

IBPS PO Preliminary Grand Test –IPP-170759

HINTS & SOLUTIONS

31. (1) $\frac{5555}{50} = 111.1 \approx 110$

32. (1) $(18)^3 = 5832 \approx 5830$

33. (3) $23 \times 19 \times 8 \approx 3500$

34. (4) $9999 \times \frac{1}{99} \times \frac{1}{9} = 11.2 \approx 11$

35. (2)

36. (1) Volume of the sphere

$$= \frac{4}{3} \pi r^3 = \frac{4}{3} \times \frac{22}{7} \times 210 \times 210 \times 210 = 38,808,000 \text{ m}^3$$

$$\therefore \text{Volume of the wire} = 38,808,000$$

$$\Rightarrow \pi r^2 h = 38,808,000 \Rightarrow r^2 = \frac{38808000}{105 \times 1000} \times \frac{7}{22}$$

$$\Rightarrow r^2 = 117.6 \Rightarrow r = 10.84 \text{ m.}$$

37. (4) Ratio of Ram and Shyam profit

$$= \left[(40000 \times 12) + (90000 \times 12) \right] : \left[(80000 \times 12) \right]$$

$$= 156 : 96 = 13 : 8$$

\therefore Share of Shyam the profit

$$= \frac{8}{21} \times 98700 = \text{Rs. } 37600$$

38. (3) Let the sum be Rs. x

$$4781.70 = x \times 1.05 \times 1.1 \times 1.15$$

$$x = \frac{4781.70}{1.05 \times 1.1 \times 1.15} = \text{Rs. } 3600$$

39. (2) Total number of ways without restriction = 6!

Total number of ways after taking two girls as one single entry = 5!

Two girls can sit in 2! Ways among themselves.

Total number of ways that two girls don't together

$$= 6! - 5! \times 2! = 480$$

40. (3) Total number of cards = 52

$$n(S) = {}^{52}C_2 = 1326$$

There are four King cards. So, number of ways of drawing two cards from it = $n(E) = {}^4C_2 = 6$

$$\therefore P(E) = \frac{6}{1326} = \frac{1}{221}$$

41. (2) LCM of 6, 8, 9, 12 and 18 is 72

In an hour, they will ring together $3600/72 = 50$ times

42. (3) Let initial price of one kg sugar be Rs. 100

Now, increased price of one kg sugar Rs. 160

Rs. 160 \rightarrow 1 kg

$$\text{Rs. } 100 \rightarrow \frac{1}{160} \times 100 = \frac{5}{8} \text{ kg}$$

$$\text{Reduction} = 1 - \frac{5}{8} = \frac{3}{8} \text{ kg}$$

In one kg, reduction is $3/8$ kg

$$\therefore \text{In 100 kg reduction} = \frac{3}{8} \times 100 = \frac{300}{8} = 37.5\%$$

$$\text{Other Approach: } \frac{60}{100+60} \times 100 = \frac{75}{2} = 37.5\%$$

43. (2)

45. (2)

47. (4)

48. (4)

Average number of employees working in organisation D

$$= \frac{(388 + 432 + 406 + 454 + 440 + 418)}{6} = \frac{2538}{6} = 423$$

49. (5) Reqd. Percent = $\frac{37700}{(2016)}\% = 18.7\% = 20\%$ (Approx.)

50. (1) Required ratio

= No. of employees working in organization A in 2013

No. of employees working in organization E in 2013

$$= \frac{400}{512} = \frac{25}{32} = 25 : 32$$

51. (3) Reqd. difference

$$= \left(\frac{247 + 324 + 331 + 375 + 345 + 400}{6} \right)$$

$$= \left(\frac{197 + 225 + 263 + 377 + 396 + 432}{6} \right)$$

$$= \left(\frac{2022}{6} \right) - \left(\frac{1890}{6} \right) = 337 - 315 = 22$$

52. (2)

Reqd. difference = (298 + 385 + 412 + 404 + 323 + 356)

$$= (388 + 432 + 406 + 454 + 440 + 418)$$

$$= (2178) - (2538) = 360$$

53. (2)

% profit = 35%

$$\text{Expenditure} = \text{income} \times \frac{100}{100 + \%P}$$

$$\text{Thus, } 91.8 \times \frac{100}{135} = \text{Rs. } 68 \text{ lakh}$$

54. (4)

$$\frac{E_1}{E_2} = \frac{6}{5} \text{ So, } E_1 = 6, E_2 = 5$$

Now,

$$I_1 = E_1 \times \frac{100+30}{100} = E_1 \times 1.3$$

$$I_2 = E_2 \times 1.2$$

$$\frac{I_1}{I_2} = \frac{E_1}{E_2} \times \frac{1.3}{1.2} = \frac{6 \times 1.3}{5 \times 1.2} = \frac{78}{60}$$

$$I_1 : I_2 = \frac{13}{10} = 13 : 10$$

55. (5)

