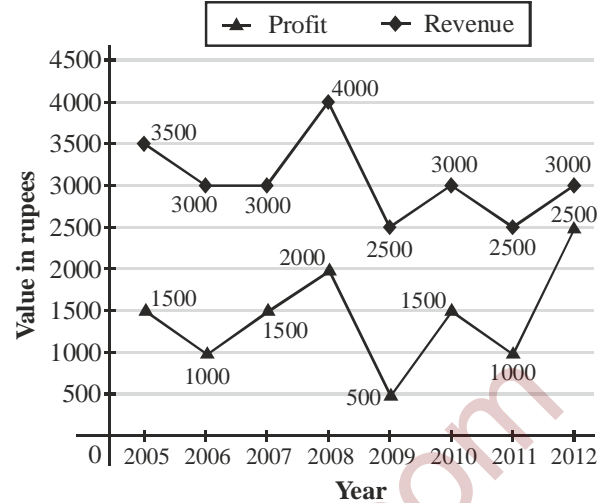
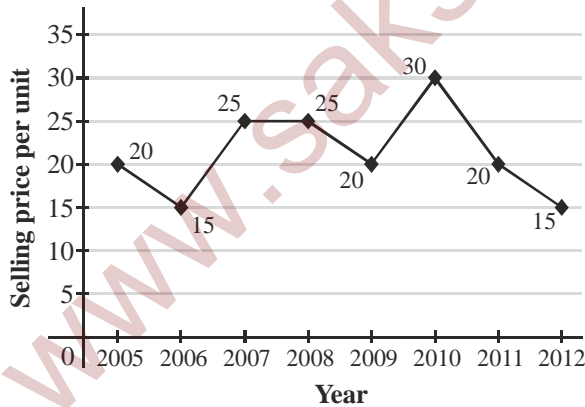


- 1) ₹ 659 crore 2) ₹ 719 crore
 3) ₹ 675.7 crore 4) ₹ 710 crore
 5) ₹ 778 crore
12. What is the sum of the incomes of all the four companies in the year 2013?
- 1) ₹ 1086.67 crore 2) ₹ 959.75 crore
 3) ₹ 1051.6 crore 4) ₹ 897 crore
 5) None of these
13. The total profit of all the four companies in the year 2010 is approximately what percent of the sum of their expenditures in the same year?
- 1) 14.39% 2) 19.33%
 3) 17.24% 4) 21.39%
 5) 25.07%
14. What is the ratio of the sum of the expenditures of Company B during all the given years to that of Company D in the same period?
- 1) 21 : 25 2) 23 : 20
 3) 20 : 23 4) 25 : 21
 5) None of these
15. What is the ratio of the sum of the income of Company C in the year 2011 and 2013 together to that of Company A during the same period?
- 1) 60 : 41 2) 41 : 60
 3) 61 : 42 4) 105 : 101
 5) 210 : 151

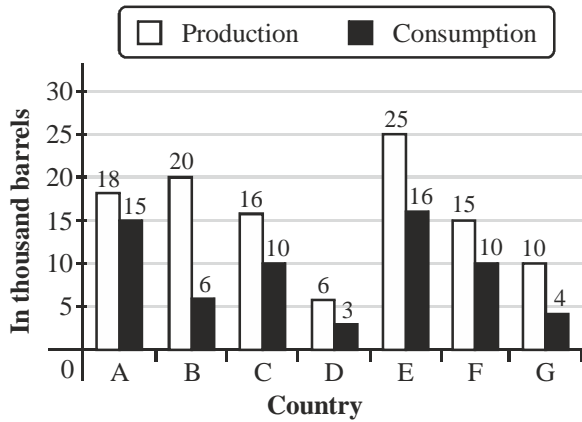
Directions (Q. 66-70): Answer the questions based on the following graphs assuming that there is no fixed cost component and all the units produced are sold in the same year.



