



**IBPS PO PRELIMINARY GRAND TEST :**  
**IPP-170507 - HINTS AND SOLUTIONS**

**ANSWER KEY**

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

- (3) 'Level' and 'Extent' are the words with similar meaning in the passage.
- (1) Food, drugs and medicines are excluded from the Patent Act.
- (1) 'Stage' and 'Level' are the words with similar meaning in the passage.
- (2) The first objective of intellectual property rights system is to bring in the harmony between the innovator and the user.
- (5) Level of development is the main determination for bringing in balance the intellectual property rights system in a country.
- (2) 'Enjoy' and 'Deserve' have the same meaning in the context of the passage.
- (3) The stated sentence is best described as 'to enforce control over profit making'.
- (5) 'Balance' and 'Equilibrium' have the same meaning in the context of the passage.

- (3) 'Power' and 'Capacity' have the same meaning in the context of the passage.
- (1) One of the underlying principles of the Patent Act is to instill encouragement for innovations.
- (3) On interchanging the first and second digits, the rearrangement is 736, 348, 746, 839, 657, then arranging in descending order, we get 839, 746, 736, 657, 348.  
∴ Required number is 476.



- DE, AD, DI, AE and NO.
- (5) The 2nd, 6th, 7th, 8th and 10th letters of the word PER-FORMANCE are E, R, M, A and C. The meaningful words with these letters are MACER and CREAM.
  - (3) The meaningful words with the letters of 'AINTS' are SAINT and STAIN.
  - (3) 3 7 5 4 8 6  
3 4 5 6 7 8

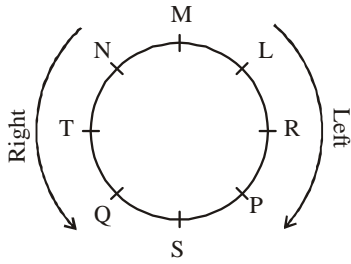
- 36-40. Input :** 32 proud girl beautiful 48 55 97 rich family 61 72 17 nice life
- Step I :** beautiful 17 32 proud girl 48 55 97 rich family 61 72 nice life
- Step II :** family 32 beautiful 17 proud girl 48 55 97 rich 61 72 nice life
- Step III :** girl 48 family 32 beautiful 17 proud 55 97 rich 61 72 nice life
- Step IV :** life 55 girl 48 family 32 beautiful 17 proud 97 rich 61 72 nice
- Step V :** nice 61 life 55 girl 48 family 32 beautiful 17 proud 97 rich 72
- Step VI :** proud 72 nice 61 life 55 girl 48 family 32 beautiful 17 97 rich
- Step VII :** rich 97 proud 72 nice 61 life 55 girl 48 family 32 beautiful 17
36. (3) 37. (4) 38. (3) 39. (1) 40. (2)

41-45.

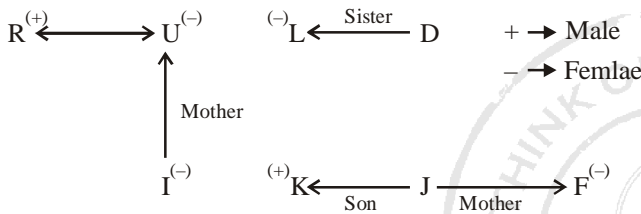
Friend	College	Engineering Branch
A	Z	Mechanical
B	Y	Civil
C	X	Chemical
D	X	Electrical
E	Z	Compter
F	Y	Aeronautical
G	Z	Electronics

41. (4) 42. (1) 43. (5) 44. (3) 45. (2)