56. (2)

%P_A = 20%

$$\text{Expenditure}_A = \frac{I}{1.2} = \frac{90}{1.2} = 7.5 \text{ lakhs}$$

%P_B = 35%

$$\text{Income}_B = 90 \times 1.35 = 135 \text{ lakhs}$$

$$\text{Ratio} = \frac{135}{75} = \frac{9}{5}$$

57. (1) Let the expenditure be x.

$$\text{Income} = x \times \frac{100+25}{100} = 1.25x$$

$$\therefore \% = \frac{x}{1.25x} \times 100 = \frac{100}{1.25} = 80\%$$

58. (2) 9, 11, 15, ?, 39, 71
 $9 \times 1 + 2 \Rightarrow 11$
 $11 \times 1 + 2^2 \Rightarrow 15$
 $15 \times 1 + 2^3 \Rightarrow 15 \times 1 + 8 = \boxed{23}$
 $23 \times 1 + 2^4 \Rightarrow 39$

59. (5)
$$\begin{array}{cccccc} 7 & 8 & 12 & 21 & 37 & 62 \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ +1^2 & +2^2 & +3^2 & +4^2 & +5^2 & \end{array}$$

60. (4)
$$\begin{array}{cccccc} 5 & 6 & 16 & 57 & 244 & 1245 \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ \times 1+1^2 & \times 2+2^2 & \times 3+3^2 & \times 4+4^2 & \times 5+5^2 & \end{array}$$

61. (3)
$$\begin{array}{cccccc} 3 & 19 & 97 & 391 & 1177 & 2359 \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow \\ \times 6+1 & \times 5+2 & \times 4+3 & \times 3+4 & \times 2+5 & \end{array}$$

62. (1)
$$\frac{261}{14} \times 81 - 53 = (?)^2$$

$$\Rightarrow 729 - 53 = (?)^2$$

$$\Rightarrow 676 = (?)^2 \Rightarrow ? = 26$$

63. (5)
$$\frac{23}{46} \times \frac{74}{10} + 729 - 251 = 3.7 + 729 - 251 = 481.7$$

64. (2)
$$5 + 9 - 6\sqrt{5} = ? - 4\sqrt{5} - 2\sqrt{5}$$

$$\Rightarrow 5 + 9 - 6\sqrt{5} = ? - 6\sqrt{5} \Rightarrow ? = 14$$

65. (4)
$$\frac{(4^2 \times 4)^3}{4^5} \times (4^2)^2 = (4)^?$$

$$\Rightarrow \frac{4^9 \times 4^7}{4^5} = (4)^? \Rightarrow ? = 8$$

66. (3) Check for (1):

$$\underline{P \geq K \geq S < R \leq M < L}$$

 Combining

$P \geq S < R < L$
 So, this expression is true.
 Check for (2):

$$\underline{P \geq K - S \leq R - M < L}$$

 Combining

$P \geq S \leq R < L$
 So, this expression is also true.
 Checking for (3):

$$\underline{P < K \geq S - R \leq M \leq L}$$

 No relation Combining

$S - R \leq L$
 Thus this expression does not fit.
 Check for (4):

$$\underline{P \geq K \geq S - R < M < L}$$

 Combining

$P \geq S - R < L$
 So, this expression is true for the given conditions.

67. (1) Check for (1):

$$\underline{P > T > S - R < N \leq M}$$

 Combining Combining

$P > S - R < M$

So, the given statements are true in this expression.
 Check for (2):

$$\underline{P > T < S - R \leq N < M}$$

 Comparison is not possible Combining R < M

But can't say, $P \neq S$
 Because, if $T - 6$ and $P - 8$, $S - 8$
 then also $P > T < S$.
 $8 > 6 < 8$ holds true.

Thus can't say exactly $P \neq S$
 Therefore conditions not satisfied.
 Check for (3):

$$\underline{P - T < S > R > N \leq M}$$

$P < S > R > N \leq M$
 Thus $R < M$ does not hold true here.

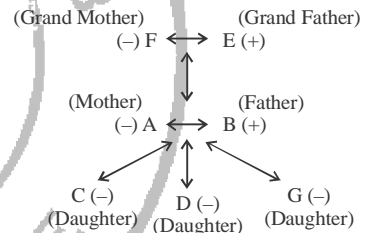
Check for (4):

$$\underline{P < T > S < R \leq N \geq M}$$

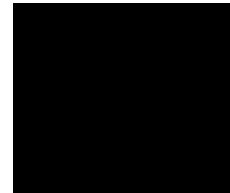
Therefore, following the same reason, as for (2), this expression also does not hold good for the given conditions.

- 68. (4)
- 70. (4)
- 72. (4)
- 74. (3)
- 76-80.

- 69. (3)
- 71. (2)
- 73. (1)
- 75. (1)



	Cor.
A	R
B	Q
C	Q
D	P
E	Q
F	P
G	R



81-85.

