

Grand Test
ISP-171201

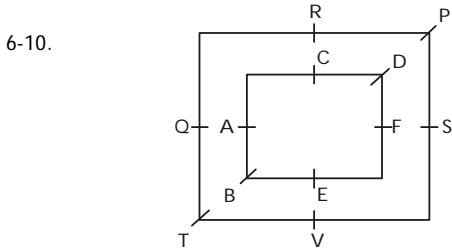
IBPS SO Preliminary

ANSWER KEY

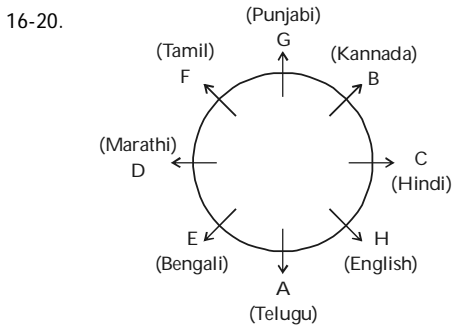
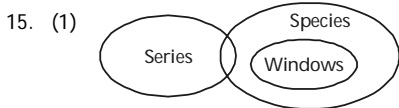
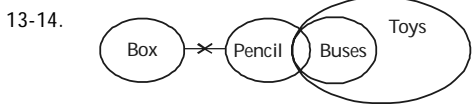
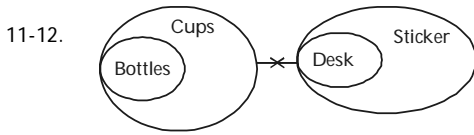
1	(4)	21	(4)	41	(5)	61	(3)	81	(5)	101	(2)	121	(5)	141	(4)
2	(5)	22	(5)	42	(2)	62	(3)	82	(5)	102	(4)	122	(1)	142	(3)
3	(1)	23	(3)	43	(2)	63	(4)	83	(5)	103	(3)	123	(2)	143	(2)
4	(2)	24	(2)	44	(1)	64	(3)	84	(2)	104	(1)	124	(4)	144	(2)
5	(4)	25	(2)	45	(2)	65	(1)	85	(4)	105	(1)	125	(4)	145	(3)
6	(3)	26	(3)	46	(1)	66	(5)	86	(4)	106	(3)	126	(4)	146	(1)
7	(1)	27	(4)	47	(1)	67	(2)	87	(2)	107	(1)	127	(1)	147	(4)
8	(3)	28	(1)	48	(2)	68	(2)	88	(4)	108	(2)	128	(3)	148	(2)
9	(5)	29	(3)	49	(5)	69	(3)	89	(1)	109	(3)	129	(5)	149	(5)
10	(1)	30	(4)	50	(2)	70	(2)	90	(2)	110	(1)	130	(2)	150	(2)
11	(2)	31	(1)	51	(3)	71	(2)	91	(1)	111	(2)	131	(1)		
12	(5)	32	(4)	52	(5)	72	(1)	92	(1)	112	(4)	132	(4)		
13	(2)	33	(2)	53	(4)	73	(3)	93	(1)	113	(3)	133	(2)		
14	(1)	34	(1)	54	(2)	74	(4)	94	(2)	114	(1)	134	(5)		
15	(1)	35	(5)	55	(1)	75	(3)	95	(2)	115	(4)	135	(1)		
16	(5)	36	(5)	56	(1)	76	(3)	96	(3)	116	(5)	136	(5)		
17	(2)	37	(3)	57	(2)	77	(3)	97	(4)	117	(5)	137	(3)		
18	(4)	38	(2)	58	(1)	78	(1)	98	(5)	118	(3)	138	(3)		
19	(2)	39	(5)	59	(5)	79	(2)	99	(3)	119	(1)	139	(2)		
20	(5)	40	(4)	60	(5)	80	(1)	100	(5)	120	(4)	140	(2)		

HINTS & SOLUTIONS

- 1-5. driving → jo is → ho
 easy → ro not → go
 rough/ tough → no/ da and → sa
 dangerous → ai looks/ but → to/ po

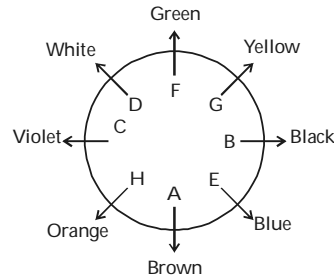


(Persons sitting in inner square are facing outward and persons sitting in outer square are facing inward)



