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Date Interpretation Pie Chart Questions for IBPS PO Pre, RRB Scale I Pre, SBI PO Pre, SBI Clerk Mains, IBPS Clerk Mains & IBPS SO Pre Exams.

Direction : Study the following pie chart carefully and answer the questions given beside.

Percentage of politicians of various political parties in a country

Total politicians = 2500
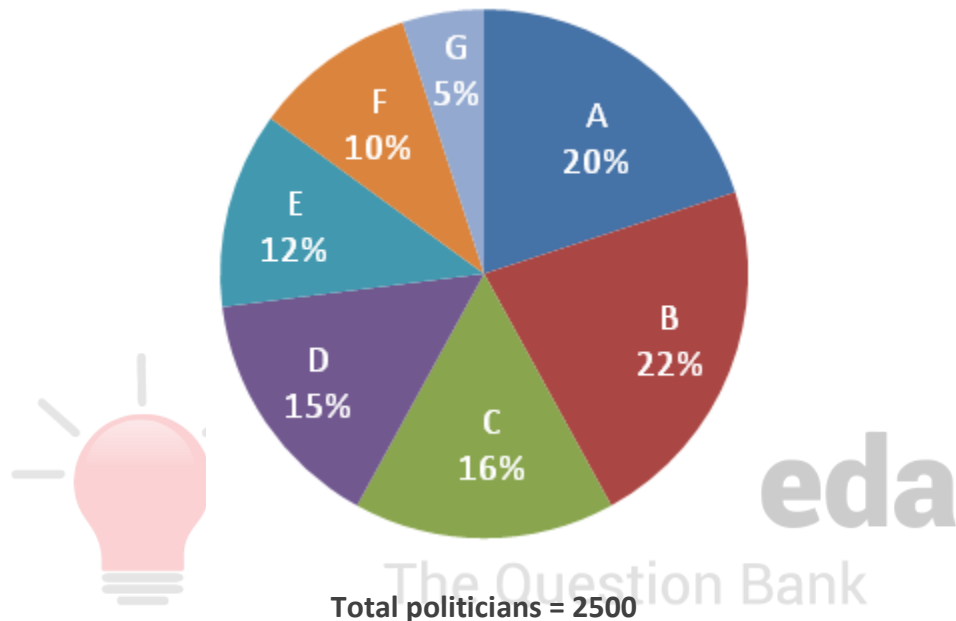
Percentage of politicians accused of various crimes in a country

Total politicians = 2500
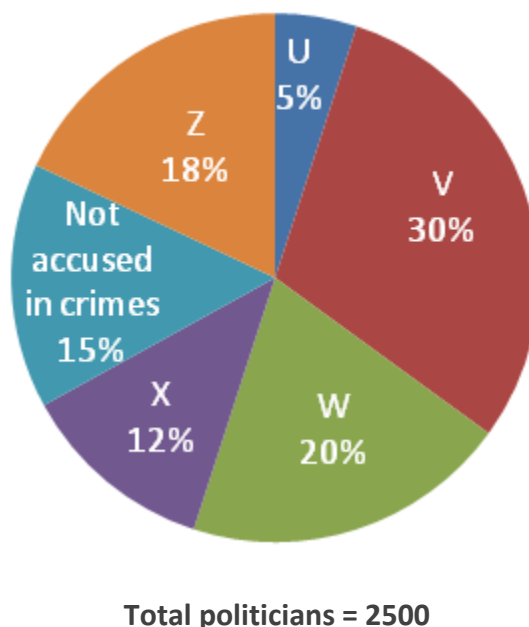
1. If 10% of party E, 20% of party A and 12% of party B politicians are not accused of crimes then what is the average number of politicians of these parties who are accused of criminal offences? (Calculate approximate value)

A. 362   B. 378   C. 315   D. 385   E. 316

2. What is the ratio of the number of politicians who are accused of crime U to the number of politicians who belong to party A?

A. 2 : 3   B. 1 : 4   C. 4 : 1   D. 3 : 2   E. 5 : 6

3. If 20% politicians of party D left the party, and out of these 60% are not accused of crimes, then the number of politicians who left party D who are not accused of any crime is what per cent of the total number of politicians who are not accused of crimes?

A. 14%   B. 18%   C. 16%   D. 22%   E. 12%

4. If 50% politicians of party A and 40% of party B are accused of crime W then what is their ratio?

A. 25 : 22   B. 21 : 19   C. 22 : 37   D. 23 : 47   E. 17 : 11

5. The percentage of politicians who are accused of crime Z are same (20%) in all parties. What is the difference between the number of politicians of party B and party A who are accused of crime Z?

A. 12   B. 18   C. 10   D. 16   E. 15

SET – 2

The following pie chart gives the information about the percentage distribution of the JIO users in five different states out of 6 crores users in these states.
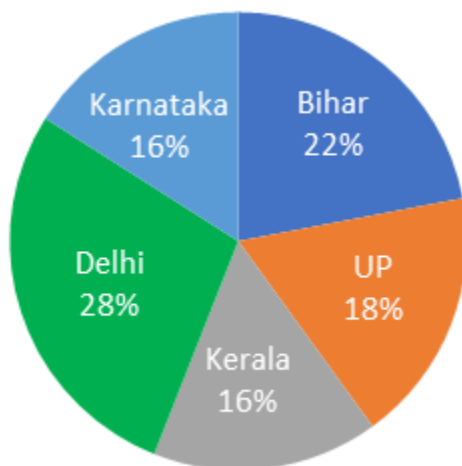
6. If the total number of Airtel users in Bihar is 2500000 less than the total number of JIO users in that state then what is the total number of Airtel users in Bihar?