16. In which of the following years per unit cost is the maximum?
- 1) 2006 2) 2008
 3) 2007 4) 2010
 5) 2012
17. What is the average of quantities sold during the period 2006 to 2010?
- 1) 117 2) 163
 3) 129 4) 176
 5) 141
18. If the selling price per unit decreases by 25% during 2005 to 2008 and the cost per unit increases by 25% during 2009 to 2012, then during how many years there is no profit or loss?
- 1) Two 2) Four
 3) One 4) Five
 5) Three
19. If the selling price per unit decreased by 25% during 2005 to 2008 and the cost price per unit increased by 25% during 2009 to 2012 then the cumulative profit for the entire period 2005 to 2012 decreased by
- 1) ₹ 3375 2) ₹ 5325
 3) ₹ 3765 4) ₹ 4875
 5) None of these
20. What is the average cost during the period 2005 to 2012?
- 1) ₹ 1625 2) ₹ 1725
 3) ₹ 1475 4) ₹ 1800
 5) None of these

Directions (Q. 71-75): Study the following bar graph carefully and answer the questions given below.

The production of Crude Oil (in thousand barrels) in different countries and the consumption (in thousand barrels) in different countries.

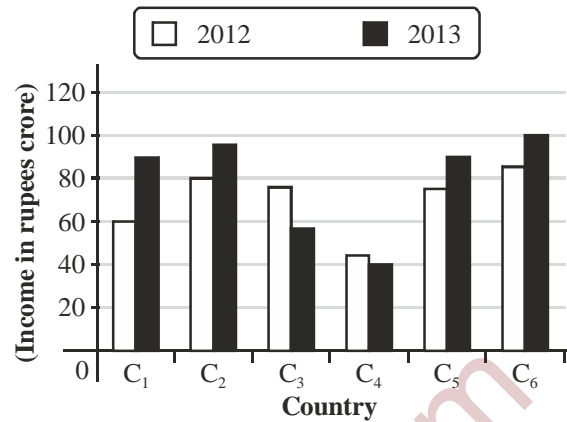


21. What is the difference between the production of Crude Oil from Country C, E, F and A together and the consumption of Crude Oil from Country A, B, D and G together?
 - 1) 436500 barrels
 - 2) 46000 barrels
 - 3) 40000 barrels
 - 4) 52000 barrels
 - 5) 59600 barrels
22. What is the average of excess Crude Oil (Production - Consumption) in different countries together? (Approx)
 - 1) 7328
 - 2) 7965
 - 3) 5429
 - 4) 6571
 - 5) None of these
23. The consumption of Crude Oil from country A, B and E together is what percent of the total production of Crude Oil from country A, C, D and G?
 - 1) 74%
 - 2) 77%
 - 3) 69%
 - 4) 61%
 - 5) 57%
24. In which country, the difference between the production of Crude Oil and the consumption of Crude Oil is the maximum?
 - 1) C
 - 2) G
 - 3) E
 - 4) D
 - 5) B
25. What is the ratio of the excess Crude Oil from Country B and G together to the production of Crude Oil in Country E and F together?
 - 1) 3 : 4
 - 2) 1 : 1
 - 3) 2 : 3
 - 4) 1 : 2
 - 5) 5 : 7

Directions (Q. 76-80): The bar graph given below shows the income in foreign trade (Exports and Imports) of six countries during two consecutive years 2012 and 2013.

Income from foreign trade of six countries

C₁, C₂, C₃, C₄, C₅ and C₆ in 2012 to 2013.