- 25-29. The words are rearranged in increasing order of their length and in case of a tie, they are arranged according to the dictionary, from left to right. Numbers are rearranged in descending order from right to left. Each step arranges a word and a number.
 Input: 19 numerology 48 global 88 xylem 25 telling 79 59 fabricate torcher
 Step - I : Xylem 19 numerology 48 global 25 telling 79 59 fabricate torcher 88
 Step - II : Xylem global 19 numerology 48 25 telling 59 fabricate torcher 79 88.
 Step - III : Xylem global telling 19 numerology 48 25 fabricate torcher 59 79 88
 Step - IV : Xylem global telling torcher 19 numerology 25 fabricate 48 59 79 88
 Step - V : Xylem global telling torcher fabricate 19 numerology 25 48 59 79 88
 Step - VI : Xylem global telling torcher fabricate numerology 19 25 48 59 79 88

46-50.



51. (3) Series is $+23, +(23 \times 2), +(23 \times 3), +(23 \times 4), +(23 \times 5)$ and so on. Next number $739 + 23 \times 6 = 927$.
 52. (5) Series is $\times 1 + 2, \times 2 + 3, \times 3 + 4$ and so on. Next number is $3291 \times 6 + 7 = 19753$.
 53. (4) Series is $\times 1, \times(1 + 4), \times(5 + 4) = \times 9, \times(9 + 4 = 13)$, and so on, Required number = $129285 \times 21 = 2714985$.
 54. (2) Series is $1^4, 2^4, 3^4, 4^4$ and so on; Next number is 2401.
 55. (1) Series is $\times 2 + 6, \times 2 + 6, \times 2 + 6, \times 2 + 6$. Next number is 410.

56. (1) $\sqrt{287}x + \sqrt{25} = 0; 17x + 5 = 0; x = -\frac{5}{17}$

$\sqrt{676}y + 10 = 0; 26y + 10 = 0; y = -\frac{5}{13}, x > y$

$\sqrt{676}y + 10 = 0; 26y + 10 = 0; y = \frac{10}{26}, -\frac{10}{26}$

Clearly $x < y$

57. (2) $8x^2 - 78x + 169 = 0$

$\Rightarrow 8x^2 - 52x - 26x + 169 = 0$

$\Rightarrow 4x(2x - 13) - 13(2x - 13) = 0 \Rightarrow x = \frac{13}{2}, \frac{13}{4}$

$20y^2 - 117y + 169 = 0 \Rightarrow y = \frac{13}{4}, \frac{13}{5}; \therefore x \geq y$

58. (1) $\frac{15}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 11\sqrt{x} \Rightarrow 24 = 11x \Rightarrow x = \frac{24}{11} \approx 2$

Similarly $y = \frac{3}{2} = 1.5$; Clearly $x > y$.

59. (5) $x = \frac{13}{2}, 7; y = 7, \frac{5}{2}$

60. (5) $x^2 - 208 = 233 \Rightarrow x^2 = 233 + 208 = 441$

$\therefore x = \pm 21$

$y^2 - 47 + 371 = 0 \Rightarrow y^2 - 324 = 0 \Rightarrow y^2 = 324$

$\therefore y = \pm 18$; Relation cannot be established.

61. (3) Amount of IR Rays received in 1 minute

$= \frac{36}{100} \times 3600 = 360$ units

Maximum tolerable limit of IR rays = 9720 units

So, maximum time one can be exposed to the sun =

$\frac{9720}{360} = 27$ min.

62. (3) Beta rays in 1 minute of sunshine

$$= \frac{5}{100} \times 3600 = 180 \text{ units}$$
 Beta rays in 10 minutes of sunshine

$$= 180 \times 10 = 1800 \text{ units}$$
 IR rays in 1 minute of sunshine

$$= \frac{10}{100} \times 3600 = 360 \text{ units}$$
 IR rays in 3 minutes of sunshine = $360 \times 3 = 1080 \text{ units}$
 Required ratio = $\frac{1800}{1080} = 1.66 \text{ times}$
63. (4) Beta rays in 1 minute = $\frac{5}{100} \times 3600 = 180 \text{ units}$
 \therefore 30 units of Beta rays = 1 units of vitamin D
 180 units of Beta rays = 6 units of vitamin D
 1 minute of sunshine = 6 units of vitamin D
 \therefore 40 units of vitamin D is generated in $6 \frac{2}{3} \text{ min.}$
64. (3) Amount of gamma rays with ozone layer