A. 10700000   B. 13200000   C. 11200000   D. 11500000   E. None of these

7. If the total number of Idea users in Delhi is 15% of the sum of the total number of Idea users in these five states then the total number of JIO users in Delhi is what percent more than the total number of Idea users in Delhi? (It is given that the sum of the total number of Idea users in these five states is 2.5 crores)

A. 358%   B. 368%   C. 348%   D. 338%   E. None of these

8. What is the difference between the sum of the JIO users in Delhi and Kerala together and the sum of the JIO users in UP and Bihar together?

A. 2400000   B. 2800000   C. 1800000   D. 2200000   E. None of these

9. The number of JIO users in Karnataka is approximately what percent less than the number of JIO users in Bihar?

A. 28.28%   B. 28.47%   C. 27.27%   D. 28.48%   E. 26.97%

10. The respective ratio of the total number of JIO users in Bihar and the total number of Airtel users in Kerala is 11: 5 then the total number of Airtel users in Kerala is what percent less than the total number of JIO users in Delhi?

A. 54.28%   B. 72.68%   C. 58.28%   D. 64.29%   E. 68.59%
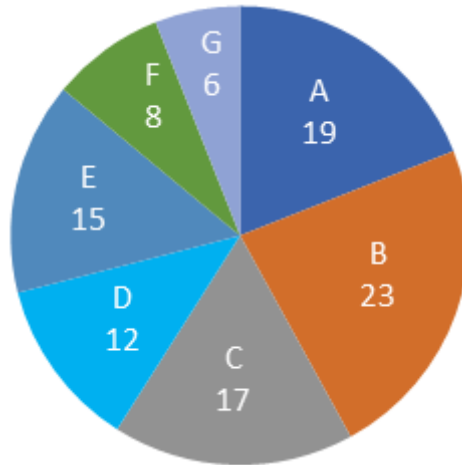
SET – 3

The following pie charts give the information about the percentage wise distribution of students studying in Science and Arts in seven different institutions – A, B, C, D, E, F, and G.

Total number of students studying Science = 4700
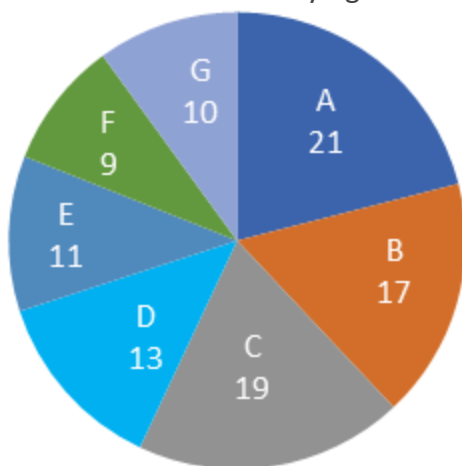
Total number of students studying Arts = 4300

11. **What is the total number of students studying Science in institutes F and E together?**

A. 940   B. 517   C. 950   D. 527   E. None of these

12. **How many students from institute B study Science and Arts?**

A. 1728   B. 1698   C. 1788   D. 1798   E. None of these

13. **Find the respective ratio between the number of students studying Science and Arts from institute C.**

A. 19 : 17   B. 893 : 721   C. 883 : 731   D. 893 : 731   E. None of these

14. **How many students from institute F and G together study Arts?**

A. 602   B. 658   C. 612   D. 648   E. None of these

15. **The respective ratio between the number of students studying Science from institute B and that of students studying Arts from institute A is:**

A. 789 : 817   B. 799 : 827   C. 799 : 817   D. 789 : 827   E. None of these

SET – 4

There are five inlet pipes (A, B, C, D, and E) and five outlet pipes (P, Q, R, S, and T) connected to a tank. The first pie-chart represents the percentage of the tank filled by each inlet pipe when all the inlet pipes are opened together and the second pie-chart represents the percentage of the tank emptied by each outlet pipe when all the outlet pipes are opened together.
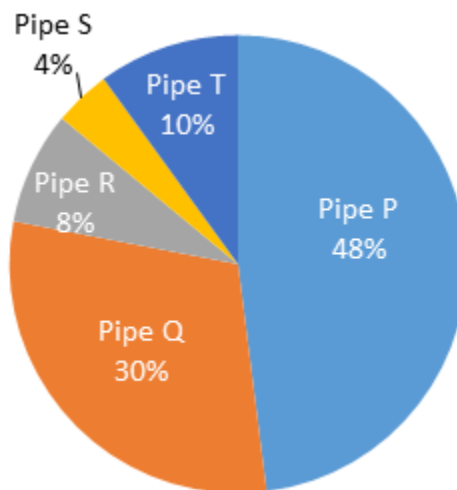
Total capacity of the tank = 1200 litres
Time taken to fill the tank when all the inlet pipes are opened together = 3 minutes
Time taken to empty the tank when all the outlet pipes are opened together = 2.4 minutes