26. What is the ratio of the total income of Country C₂ during both the years to the total income of Country C₆ during both the years?
 - 1) 35 : 37
 - 2) 23 : 25
 - 3) 29 : 31
 - 4) 17 : 19
 - 5) 19 : 23
27. The total income of Country C₁ during both the years is what percent of the total income of Country C₅ during both the years?
 - 1) 94.63%
 - 2) 87.65%
 - 3) 90.91%
 - 4) 93.02%
 - 5) None of these
28. The average income of country C₁, C₂ and C₃ together in 2012 is what percent of the average income of country C₂, C₄ and C₅ together in 2013?
 - 1) 89.75%
 - 2) 94.63%
 - 3) 93.27%
 - 4) 95.56%
 - 5) 96.25%
29. What is the ratio of the average income of all the countries for the year 2012 to that for the year 2013?
 - 1) 33 : 37
 - 2) 49 : 57
 - 3) 41 : 45
 - 4) 39 : 43
 - 5) 42 : 47
30. What is the percentage growth of the income of country C₅ from 2012 to 2013?
 - 1) 25%
 - 2) 19%
 - 3) 20%
 - 4) 22%
 - 5) 27%
31. Four persons A, B, C and D are to speak at a school along with 5 other persons. If they all speak in random order, then the probability that A speaks before B, B speaks before C and C speaks before D is
 - 1) $\frac{1}{24}$
 - 2) $\frac{25}{38}$
 - 3) $\frac{7}{18}$
 - 4) $\frac{52}{79}$

SOLUTIONS

IBPS Clerks Main Practice Test 9

1. (2)
$$\begin{array}{cccccc} 7716 & 2571 & 855 & 282 & 90 & 25 \\ \hline & \div 3 -1 & \div 3 -2 & \div 3 -3 & \div 3 -4 & \div 3 -5 \end{array}$$

2. (2) The series is
 $\times 1 + 2 \times (1)^2, \quad \times 2 + 2 \times (2)^2,$
 $\times 3 + 2 \times (3)^2, \quad \times 4 + 2 \times (4)^2,$
 $\times 5 + 2 \times (5)^2, \quad \times 6 + 2 \times (6)^2, \dots$

i.e., $8 \times 1 + 2 \times 1^2 = 10$
 $10 \times 2 + 2 \times 2^2 = 28$
 $28 \times 3 + 2 \times 3^2 = 102$
 $102 \times 4 + 2 \times 4^2 = 440$
 $440 \times 5 + 2 \times 5^2 = 2250$
 $2250 \times 6 + 2 \times 6^2 = 13572$

3. (3) The series
 $+11^2 + 1, +9^2 + 3, +7^2 + 5, +5^2 + 7, \dots$

i.e.,

$$\begin{array}{cccccc} 3 & 125 & 209 & 263 & 295 & 313 & 325 \\ \hline & 11^2 + 1 & 9^2 + 3 & 7^2 + 5 & 5^2 + 7 & 3^2 + 9 & 1^2 + 11 \end{array}$$

4. (1) The series $+(17)^2, -(15)^2, +(13)^2, -(11)^2, \dots$

i.e.,
$$\begin{array}{cccccc} 17 & 306 & 81 & 250 & 129 & 210 \\ \hline & +17^2 & -15^2 & +13^2 & -11^2 & +9^2 \end{array}$$

5. (4) The series
 $(+7)^3, (+6)^3, (+5)^3, (+4)^3, (+3)^3, (+2)^3, \dots$

i.e.,

$$\begin{array}{cccccc} 7 & 350 & 566 & 691 & 755 & 782 & 790 \\ \hline & +(7)^2 & +(6)^2 & +(5)^2 & (4)^2 & +(3)^2 & +(2)^2 \end{array}$$