$$= \frac{5}{100} \times 3600 = 180$$
, this is 40% of gamma rays, therefore

$$100\% = \frac{180}{40} \times 100 = \frac{1800}{4} = 450$$
65. (1) $20 - 5 = 15$, 15% of 3600 = 540.
66. (5) Unsold units of the company in year 2008
 $= 25 - 17.5 = 7.5 \text{ lacs}$
 Unsold unit of company in year 2011
 $= 30 - 20 = 10 \text{ lacs}$
 Hence required difference = $10 - 7.5 = 2.5 \text{ lacs}$
67. (2) Required avg.
 $= \frac{1}{6} \times (35 + 37.5 + 25 + 40 + 32.5 + 30) \text{ lacs}$
 $= \frac{1}{6} \times 200 = 33 \text{ lacs}$
68. (2) Required ratio = $37.5 : 25 = 3:2$
69. (3) Required percentage = $[(20/27.5) \times 100] = 73\%$
70. (2) Required number = $(37.5 - 30) + (32.5 - 25) \text{ lacs}$
 $= (7.5 + 7.5) \text{ lacs} = 15 \text{ lacs}$
71. (2) Required ratio

$$= \frac{700 + 600 + 720}{750 + 560 + 750} = \frac{2020}{2060} \text{ i.e. } 101 : 103.$$
72. (1) Total number of students from all the institutes in 2002 = $750 + 640 + 680 + 780 + 740 + 620 + 650 = 4860$
 \therefore Required number of students passed

$$= \frac{70}{100} \times 4860 = 3402$$
73. (3) Number of students for all the given years in institute B = $640 + 600 + 620 + 660 + 760 + 740 + 700 = 4720$
 Total number of students passed

$$= \frac{60}{100} \times 4720 = 2832$$

 Hence, average number of students passed

$$= \frac{2832}{7} = 404.57 \approx 405$$
74. (4) Required %

$$= \frac{640}{620 + 580 + 640 + 560 + 650 + 630 + 660} \times 100\%$$

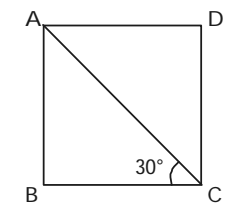
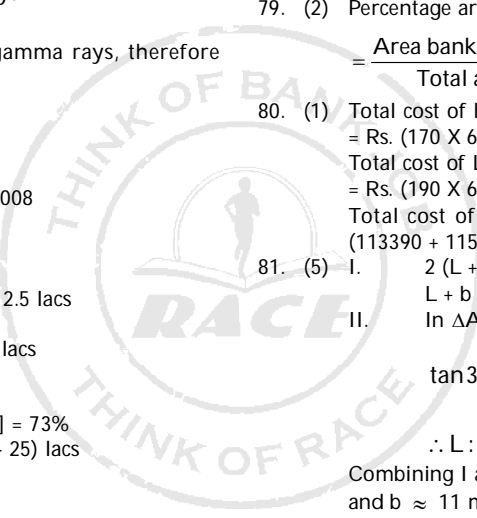
$$= \frac{640}{4340} \times 100\% \approx 14.75\%$$

75. (3) Required difference

$$= (740 + 760 + 690 + 790 + 780 + 650 + 680) - (780 + 700 + 660 + 840 + 720 + 660 + 740)$$

$$= 5090 - 5100 = 5100 - 5090 = 10$$
76. (3) Area of customer transaction room = $23\text{m} \times 29\text{m} = 667 \text{ sq.m}$
 Area of branch manager room = $13\text{m} \times 17\text{m} = 221 \text{ sq.m}$
 Area of Pantry room = $14\text{m} \times 13\text{m} = 182 \text{ sq.m}$
 Area of Server room = $21\text{m} \times 13\text{m} = 273 \text{ sq.m}$
 Area of locker room = $29\text{m} \times 21\text{m} = 609 \text{ sq. m}$
 Total cost of wooden flooring
 $= \text{Rs. } [(170 \times (667 + 221))] = \text{Rs. } (888 \times 170)$
 Total cost of marble flooring
 $\text{Rs. } [(190 \times (182 + 273 + 609))] = \text{Rs. } (190 \times 1064)$
 Required Ratio = $888 \times 170 : 1064 \times 190 = 1887 : 2527$
77. (3) Area of 4 walls and ceiling of branch managers room
 $= 2(lh + bh) + lb = 2[17 \times 12 + 13 \times 12] + 13 \times 17$
 $= 941 \text{ sq.m}$
 Total cost of renovating = $\text{Rs. } 190 \times 941 = \text{Rs. } 178790$
78. (1) Total area of bank is 2000 sq. m
 Total area of bank to be renovated = 1952 sq. m
 Remaining Area = $2000 - 1952 = 48 \text{ sq. m}$
 Total cost Remaining Area to be carpeted at the rate of Rs. 110/sq. meter = $\text{Rs. } (48 \times 110) = \text{Rs. } 5,280$
79. (2) Percentage area of bank not to be renovated