Percentage of the tank filled
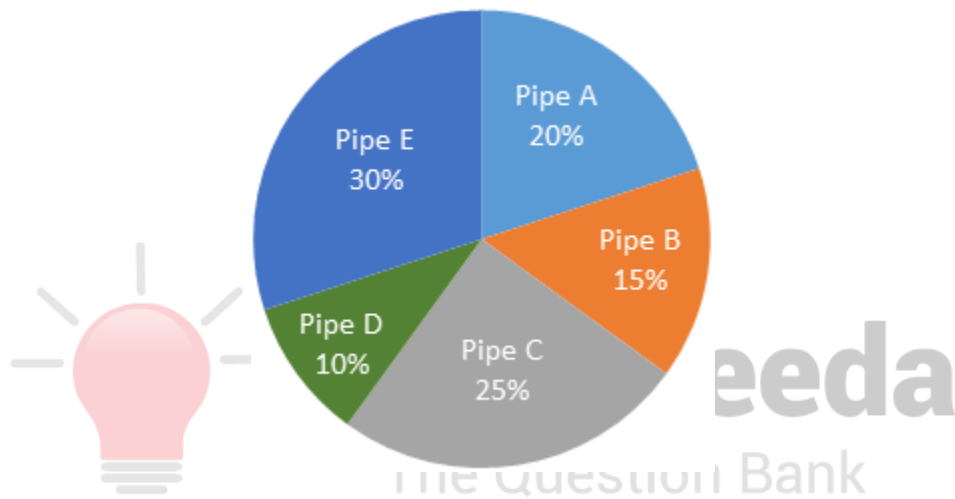
Percentage of the tank emptied

16. Find the time taken to fill the tank if pipes A, B, D, R, and S are opened together.

A. 18 minutes   B. 15 minutes   C. 12 minutes   D. 10 minutes   E. 8 minutes

17. Find the ratio of the sum of the time taken by pipe C alone and time taken by pipe E alone to fill the tank to the sum of the time taken by pipe Q alone and time taken by T alone to empty the tank.

A. 13 : 17   B. 11 : 16   C. 8 : 15   D. 9 : 13   E. 10 : 19

18. The time taken by pipes B and C together to fill the tank is how many minutes more than the time taken by pipes A, D, and E together?

A. 3.5 minutes   B. 1 minute   C. 1.5 minutes   D. 3 minutes   E. 2.5 minutes

19. What will be the ratio of the time taken by pipes P and R together to empty the tank to the time taken by pipes Q, S, and T together to empty the tank?

A. 5 : 11   B. 11 : 8   C. 9 : 13   D. 11 : 14   E. 13 : 11

20. If all the inlet pipes and the outlet pipes are opened together then find the time taken to empty the full tank.

A. 10 minutes   B. 12 minutes   C. 5 minutes   D. 4 minutes   E. 20 minutes
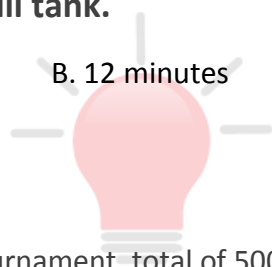
SET – 5

In a hockey tournament, total of 500 points were scored by 7 players in two matches together. The total points scored in the first match was 50% more than that of the second match. The pie chart 1 and pie chart 2 gives the information about the percentage breakup of the points scored in the first match in the second match respectively.

Pie Chart 1

Pie Chart 2
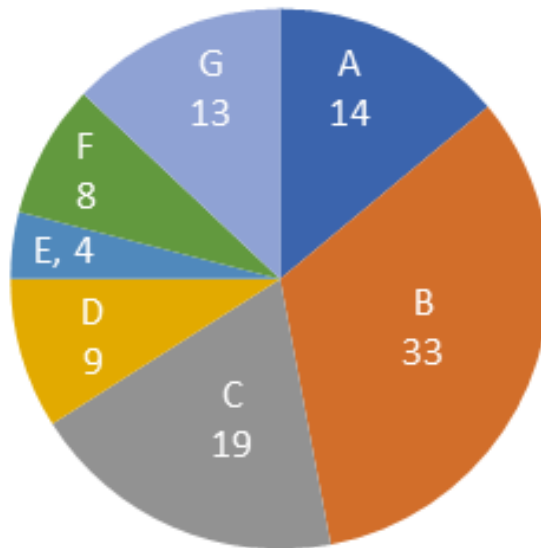
21. Which of the following players had scored the least number of points in the two matches together?

A. F   B. E   C. A   D. G   E. C

22. The total points scored by B in the both matches together was what percent of the total points of both the matches together?

A. 37%   B. 33%   C. 29%   D. 27%   E. None of these

23. In the tournament, the highest number of points scored by any player was how many more than that of lowest number of points scored by any player?

A. 99   B. 103   C. 101   D. 107   E. None of these

24. What is the ratio between the total number of points scored by the player A and that by the player G in the both matches together?

A. 32 : 33   B. 32 : 31   C. 16 : 19   D. 16 : 17   E. None of these

25. The number of points scored by A and B together in the first match was how much more than that by F and G together in the second match?