6. (1) Given $6x + 3y = 7xy \dots (i)$

On dividing both sides by xy , we get

$$\frac{6}{y} + \frac{3}{x} = 7 \dots (ii)$$

Again, $3x + 9y = 11xy \dots (iii)$

On dividing both sides in equation (iii) by xy , we get

or, $\frac{3}{y} + \frac{9}{x} = 11 \dots (iv)$

Now, let $\frac{1}{x} = u$ and $\frac{1}{y} = v$

Then, $6v + 3u = 7 \dots (v)$

$3v + 9u = 11 \dots (vi)$

Solving (v) & (vi), we get

$\therefore u = 1$ and $v = \frac{2}{3}$

$\therefore u = \frac{1}{x} = 1$

or, $v = \frac{1}{y} = \frac{2}{3}$

or, $x = 1 \quad \therefore y = \frac{3}{2} = 1.5$

Hence $x < y$

7. (5) I. $5^{x+1} + 5^{2-x} = 5^3 + 1$

$5^x \times 5 + 5^2 \times 5^{-x} = 126$

$5^x \times 5 + \frac{25}{5^x} = 126$

Let $5^x = u$ (say)

Then, $5u^2 - 126u + 25 = 0$

or, $5u^2 - 125u - u + 25 = 0$

or, $5u(u - 25) - 1(u - 25) = 0$

or, $(u - 25)(5u - 1) = 0$

or, $u = 25, u = \frac{1}{5}$

Now, $u = 5^x$ or, $5^x = 5^2$

$\therefore x = 2$

Again, $u = \frac{1}{5} = 5^{-1}$

$\therefore 5^x = 5^{-1}$

$\therefore x = -1$

II. $y^2 - 2y - 3 = 0$

or, $y^2 - 3y + y + 3 = 0$

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

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

$$y = -1, 3$$

Hence, relation can't be established between x and y.

$$8. \quad (5) \quad \text{I. } 8x^2 - 22x - 21 = 0$$

$$\text{or, } 8x^2 - 28x + 6x - 21 = 0$$

$$\text{or, } 4x(2x-7) + 3(2x-7) = 0$$

$$\text{or, } (2x-7)(4x+3) = 0$$

$$\text{or, } 2x-7 = 0$$

$$\text{Again, } 4x+3 = 0$$

$$\text{or, } x = \frac{7}{2}, x = -\frac{3}{4}$$

$$\text{II. } \frac{4}{y} - 3 = \frac{5}{2y+3}$$

$$\text{or, } \frac{4-3y}{y} = \frac{5}{2y+3}$$

$$\text{or, } (4-3y)(2y+3) = 5y$$

$$\text{or, } 6y^2 + 6y - 12 = 0$$

$$\text{or, } y^2 + y - 2 = 0$$

$$\text{or, } y^2 + 2y - y - 2 = 0$$

$$\text{or, } y(y+2) - 1(y+2) = 0$$

$$\text{or, } y = 1, -2$$

\therefore Relation cannot be established between x and y

$$\text{or, } 5x(2x-1) + 1(2x-1) = 0$$

$$\text{or, } x = \frac{1}{2}, -\frac{1}{5}$$

$$\text{II. } 30y^2 + 11y + 1 = 0$$

$$\text{or, } 30y^2 + 6y + 5y + 1 = 0$$

$$\text{or, } 6y(5y+1) + 1(5y+1) = 0$$

$$\text{or, } (5y+1)(6y+1) = 0$$

$$\text{or, } y = -\frac{1}{5}, -\frac{1}{6}$$

\therefore No relation can be established between x and y.

$$9. \quad (2) \quad \text{I. } 4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$$