$$= \frac{\text{Area bank not be removed}}{\text{Total area of bank}} \times 100 = \frac{48}{2000} \times 100 = 2.4\%$$
80. (1) Total cost of hall of customer transaction
 $= \text{Rs. } (170 \times 667) = \text{Rs. } 113,390$
 Total cost of Locker area
 $= \text{Rs. } (190 \times 609) = \text{Rs. } 115710$
 Total cost of customer transaction hall + locker area = $\text{Rs. } (113390 + 115710) = \text{Rs. } 229100$
81. (5) I. $2(L + b) = 60$
 $L + b = 30 \dots(1)$
 II. In $\triangle ABC$
 $\tan 30^\circ = \frac{b}{L}$
 $\therefore L : b = \sqrt{3} : 1 \dots(2)$
 Combining I and II, we get the value of $L \approx 19$
 and $b \approx 11 \text{ m.}$
 \therefore Area of rectangle = $19 \times 11 = 209 \text{ m}^2$
 III. Cost = Rs. 125 per square metre
82. (5) If 8 men and 6 women can complete the work in 21 days, then 1.5 (8 men + 6 women) = 12 men + 9 women can complete the work in $\frac{21 \times 2}{3} = 14$ days. Hence, no further information is required.
83. (5)
84. (2) $A \Rightarrow \frac{P + M + C}{3} = 71 \dots(1)$
 $B \Rightarrow C + P = 142 \dots(2)$
 $C \Rightarrow P + M = 162 \dots(3)$
 From (1) and (2) $C = 71 \times 3 - 162 = 51$
 Therefore, for answering the question only statements (A) and (C) are required.
85. (4) Selling price = $(100 - 20)$
 $= 80\% \text{ of Rs. } 812.50 = \text{Rs. } 650$
 Profit percentage = $\frac{\text{Profit}}{\text{CP} (= \text{SP} - \text{Profit})} \times 100$
 As the profit is already given, if either CP or SP is known, profit percentage can be obtained. So, the answer is (4).



86. (4) Let the present ages of Deepak, rubal and Vinay be $3x$, $4x$ and $5x$ years respectively.

$$\text{Now, } (3x + 4x + 5x)/3 = 28 \Rightarrow 12x = 84 \Rightarrow x = 84/12 = 7$$

$$\begin{aligned} \text{So, required Sum} &= (3x + 4x) + (15 + 15) \text{ years} \\ &= (7x + 30) \text{ years} \\ &= (7 \times 7 + 30) \text{ years} = 79 \text{ years} \end{aligned}$$

87. (2) Area of the circle = $\frac{22}{7} \times (14)^2 = 616 \text{ cm}^2$

$$\text{Area of the rectangle} = 1166 - 616 = 550 \text{ cm}^2$$

$$\text{Breadth of the rectangle} = \frac{550}{25} = 22 \text{ cm}$$

So, required sum

$$= 2 \times \frac{22}{7} \times 14 + 2(25 + 22) = 182 \text{ cm}$$

88. (4) Let the length of the platform be x metres.
Then, Speed of train = 120 kmph

$$= 120 \times \frac{5}{18} = \frac{100}{3} \text{ mps}$$

$$\therefore 320 + x = \frac{100}{3} \times 24 \Rightarrow x = 800 - 320 = 480 \text{ m}$$

Required speed of man

$$= \frac{480}{4 \times 60} = 2 \text{ m/s}; 2 \times \frac{18}{5} = 7.2 \text{ km/hr.}$$

89. (1) Let the maximum marks of the examination be x .
Now, 54% of $x = 456 - 24 = 432$

$$\Rightarrow x = \frac{432 \times 100}{54} = 800$$

$$\text{Minimum passing marks} = \frac{34}{100} \times 800 = 272$$

$$\text{Required difference} = 456 - 272 = 184$$

90. (2) Let the principal be Rs. x . Then,

$$\Rightarrow \frac{x \times 12 \times 6}{100} = \text{Rs. } 7200 \Rightarrow x = \text{Rs. } 10000$$

$$\text{Required CI} = 10000 \left[\left(1 + \frac{5}{100} \right)^2 - 1 \right] = \text{Rs. } 1025$$