A. 45   B. 65   C. 66   D. 63   E. None of these

SET – 6

The following pie chart gives the information about the distribution of population(in %) of India in different geographical zones.
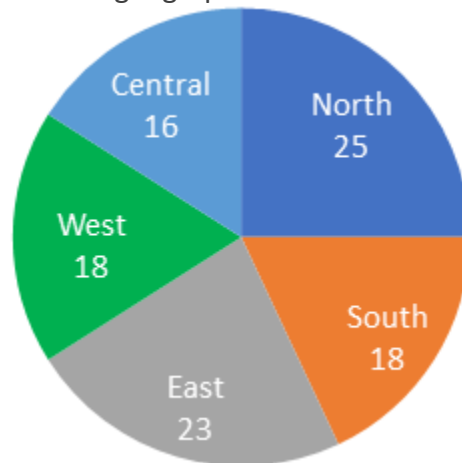
26. If the total population of east zone of India is 126.5 million then what is the total population of north zone of India?

A. 137.5 million B. 147.5 million C. 132.5 million D. 142.5 million E. None of these

27. The total population of west zone of India is how much percentage less than that of the north zone?

A. 24% B. 32% C. 28% D. 30% E. None of these

28. In India, the ratio of males to females is 13 : 12 and in central zone, the ratio of males to females is 9 : 7. The number of females in central zone is what percentage of the total number of females of India?

A. $14\frac{7}{12}$% B. $13\frac{7}{12}$% C. $10\frac{5}{12}$% D. $15\frac{5}{12}$% E. None of these

29. If the total population of India is 125 crores then what is the sum of the population of east zone and that of west zone in crores?

A. 53.75 B. 50.50 C. 52.75 D. 51.25 E. None of these

30. 50% of the total population of west zone are males which is equal to 10% of the total population of males in India and if the total population of females in west zone is 50 million then what is the total population of males in India?

A. 450 million B. 500 million C. 540 million D. 480 million E. None of these

SET – 7

The following pie chart gives the information about the percentage breakup of the number of candidates appearing in an entrance examination from five different cities, A, B, C, D, and E.

Total number of candidates appearing in the entrance examination = 82000
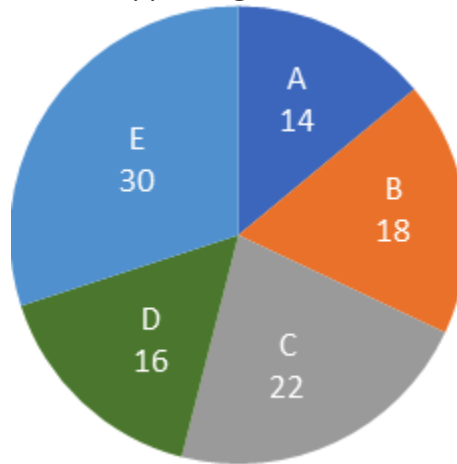
31. The ratio of candidates passing and failing in the city A was 2 : 3 respectively, then total how many candidates passed from the city A?

A. 4896   B. 4592   C. 4686   D. 4784   E. None of these

32. The total number of candidates appearing the examination from city C was what percentage of the total number of candidates appearing the exam from the city D?

A. 37.5%   B. 47.5%   C.137.5%   D. 147.5%   E. None of these

33. 13% of the total number of candidates who appeared the examination from city E passed the examination then total how many of candidates from city E didn't pass the examination?

A. 21402   B. 22602   C. 23832   D. 20480   E. None of these

34. 60% of the candidates who appeared the examination from city C were male and 25% of the total number of candidates who appeared the exam were female , then total how many males appeared for the examination except city C?

A. 61500   B. 52486   C. 50246   D. 50676   E. None of these

35. 40% of the total number of candidates who appeared for the examination from city A didn't pass the exam, then the number of candidates who passed the examination from city A was what percentage of the total number of candidates who appeared for the examination?

A. 9.6%   B. 8.4%   C. 10.2%   D. 9.2%   E. None of these

SET – 8

A tank contains 2400 litres mixture of milk and water in the ratio 2 :1 respectively. The mixture is distributed in five vessels. Percentage wise distribution of quantity of milk and percentage wise distribution of water in five vessels is given in the following pie charts.

Quantity of milk in five vessels

A 12%
B 32%
C 8%
D 20%
E 28%
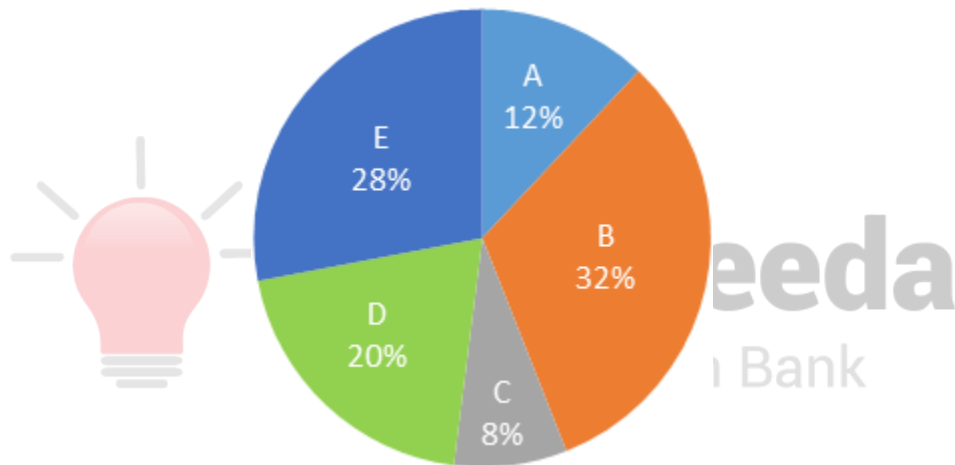
Quantity of water in five vessels