$$\text{Here, } 4\sqrt{3} \times (-2\sqrt{3}) = -24$$

$$\text{and } 8 \times -3 = -24 \text{ and } 8 + (-3) = 5$$

$$\therefore 4\sqrt{3}x^2 + 5x - 2\sqrt{3} = 0$$

$$\text{or, } 4\sqrt{3}x^2 + 8x - 3x - 2\sqrt{3} = 0$$

$$\text{or, } 4x(\sqrt{3}x+2) - \sqrt{3}(\sqrt{3}x+2) = 0$$

$$\text{or, } (4x - \sqrt{3})(\sqrt{3}x+2) = 0$$

$$\text{or, } \sqrt{3}x+2 = 0$$

$$\text{And } x = \frac{\sqrt{3}}{4} \text{ or } x = \frac{-2}{\sqrt{3}}$$

$$\text{II. } y^2 + 5y + 6$$

$$\text{or, } y^2 + 3y + 2y + 6 = 0$$

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

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

$$\text{or, } y = -2, -3$$

$$\therefore x > y$$

$$10. \quad (5) \quad \text{I. } 10x - \frac{1}{x} = 3$$

$$\text{or, } 10x^2 - 3x - 1 = 0$$

$$\text{or, } 10x^2 - 5x + 2x - 1 = 0$$

11. (5) $\text{Expenditure} = \frac{\text{profit} \times 100}{\text{profit \%}}$
- Expenditure of company A
- $$= \frac{40}{25 \times 100} = \text{Rs. 160 crore}$$
- Similarly, in B = $\frac{50}{12.5} \times 100 = \text{Rs. 400 crore}$
- In company C = $\frac{30}{20} \times 100 = \text{Rs. 150 crore}$
- In company D = $\frac{20}{30} \times 100 = \text{Rs. 66.67 crore}$
- \therefore Total expenditure
- $$= 160 + 400 + 150 + 66.67$$
- $$= 776.67 \approx 778 \text{ crore}$$
12. (1) $\text{Income} = \frac{\text{profit} (100 + p\%)}{p\%}$
- Income of company A
- $$= \frac{60(100 + 40)}{40} = \text{Rs. 210 crore}$$
- Income B
- $$= \frac{50(100 + 30)}{30} = \text{Rs. 216.67 crore}$$
- Income C
- $$= \frac{70(100 + 20)}{20} = \text{Rs. 420 crore}$$
- Income D
- $$= \frac{40(100 + 20)}{20} = \text{Rs. 240 crore}$$
- \therefore Total income = $210 + 216.67 + 420 + 240$
- $$= \text{Rs. 1086.67 crore}$$
13. (3) Expenditure of company A₂₀₁₀
- $$= \frac{30 \times 100}{15} = \text{Rs. 200 crore}$$
- $$\text{Exp}_B = \frac{20 \times 100}{25} = \text{Rs. 80 crore}$$
- $$\text{Exp}_C = \frac{40 \times 100}{20} = \text{Rs. 200 crore}$$

$$\text{Exp}_D = \frac{10 \times 100}{10} = \text{Rs. 100 crore}$$

\therefore Total expenditure = Rs. 580 crore

$$\text{Total profit} = 30 + 20 + 40 + 10$$

$$= \text{Rs. 100 crore}$$

$$\therefore \text{Reqd \%} = \frac{100}{580} \times 100 = 17.24\%$$

14. (5) Required ratio

$$= \frac{\frac{20}{24} \times 100 + \frac{50}{12.5} \times 100 + \frac{20}{30} \times 100 + \frac{50}{30} \times 100}{\frac{10}{10} \times 100 + \frac{20}{30} \times 100 + \frac{60}{20} \times 100 + \frac{40}{20} \times 100}$$

$$= \frac{80 + 400 + \frac{200}{3} + \frac{500}{3}}{100 + \frac{200}{3} + 300 + 200}$$

$$= \frac{240 + 1200 + 200 + 500}{3} \times \frac{3}{300 + 200 + 900 + 600}$$

$$= \frac{2140}{2000} = \frac{107}{100} = 107 : 100$$

15. (1) Required ratio

$$= \frac{\frac{30 \times 120}{20} + \frac{70 \times 120}{20}}{\frac{40}{25} \times 125 + \frac{60 \times 140}{40}}$$

$$= \frac{180 + 420}{200 + 210} = \frac{600}{410} = 60 : 41$$

16. (4) Suppose x units are produced each year.