91. (1) Let the length of train A and train B be x and $2x$, then speed of

$$\text{train A} = \frac{x}{25}$$

$$\text{Speed of train B} = \frac{2x}{75}$$

$$\text{Required ratio} = \frac{x}{25} : \frac{2x}{75} = 3 : 2$$

92. (1) 12 kg apples = Rs. 1500

$$1 \text{ kg apple} = \frac{1500}{12} = \text{Rs. } 125$$

$$1 \text{ kg nuts} = \frac{20 \times 125}{10} = \text{Rs. } 250$$

$$\begin{aligned} \text{So, Anu's annual income} \\ &= \text{Rs. } 250 \times 34 \times 12 = \text{Rs. } 102000 \end{aligned}$$

93. (1) He sells 920 grams of rice and gains 80 grams

$$\text{Gain \%} = 80/920 \times 100 = 8.69\%$$

94. (2) 1 girl's 1 days work = $1/(8 \times 4) = 1/32$

$$1 \text{ boy's 1 day's work} = 1/(3 \times 2) = 1/6$$

$$1 \text{ woman's 1 days work} = 1/(5 \times 4) = 1/20$$

Clearly, girls are less efficient i.e., they are taking the most time.

95. (2) Let the number of days he was absent be x days.

$$180(40 - x) - 20x = 5200$$

$$7200 - 180x - 20x = 5200$$

$$7200 - 200x = 5200$$

$$x = 2000/200 = 10 \text{ days}$$

96. (3) C.I for 1st year = S. I for 1st year

$$= 10\% \text{ of } 3000 = 300$$

$$P \text{ for 2nd year} = (3000 + 300) - 1000 = 2300$$

$$C. I \text{ for 2nd year} = S. I \text{ of } 2300 \text{ at } 10\% = 230$$

$$P \text{ for 3rd year} = (2300 + 230) - 1000 = 1530$$

$$C. I \text{ for 3rd year} = 10\% \text{ of } 1530 = 153$$

$$\text{Total amount pay at the end of 3rd year}$$

$$= 1530 + 153 = 1683$$

97. (4) For half yearly $R = 10\%$, $T = 4$ years

$$\text{C.I. for 2 years} = P \left[\left(1 + \frac{20}{100} \right)^2 - 1 \right]$$

$$= P [(1.2)^2 - 1] = P [0.44]$$

C.I. for 2 years and calculated half yearly

$$= P \left[\left(1 + \frac{10}{100} \right)^4 - 1 \right]$$

$$= P [(1.1)^4 - 1] = P [1.4641 - 1] = P(0.4691)$$

$$\text{Now, } P(0.4641) - P(0.44) = 482$$

$$\Rightarrow P(0.0241) = 482 \Rightarrow P = 20000$$

98. (5) Efficiency Days

4	A	16	
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5	B	64/5	LCM 64
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2	C	32	
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(A + B + C) work together for 4 days

$$= 4 \times (4 + 5 + 2) = 44$$

C work alone, last 3 days = $3 \times 2 = 6$

Remaining work done by (B + C)

$$= \frac{64 - 50}{7} = \frac{14}{7} = 2 \text{ days}$$

Total days = $4 + 3 + 2 = 9$ days.

99. (3) Let A complete the work in x days.

And B complete the work in y days.

$$\text{So, By 1st case, } \frac{2}{x} + \frac{9}{y} = 1 \quad \dots(1)$$

$$\text{And by 2nd case, } \frac{3}{x} + \frac{6}{y} = 1 \quad \dots(2)$$

From Eq. (1) & (2), $y = 15$ days

100. (5) Efficiency, 1st group = 2nd group

$$2m \times 1 \text{ hr.} = 3m \times 1.5 \text{ hr.} \Rightarrow 4m = 9m$$

$$\text{Or } 38m = \frac{9}{4} \times 38m = \frac{9}{2} \times 19m$$

$$\frac{M_1 \times D_1 \times H_1}{W_1} = \frac{M_2 \times D_2 \times H_2}{W_2}$$

$$\Rightarrow \frac{38m \times 6 \times 12}{1} = \frac{57m \times 8 \times x}{2}$$

$$\Rightarrow \frac{9}{2} \times 19m \times 6 \times 12 = 57m \times 4 \times x \Rightarrow x = 27 \text{ days}$$