A 30%
B 15%
C 10%
D 25%
E 20%
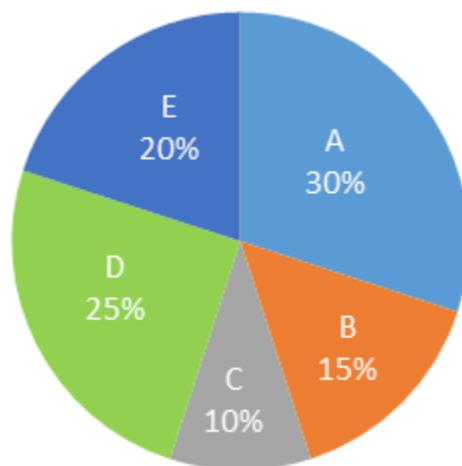
36. Quantity of milk in vessels A and E together is what percent of quantity of water in vessel D?

A. 410%   B. 350%   C. 320%   D. 280%   E. None of these

37. Find the respective ratio of quantity of water in vessels B and C together and quantity of milk in vessel D.

A. 5 : 8   B. 4 : 9   C. 8 : 5   D. 9 : 4   E. None of these

38. Another vessel F also contains a mixture of milk and water. Quantity of milk in vessel F is 20% more than the quantity of milk in vessel C and quantity of water in vessel F is 20% less than the quantity of water in vessel C. Find the respective ratio of milk and water in vessel F.

A. 5 : 4   B. 12 : 5   C. 4 : 5   D. 5 : 12   E. None of these

39. Find the sum of quantity of milk in vessels B and D together and quantity of water in vessels D and E together.

A. 1542 litres   B. 1192 litres   C. 1232 litres   D. 1058 litres   E. None of these

40. Quantity of mixture in vessel C is what percent more/less than the quantity of mixture in vessel E?

A. 65.78% more   B. 54.26% less   C. 65.78% less   D. 52.68% more   E. None of these

SET – 9

Given pie chart shows the part of iron ore mined by 6 different machines in a day.
Total amount of iron ore that is mined in a day by 6 machines is 200 kg.
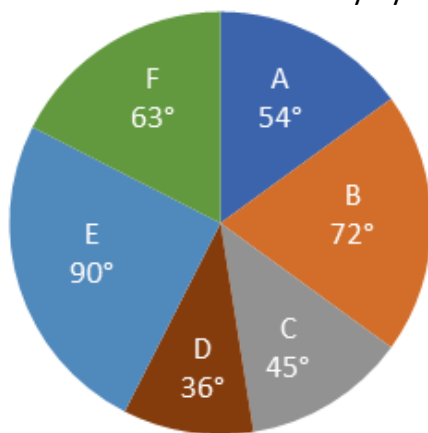
Given pie chart shows the wasted per cent of iron ore which is mined by 6 different machines in a day while extracting Iron from them.

Total amount of wasted iron ore in a day which is mined by 6 machines together is 25 kg.
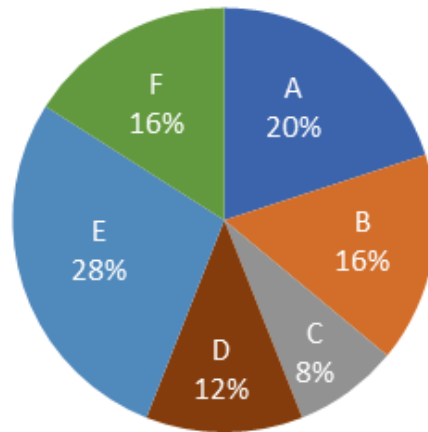
Amount of mined Iron ore = Extracted amount of Iron + Wasted amount of Iron ore.

41. **What is total amount of Iron extracted from the Iron ore which is mined by the machine C and E together?**

A. 59 kg   B. 25 kg   C. 66 kg   D. 54 kg   E. None of these

42. **What is the difference between the total amount of Iron extracted from Iron ore mined by machine D and total amount of Iron ore wasted by machine B and F together?**

A. 17 kg   B. 10 kg   C. 8 kg   D. 9 kg   E. None of these

43. **Find that total wasted amount of Iron ore mined by machine A and C together is what per cent of total amount of Iron ore mined by machine F alone?**

A. 22%   B. 28%   C. 24%   D. 25%   E. 20%

44. **Cost of Iron ore after mining is Rs.200 per kg and cost of Iron after extracting from Iron ore is Rs.250 per kg, then find the per cent profit of a person if he sold the Iron extracted from Iron ore mined by machine B instead of Iron ore mined by machine B itself.**

