	Person	Month
9	D	September
8	I	
7	F	
6	H	March
5	G	
4	A	(April/June)
3	B	July
2	E	
1	C	(October)

(2)When H stays on 8th floor, A stays either on 6th or 4th floor.

When A stays on 6th floor, the person who stays on 5th floor was born in September so the persons who stay on 4th and 9th floor were born either in June or April. F does not stay on 5th floor or 9th floor because F was born before H so was born in January. F stays on 7th floor so G stays on 5th floor hence C stays on 1st floor. C was born between April and June so C was born in May. D and I stay on 4th and 3th floor respectively. B stays on top floor. B was born in April and D was born in June.so A and E were born either in August or October.

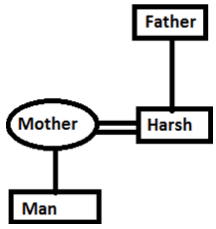
Floor	Person	Month
9	B	April
8	H	March
7	F	January
6	A	August/October
5	G	September
4	D	June
3	I	July
2	E	October/August
1	C	May

When A stays on 4th floor then the arrangement cannot be possible because D and I cannot be arranged in this case so the arrangement is given above, is the final diagram.

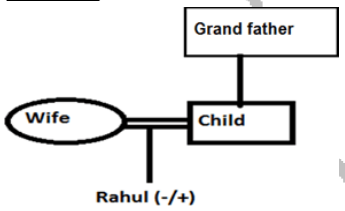
76. (4)
77. (4)
78. (1)
79. (2)
80. (3)

81 – 85. Input : Interesting 17 36 Fragrance 56 are 21 being 48 33 Every on 29 some
I : are 33 Interesting 17 36 Fragrance 56 21 being 48 Every one 29 some
II: are 33 one 56 Interesting 17 36 Fragrance 21 being 48 Every 29 some
III: are 33 one 56 some 29 Interesting 17 36 Fragrance 21 being 48 Every
IV: are 33 one 56 some 29 being 48 Interesting 17 36 Fragrance 21 Every
V:are 33 one 56 some 29 being 48 Every 21 Interesting 17 36 Fragrance
VI:are 33 one 56 some 29 being 48 Every 21 Fragrance 36 Interesting 17

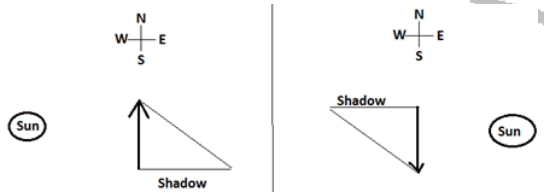
81. (3)
82. (5)
83. (5)
84. (1)
85. (1)
86. (2)
87. (2)
88. (3)
89. (3)
90. (4)
91. (3) As the code for constitutional is 'Ko' and the code for "of" is la. Hence the code of "evolution" is sha.
92. (5)



93. (4)



94. (5) There are two possible cases when the boy walking towards north and sun is in west direction than the shadow



95. (1) As it is given that B is greater than only D (B > D). And A is greater than B and C but A is not the lengthiest, hence we can deduce the following results from the given statements
E > A > C > B > D

96. (5)
I. J δ K (False)
II. M % R (False)
III. M @ R (False)

97. (5)
I. R @ W (True)
II. N @ K (True)
III. W δ N (True)

98. (4)
I. B @ K (False)
II. F δ M (True)
III. B % K (False)

99. (3)
I. T δ R (False)
II. N @ R (True)
III. T δ Z (False)

100. (2)
I. R δ W (True)
II. N δ W (True)
III. H @ R (True)