In year 2006, Total revenue = 3000

Then, $15x = 3000$ or, $x = 200$

\therefore Profit = 1000

\therefore Cost price = $3000 - 1000 = 2000$

\therefore Cost per unit = $\frac{2000}{200} = \text{Rs. 10}$

In year 2007, $25x = 3000$

\therefore $x = 120$

\therefore Cost per unit = $\frac{1500}{120} = \text{Rs. 12.5}$

In year 2008, $25x = 4000$

\therefore $x = 160$

$$\therefore \text{Cost per unit} = \frac{2000}{160} = \text{Rs. } 12.5$$

In year 2010, $30x = 3000$

$$\therefore x = 100$$

$$\therefore \text{Cost per unit} = \frac{1500}{100} = \text{Rs. } 15$$

\therefore In year 2012, $15x = 3000$

$$\therefore x = 200$$

$$\therefore \text{Cost per unit} = \frac{500}{200} = \text{Rs. } 2.5$$

Hence in 2010 cost price per unit is the maximum.

17. (5) Total units in 2006

$$= \frac{\text{Revenue}}{\text{Selling price per unit}} = \frac{3000}{15} = 200$$

$$\text{Similarly, in 2007,} = \frac{3000}{25} = 120$$

$$\text{In 2008,} = \frac{4000}{25} = 160$$

$$\text{In 2009} = \frac{2500}{20} = 125$$

$$\text{In 2010} = \frac{3000}{30} = 100$$

Average of units sold

$$= \frac{200 + 120 + 160 + 125 + 100}{5}$$

$$= \frac{705}{5} = 141$$

18. (3)

Year	Revenue	Total Cost = (old revenue - price)
2005	75% of 3500 = 2625	3500 - 1500 = 2000
2006	75% of 3000 = 2250	3000 - 1000 = 2000
2007	75% of 3000 = 2250	3000 - 1500 = 1500
2008	75% of 4000 = 3000	4000 - 2000 = 2000
2009	2500	125% of 2000 = 2500
2010	3000	125% of 1500 = 1875
2011	2500	125% of 1500 = 1875
2012	3000	125% of 500 = 625

In 2009, total cost = New revenue

So, there is no profit or loss

$$19. (5) \text{ Total decrease in Revenue} \\ = 25\% \text{ of } (3500 + 3000 + 3000 + 400) = 3375$$

Total increase in cost

$$= 25\% \text{ of } (2000 + 1500 + 1500 + 500) = 1375$$

Decrease in cumulative profit

$$= \text{Total decrease in revenue} + \text{Total increase in cost}$$

$$= 3375 + 1375 = \text{Rs. } 4750$$

20. (1) Cost = Revenue - Profit

$$\therefore \text{Cost in 2005} = 3500 - 1500 = 2000$$

$$\text{Similarly, 2006} = 3000 - 1000 = 2000$$

$$2007 = 3000 - 1500 = 1500$$

$$2008 = 4000 - 2000 = 2000$$

$$2009 = 2500 - 500 = 2000$$

$$2010 = 3000 - 1500 = 1500$$

$$2011 = 2500 - 1000 = 1500$$

$$2012 = 3000 - 2500 = 500$$

$$2000 + 2000 + 1500 + 2000$$

$$\therefore \text{Average} = \frac{+2000 + 1500 + 1500 + 500}{8}$$

$$= \frac{13000}{8} = \text{Rs. } 1625$$

21. (2) Production of Crude Oil from country C, E, F and A

$$= 16 + 25 + 15 + 18 = 74 \text{ thousand barrels}$$

Consumption of Crude Oil from country A, B, D and G

$$= 15 + 6 + 3 + 4 = 28 \text{ thousand barrels}$$

\therefore Required difference

$$= 74 - 28 = 46 \text{ thousand barrels}$$

$$= 46000 \text{ barrels}$$

22. (4) \therefore Excess Crude Oil

$$= (\text{Production} - \text{Consumption})$$

Required average

$$= \frac{3 + 14 + 6 + 3 + 9 + 5 + 6}{7} = \frac{46}{7}$$

$$= 6.5714 \text{ thousand barrels}$$

$$\approx 6571 \text{ Barrels}$$

23. (1) Total consumption of Crude Oil of country A, B and C = $15 + 6 + 16 = 37$