A. 7.5%   B. 12.5%   C. 18.5%   D. 15%   E. None of these

45. **Due to rusting the amount of Iron extracted from Iron ore mined by machine E is decreased by 10% every year. Find the cost price of Iron extracted from Iron ore mined by machine E at the end of 2 years from now. Cost of Iron is Rs.200 per kg at present and remains same in future.**

A. 8600   B. 7960   C. 6966   D. 9666   E. None of these

SET – 10

The following chart shows the percentage purchase of 5 different people P, Q, R, S and T done for upcoming festivals.
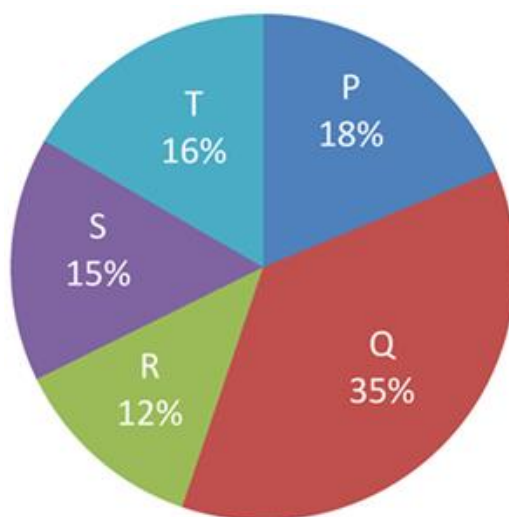
No. of total items purchased = 4700

46. **What is the difference between the total purchase of items made by R and T together and the total purchase of items made by P and S together?**

A. 237   B. 235   C. 335   D. 245   E. None of these

47. **What is the ratio of the total purchase made by P, R and T together to that of S and Q together?**

A. 23 : 25   B. 25 : 27   C. 31 : 33   D. 13 : 15   E. None of these

48. **If Q pays Rs. 6300 for his total purchase then how much money P has to pay for his purchase?**

A. 1240   B. 2260   C. 3644   D. 3240   E. None of these

49. **Total purchase made by R is what percent less than the purchase made by S?**

A. 10   B. 15   C. 20   D. 25   E. None of these

50. **Find the central angle of the purchase made by S ?**

A. 45°   B. 54°   C. 67°   D. 50°   E. None of these

CORRECT ANSWERS:

1	D	11	A	21	A	31	B	41	C
2	B	12	C	22	D	32	C	42	D
3	E	13	D	23	C	33	A	43	E
4	A	14	A	24	D	34	D	44	B
5	C	15	C	25	D	35	B	45	C
6	A	16	D	26	A	36	C	46	B
7	C	17	B	27	C	37	A	47	A
8	A	18	E	28	A	38	B	48	D
9	C	19	D	29	D	39	B	49	C
10	D	20	B	30	B	40	C	50	B

Explanations:

1. Number of politicians of **party E** accused of crimes = (100 – 10)% of 12% of 2500

= 90% of 12% of 2500 = 270

Similarly,

In party A = (100 – 20)% of 20% of 2500

= 80% of 20% of 2500 = 400

In party B = (100 – 12)% of 22% of 2500

= 88% of 22% of 2500 = 484

Therefore, average no. of politicians who are accused of crimes in these parties

$= \dfrac{270 + 400 + 484}{3} = \dfrac{1154}{3} = 384.66 \approx 385$

Hence, option D is correct.
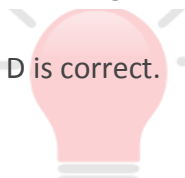
2. As per the given information, we get

Required ratio = 5% of total politicians : 20% of total politicians

= 5 : 20 = 1 : 4

Hence, option B is correct.

3. Total number of politicians who left the party D = 15% of 20% of 2500 = 75

Now, politicians who left the party D and are not accused of crimes = 60% of 75 = 45

Total number of politicians of all parties who are not accused of crimes = 15% of 2500 = 375

Reqd. % $= \dfrac{45 \times 100}{375} = 12\%$

Hence, option E is correct.

4. Total number of politicians of party A who are accused in crime W = 50% of 20% of 2500 = 250

And, the total number of politicians of party B who are accused in crime W = 40% of 22% of 2500 = 220

Therefore, Reqd. ratio = 250 : 220 = 25 : 22

Hence, option A is correct.

5. Total number of politicians of party A accused of crime Z = 20% of 20% of 2500 = 100

And, the total number of politicians of party B accused of crime Z = 22% of 20% of 2500 = 110

∴ Reqd. difference = 110 − 100 = 10

Hence, option C is correct.

6. The total number of JIO users in Bihar = 22% of 60000000 = 13200000

The total number of airtel users in Bihar = 13200000 − 2500000 = 10700000

Hence, option A is correct.

7. The total number of JIO users in Delhi = 28% of 6 crores = 1.68 crores

The total number of Idea users in Delhi = 15% of 2.5 crores = 0.375 crores

The reqd. % = $\dfrac{(1.68 - 0.375) \times 100}{0.375}$ = 348%

Hence, option C is correct.