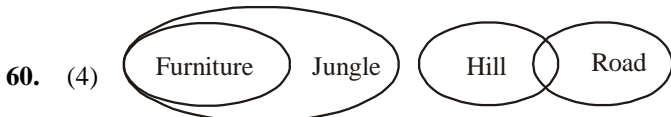
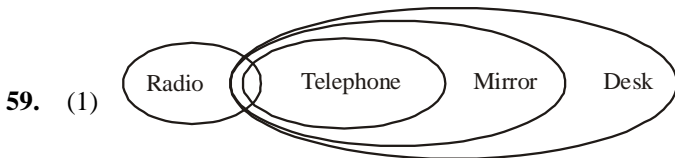
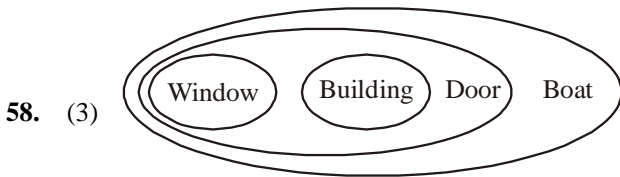
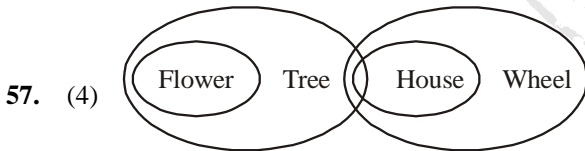
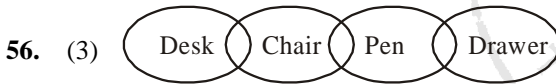
46-50. Sitting arrangement of 8 persons are shown ahead -



46. (1)    47. (3)    48. (5)    49. (4)    50. (B)  
 51. (5) I.  $C < K \rightarrow$  True  
           II.  $B \leq D \rightarrow$  True  
 52. (2) I.  $A \geq J \rightarrow$  False  
           II.  $K > B \rightarrow$  True  
 53. (1) I.  $B > N \rightarrow$  True  
           II.  $: > L \rightarrow$  False  
 54-55.



54. (1)  
 55. (1)



61. (5)    62. (5)    63. (1)    64. (2)    65. (4)

66. (3)  $\frac{2}{3}x - 10 = 40 + \frac{1}{3}x$   
 $\Rightarrow \frac{2}{3}x - \frac{1}{3}x = 50 \Rightarrow \frac{x}{3} = 50$   
 $\therefore x = 150$

67. (4) Let 'x' sweets got each child.  
 $x \times 350 = (x + 5) 325$   
 $\Rightarrow 14x = 13x + 65 \Rightarrow x = 65.$

68. (2) A : B : C : D  
 2 : 7 : 11 : 12  
 $7 + 12 \rightarrow 6650$   
 $10 \rightarrow ?$

$\Rightarrow \frac{10}{19} \times 6650 = 3500$

69. (4)  $18000 \times 10 : 6 \times 24000 : 4 \times 30000$   
 $15 : 12 : 10$   
 $10 \rightarrow 1850$   
 $37 \rightarrow ?$

$\Rightarrow \frac{37}{10} \times 1850 = 6845$

70. (2) Total no. of coins = 140  
 Values ratio = 5 : 8 : 20  
 No. of 25P coins = 20  
 No. of 50P coins = 16  
 No. of 20P coins = 20  
 Then the ratio  $\Rightarrow 20 : 16 : 20$

Total no. of 25P coins =  $140 \times \frac{20}{56} = 50$

71. (1) Total monthly income = 100x

Food + Children education is  $100x \left[ \frac{25}{100} + \frac{15}{100} \right] = 40x$

Remaining amount on recreation and sports, clothes  
 $100x - 40x = 60x$

$\Rightarrow 60x \left[ \frac{40}{100} + \frac{20}{100} \right] = 36x$

Remaining amount left  
 $100x - (40x + 36x) = 24x$   
 $\Rightarrow 24x = 5760 \Rightarrow x = 240.$

$\therefore$  Monthly income =  $100x = 100 \times 240 = 24000.$

72. (3) Original price = 100  
 Increased price = 110

% reduction =  $\frac{110 - 100}{110} \times 100$

$\Rightarrow \frac{10}{110} \times 100 \Rightarrow \frac{100}{11} \Rightarrow 9\frac{1}{11} \%$

73. (3) Discount (D) = 10%  
 Cost price = 100  
 Market price = 120

$$\text{Selling price} = \frac{90}{100} \times 120 = 108$$

$$\text{Profit} = \frac{108 - 100}{100} \times 100 = 8\%$$

74. (1)

75. (4)  $\frac{4800 \times 9 \times 3}{100} = 1296$

Let 'r' is added money.