Total production of Crude Oil of country

$$A, C, D \text{ and } G = 18 + 16 + 6 + 10 = 50$$

$$\therefore \text{Required \%} = \frac{37}{50} \times 100 = 74\%$$

24. (5) Difference between production and consumption of country A = 3 thousand barrels

Similarly, in Country B = 14 thousand barrels

C = 6 thousand barrels

D = 3 thousand barrels

E = 9 thousand barrels

F = 5 thousand barrels

G = 6 thousand barrels

Hence Country B has in maximum difference.

25. (4) Excess Crude Oil from country B and G

$$= 14 + 6 = 20 \text{ thousand barrels}$$

Production of oil in country E and F

$$= 15 + 25 = 40$$

$$\therefore \text{Required ratio} = 20 : 40 = 1 : 2$$

26. (1) Total income of country C_2 from both the years

$$= 80 + 95 = 175 \text{ crore}$$

Total income of country C_6 from both the years

$$= 85 + 100 = 185 \text{ crore}$$

\therefore Required ratio

$$= \frac{175}{185} \times \frac{35}{37} = 35 : 37$$

27. (3) Required percentage

$$\begin{aligned} & \frac{\text{Total income of country } C_1 \text{ in both the years}}{\text{Total income of country } C_5 \text{ in both the years}} \times 100 \\ &= \frac{60 + 90}{75 + 90} \times 100 \\ &= \frac{150}{165} \times 100 = 90.91\% \end{aligned}$$

28. (4) Average income of country C_1 , C_2 and C_3 in 2012.

$$= \frac{1}{3}(60 + 80 + 75) = \frac{215}{3}$$

Average income of country C_2 , C_4 and C_5 in 2013

$$= \frac{1}{3}(95 + 40 + 90) = \frac{225}{3}$$

$$\therefore \text{Required \%} = \frac{\frac{215}{3}}{\frac{225}{3}} \times 100 = 95.56\%$$

29. (5) Average income of all the countries in 2012

$$= \frac{60 + 80 + 75 + 45 + 75 + 85}{6} = \frac{420}{6}$$

Average income of all the countries in 2013

$$= \frac{90 + 95 + 55 + 40 + 90 + 100}{6} = \frac{470}{6}$$

$$\therefore \text{Required ratio} = \frac{420}{6} : \frac{470}{6} = 42 : 47$$

30. (3) Required % growth = $\frac{90 - 75}{75} \times 100 = 20\%$

31. (1) Total number of ways persons can speak is $9!$

The number of ways in which A, B, C and D speak in the given order is 9C_4 and the remaining 5 persons can be arranged in $5!$ ways.

\therefore Favourable number of ways

$$= {}^9C_4 \times 5! = 126 \times 5!$$

$$\therefore \text{Required probability} = \frac{126 \times 5!}{9!}$$

$$= \frac{126 \times 5!}{9 \times 8 \times 7 \times 6 \times 5!} = \frac{1}{24}$$

language as well as Hindi but not English

$$= 300 + 85 = 385$$

$$\therefore \text{Difference} = 385 - 345 = 40$$

$$\left[\begin{array}{cc} 15L & 5L \\ 15L & 60L \end{array} \right] \text{ difference} = 55L$$

$$\begin{array}{cc} 20\% & 80\% \\ 1 & : & 4 \end{array}$$

\therefore Required water = 55 litres

$$\text{or } \frac{60x}{100} + \frac{30y}{100} = \frac{15 \times 40}{100}$$

$$\frac{6x}{10} + \frac{3y}{10} = \frac{60}{10} \quad \dots (ii)$$

Solving (i) & (ii), we get $x = 5 l$

$$\therefore y = 10 l$$

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