8. The sum of the JIO users in Delhi and Kerala together = (28 + 16)% of 6 crores = 44% of 6 crores

The sum of the JIO users in UP and Bihar together = (18 + 22)% of 6 crores = 40% of 6 crores

The required difference = (44 − 40)% of 6 crores = 4% of 6 crores = 0.24 crores = 2400000

Hence, option A is correct.

9. The number of JIO users in Karnataka = 16% of 6 crores

The number of JIO users in Bihar = 22% of 6 crores

The reqd. % = $\dfrac{(22 - 16) \times 100}{22} = \dfrac{600}{22}$ = approximately 27.27%

Hence, option C is correct.

10. Let the total number of JIO users in Bihar = 11x , The total number of Airtel users in Kerala = 5x

From the chart, 22% of 6 crores = 11x = 1.32 crores

X = 0.12 crores

Therefore, the total number of Airtel users in Kerala = 5x = 0.6 crores

The total number of JIO users in Delhi = 28% of 6 crores = 1.68 crores

The reqd. % = $\dfrac{(1.68 - 0.6) \times 100}{1.68}$ = 64.29%

Hence, option D is correct.

11. The total number of students studying Science in institutes F and E together = (11 + 9)% of 4700 = 20% of 4700 = 940

Hence, option A is correct.

12. The number of students studying science from institute B = 17% of 4700 = 799

The number of students studying arts from institute B = 23% of 4300 = 989

Required sum = 799 + 989 = 1788

Hence, option C is correct.

13. Number of students studying science from institute C = 19% OF 4700

Number of students studying ARTS from institute C = 17% OF 4300

Ratio = 19 × 47 : 17 × 43 = 893 : 731

Hence, option D is correct.

14. Number of students studying arts from institute F and G together = (8 + 6)% of 4300 = 14% of 4300 = 602

Hence, option A is correct.

15. The number of students studying science from institute B = 17% OF 4700 = 799

The number of students studying arts from institute A = 19% OF 4300 = 817

Required ratio = 799 : 817

Hence, option C is correct.

16.

	Amount of water filled	Water filled per minute	Time taken to fill the tank alone(in minutes)
Pipe A	20% of 1200 = 240 litres	240/3 = 80 litres/minute	1200/80 = 15
Pipe B	15% of 1200 = 180 litres	180/3 = 60 litres/minute	1200/60 = 20
Pipe C	25% of 1200 = 300 litres	300/3 = 100 litres/minute	1200/100 = 12
Pipe D	10% of 1200 = 120 litres	120/3 = 40 litres/minute	1200/40 = 30
Pipe E	30% of 1200 = 360 litres	360/3 = 120 litre/minute	1200/120 = 10

	Amount of water emptied	Water emptied per minute	Time taken to empty the tank alone(in minutes)
Pipe P	48% of 1200 = 576 litres	576/2.4 = 240 litres/minute	1200/240 = 5
Pipe Q	30% of 1200 = 360 litres	360/2.4 = 150 litres/minute	1200/150 = 8
Pipe R	8% of 1200 = 96 litres	96/2.4 = 40 litres/minute	1200/40 = 30
Pipe S	4% of 1200 = 48 litres	48/2.4 = 20 litres/minute	1200/20 = 60
Pipe T	10% of 1200 = 120 litres	120/2.4 = 50 litres/minute	1200/50 = 24

$$\text{Reqd. time} = \frac{1200}{80 + 60 + 40 - 40 - 20} = \frac{1200}{120} = 10 \text{ minutes}$$

Hence, option D is correct.

17.

Amount of water filled	Water filled per minute	Time taken to fill the tank alone(in minutes)	
Pipe A	20% of 1200 = 240 litres	240/3 = 80 litres/minute	1200/80 = 15
Pipe B	15% of 1200 = 180 litres	180/3 = 60 litres/minute	1200/60 = 20
Pipe C	25% of 1200 = 300 litres	300/3 = 100 litres/minute	1200/100 = 12
Pipe D	10% of 1200 = 120 litres	120/3 = 40 litres/minute	1200/40 = 30
Pipe E	30% of 1200 = 360 litres	360/3 = 120 litre/minute	1200/120 = 10

	Amount of water emptied	Water emptied per minute	Time taken to empty the tank alone(in minutes)
Pipe P	48% of 1200 = 576 litres	576/2.4 = 240 litres/minute	1200/240 = 5
Pipe Q	30% of 1200 = 360 litres	360/2.4 = 150 litres/minute	1200/150 = 8
Pipe R	8% of 1200 = 96 litres	96/2.4 = 40 litres/minute	1200/40 = 30
Pipe S	4% of 1200 = 48 litres	48/2.4 = 20 litres/minute	1200/20 = 60
Pipe T	10% of 1200 = 120 litres	120/2.4 = 50 litres/minute	1200/50 = 24

Sum of the time taken by pipe C alone and time taken by pipe E alone to fill the tank = 12 + 10 = 22 minutes

Sum of the time taken by pipe Q alone and time taken by T alone to empty the tank = 8 + 24 = 32 minutes

Required ratio = 22 : 32 = 11 : 16

Hence, option B is correct.

18.