$$\frac{(4800 + x) \times 3 \times 12}{100} - 1296 = 720$$

$$\Rightarrow \frac{(4800 + x) \times 36}{100} = 2016$$

$$\Rightarrow 4800 + x = 5600 \Rightarrow x = 5600 - 4800 = 800.$$

76. (2) Number of phones (both Nokia and Samsung) sold by

$$\text{store B} = 6400 \times \frac{21}{100} = 1344$$

Number of Nokia phones sold by store A =

$$3000 \times \frac{24}{100} = 720$$

$$\text{Required percentage} = \frac{1344 - 720}{720} = 86\frac{2}{3}\%$$

77. (5) Central angle corresponding to number of cellular phones (both Nokia and Samsung) sold by store D

$$= \frac{33}{100} \times 360^\circ = 118.8^\circ$$

78. (2) Total number of cellphones of Nokia & Samsung sold by store B, C and D

$$= (21 + 15 + 33)\% \text{ of } 6400$$

$$= 6400 \times \frac{69}{100} = 4416$$

Total number of cellphones of Nokia sold by store B, C and D =  $3000 \times (18 + 20 + 30)\%$

$$= 3000 \times \frac{68}{100} = 2040$$

$\therefore$  Average number of cellphones sold of Samsung by store B, C and D

$$= \frac{4416 - 2040}{3} = \frac{2376}{3} = 792$$

79. (2) Number of phones (both Nokia and Samsung) sold by

$$\text{store A} = 6400 \times \frac{21}{100} = 1216$$

Number of phones (Nokia) sold by store B and E

$$= 3000 \times (18 + 8)\% = 3000 \times \frac{26}{100} = 780$$

$$\therefore \text{Required difference} = 1216 - 780 = 436.$$

80. (1) Number of Samsung phone sold by store E

$$= 6400 \times \frac{12}{100} - 3000 \times \frac{8}{100} = 528$$

Number of phone (Samsung and Nokia) sold by store

$$C = 6400 \times \frac{15}{100} = 960$$

$$\therefore \text{Required percentage} = \frac{528}{960} \times 100 = 55\%$$

81. (1) Let Mr. Shindey has ₹ 100x.

$$\text{Distribution towards his wife} = 100x \times \frac{25}{100} = ₹ 25x$$

$$\text{Daughter's share} = (100x - 25x) \times \frac{3}{2+3} = ₹ 45x$$

According to the question,

$$45x = 24300 \text{ or } x = 540$$

$$\therefore \text{Mr. Shindey's total money} = 100 \times 540 = ₹ 54000.$$

82. (3) Let the investment in scheme A and B is ₹ x and ₹ (6100 - x) respectively.

According to the question,

$$\left(1 + \frac{1}{10}\right)^2 - x = \frac{(6100 - x) \times 10 \times 4}{100}$$

$$\text{or } 0.21x = \frac{(24400 - 4x)}{10}$$

$$\text{or } x = ₹ 4000$$

83. (2) Let the quantity of the wine in the cask originally be x litres.

Then, quantity of wine left in cask after 4 operations

$$= \left[ x \left(1 - \frac{8}{x}\right)^4 \right]$$

$$\therefore \left[ \frac{x \left(1 - \frac{8}{x}\right)^4}{x} \right] = \frac{16}{81} = \frac{\text{wine left}}{\text{original quantity of wine}}$$

$$\Rightarrow \left(\frac{x-8}{x}\right)^4 = \left(\frac{2}{3}\right)^4 \Rightarrow \left(\frac{x-8}{x}\right) = \left(\frac{2}{3}\right)$$

$$\Rightarrow 3x - 24 = 2x \Rightarrow x = 24.$$

84. (1) Let the age of son = x year  
 $\therefore$  Mother's age = x + 22 yrs.  
 According to question,  
 Father's age + son's age = Mother's age + 8  
 or Father's age + x = x + 22 + 8  
 or Father's age = 30 years.  
 $\therefore$  Age of father after 4 years = 30 + 4 = 34 years

85. (2) Rate of upstream =  $\frac{36}{5}$  kmph = 7.2 kmph  
 Rate of stream = 2.4 kmph  
 $\therefore$  Rate of downstream = 7.2 + 2.4 + 2.4 = 12 kmph

$$\text{Time to cover 78 kms downstream} = \frac{78}{12} = 6.5 \text{ hr.}$$

86-90.

Category	Mobile Phones	Televisions	Refrigerators	Computes
A	58	150	144	135
B	29	150	144	90
Total (900)	87	300	288	225

86. (2) Total no. of Television (A) + BC (Mobile + Refrigerator) = 150 + 144 + 29 = 323.

87. (2)  $\frac{90}{288} \times 100 = 31.25\% \cong 31\%$

88. (3) Average =  $\frac{58+150+144+135}{4} = 121.75$

89. (3) Ratio = 150 : 135 = 10 : 9

90. (5) Difference = 255 - 29 = 196.

91. (1) Time taken by A to finish the work = 24 days  
 Time taken by B to finish the work

$$= 24 \times \frac{100}{120} = 20 \text{ days}$$

Time taken by C to finish the work

$$= 20 \times \frac{100}{125} = 16 \text{ days}$$

Time taken by B and C together to finish the work

$$= \frac{16 \times 20}{16 + 20} = 8\frac{8}{9} \text{ days}$$

92. (5) Let monthly salary of Pia and Som are 5x and 4x respectively.  
 Spendings of Pia

$$= \left[ 5x \times \frac{3}{5} + 5x \times \frac{15}{100} + 5x \times \frac{18}{100} \right]$$

$$= \left[ 3x + \frac{3}{4}x + \frac{9}{10}x \right] = \frac{93x}{20}$$

According to question,

$$5x - \frac{93x}{20} = 2100$$

$$\text{or, } \frac{7x}{20} = 2100 \Rightarrow x = 6000$$

$$\therefore \text{Monthly salary of Som} = 4 \times 6000 = \text{₹} 24000.$$

93. (4)  $3x^2 + 8x + 4 = 0$  ... (i)

$$\text{or } 3x^2 + 6x + 2x + 4 = 0$$

$$\text{or } 3x(x+2) + 2(x+2) = 0$$

$$\text{or } (x+2)(3x+2) = 0$$

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

$$2y^2 + 11y + 14 = 0$$
 ... (ii)

$$\text{or } 2y^2 + 4y + 7y + 14 = 0$$

$$\text{or } 2y(y+2) + 7(y+2) = 0$$

$$\text{or } (y+2)(2y+7) = 0$$

$$\text{or } y = -2, -\frac{7}{2}$$

On comparing values of x and y

We get  $x \geq y$

94. (5)  $3x^2 + 11x + 10 = 0$  ... (i)

$$\text{or } 3x^2 + 6x + 5x + 10 = 0$$

$$\text{or } 3x(x+2) + 5(x+2) = 0$$

$$\text{or } (x+2)(3x+5) = 0$$

$$\text{or } x = -2, -\frac{5}{3}$$

$$3y^2 + 14y + 11 = 0$$
 ... (ii)

$$\text{or } 3y^2 + 3y + 11y + 11 = 0$$

$$\text{or } 3y(y+1) + 11(y+1) = 0$$

$$\text{or } (y+1)(3y+11) = 0$$

$$\text{or } y = -1, -\frac{11}{3}$$

On comparing values of x and y,

We get that relationship between x and y can't be established.

95. (5)  $x^2 - 12x + 36 = 0$  ... (i)

$$\text{or } (x-6)^2 = 0$$

$$\text{or } x = 6, 6$$

$$y^2 - 11y + 24 = 0$$
 ... (ii)

$$\text{or } y^2 - 3y - 8y + 24 = 0$$

$$\text{or } y(y-3) - 8(y-3) = 0$$

$$\text{or } y = 3, 8$$

On comparing values of x and y,

We get that relationship between x and y can't be established.

$$96. (1) \quad ?^2 = \frac{(2.5)^2 \times (1.6)^2}{(0.8)^2} = 25$$

$$\therefore ? = 5$$

$$97. (4) \quad ?^2 \times 20 = \frac{1081 \times 16}{23} + 528 = 752 + 528$$

$$\Rightarrow ?^2 = \frac{1280}{20} \Rightarrow ?^2 = 64 \Rightarrow ? = 8$$

$$98. (2) \quad \frac{50(680)}{?} = 794 + 906$$

$$\Rightarrow ? = \frac{50 \times 680}{1700} = 20$$

$$99. (3) \quad 110 - 11 = \sqrt{?} \Rightarrow 99 = \sqrt{?}$$

$$\therefore ? = 99^2 = 9801$$

$$100. (2) \quad \sqrt{277 - \sqrt{477 - ?}} = 16$$

$$\Rightarrow 277 - \sqrt{477 - ?} = 256$$

$$\Rightarrow \sqrt{477 - ?} = 21 \Rightarrow 477 - ? = 441$$

$$\therefore ? = 36$$