	Amount of water filled	Water filled per minute	Time taken to fill the tank alone(in minutes)
Pipe A	20% of 1200 = 240 litres	240/3 = 80 litres/minute	1200/80 = 15
Pipe B	15% of 1200 = 180 litres	180/3 = 60 litres/minute	1200/60 = 20
Pipe C	25% of 1200 = 300 litres	300/3 = 100 litres/minute	1200/100 = 12
Pipe D	10% of 1200 = 120 litres	120/3 = 40 litres/minute	1200/40 = 30
Pipe E	30% of 1200 = 360 litres	360/3 = 120 litre/minute	1200/120 = 10

	Amount of water emptied	Water emptied per minute	Time taken to empty the tank alone(in minutes)
Pipe P	48% of 1200 = 576 litres	576/2.4 = 240 litres/minute	1200/240 = 5
Pipe Q	30% of 1200 = 360 litres	360/2.4 = 150 litres/minute	1200/150 = 8
Pipe R	8% of 1200 = 96 litres	96/2.4 = 40 litres/minute	1200/40 = 30
Pipe S	4% of 1200 = 48 litres	48/2.4 = 20 litres/minute	1200/20 = 60
Pipe T	10% of 1200 = 120 litres	120/2.4 = 50 litres/minute	1200/50 = 24

Time taken by pipes B and C together to fill the tank $= \dfrac{1200}{60 + 100} = \dfrac{1200}{160} = 7.5$ minutes

Time taken by pipes A, D and E together to fill the tank $= \dfrac{1200}{80 + 40 + 120} = \dfrac{1200}{240} = 5$ minutes

So, pipes B and C together takes 2.5 minutes more than pipes A, D, and E together

Hence, option E is correct.

19.

	Amount of water filled	Water filled per minute	Time taken to fill the tank alone(in minutes)
Pipe A	20% of 1200 = 240 litres	240/3 = 80 litres/minute	1200/80 = 15
Pipe B	15% of 1200 = 180 litres	180/3 = 60 litres/minute	1200/60 = 20
Pipe C	25% of 1200 = 300 litres	300/3 = 100 litres/minute	1200/100 = 12
Pipe D	10% of 1200 = 120 litres	120/3 = 40 litres/minute	1200/40 = 30
Pipe E	30% of 1200 = 360 litres	360/3 = 120 litre/minute	1200/120 = 10

	Amount of water emptied	Water emptied per minute	Time taken to empty the tank alone(in minutes)
Pipe P	48% of 1200 = 576 litres	576/2.4 = 240 litres/minute	1200/240 = 5
Pipe Q	30% of 1200 = 360 litres	360/2.4 = 150 litres/minute	1200/150 = 8
Pipe R	8% of 1200 = 96 litres	96/2.4 = 40 litres/minute	1200/40 = 30
Pipe S	4% of 1200 = 48 litres	48/2.4 = 20 litres/minute	1200/20 = 60
Pipe T	10% of 1200 = 120 litres	120/2.4 = 50 litres/minute	1200/50 = 24

The time taken by pipes P and R together to empty the tank $= \dfrac{1200}{240 + 40} = \dfrac{30}{7}$ minutes

The time taken by pipes Q, S, and T together to empty the tank $= \dfrac{1200}{150 + 20 + 50} = \dfrac{60}{11}$ minutes

Reqd. ratio $= \dfrac{30}{7} : \dfrac{60}{11} = 11 : 14$

Hence, option D is correct.

20.

	Amount of water filled	Water filled per minute	Time taken to fill the tank alone(in minutes)
Pipe A	20% of 1200 = 240 litres	240/3 = 80 litres/minute	1200/80 = 15
Pipe B	15% of 1200 = 180 litres	180/3 = 60 litres/minute	1200/60 = 20
Pipe C	25% of 1200 = 300 litres	300/3 = 100 litres/minute	1200/100 = 12
Pipe D	10% of 1200 = 120 litres	120/3 = 40 litres/minute	1200/40 = 30
Pipe E	30% of 1200 = 360 litres	360/3 = 120 litre/minute	1200/120 = 10

	Amount of water emptied	Water emptied per minute	Time taken to empty the tank alone(in minutes)
Pipe P	48% of 1200 = 576 litres	576/2.4 = 240 litres/minute	1200/240 = 5
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Pipe R	8% of 1200 = 96 litres	96/2.4 = 40 litres/minute	1200/40 = 30
Pipe S	4% of 1200 = 48 litres	48/2.4 = 20 litres/minute	1200/20 = 60
Pipe T	10% of 1200 = 120 litres	120/2.4 = 50 litres/minute	1200/50 = 24

Units of water emptied in one minute = (240 + 150 + 40 + 20 + 50) − (80 + 60 + 100 + 40 + 120) = 500 − 400 = 100 units

Reqd. time = $\dfrac{1200}{100}$ = 12 minutes

Hence, option B is correct

Common Explanations : (21 to 25)

Player	Match 1	Match 2	Total
A	12 % of 300 = 36	14% of 200 = 28	64
B	23 % of 300 = 69	33% of 200 = 66	135
C	7 % of 300 = 21	19% of 200 = 38	59
D	27 % of 300 = 81	9% of 200 = 18	99
E	11% of 300 = 33	4% of 200 = 8	41
F	6% of 300 = 18	8% of 200 = 16	34
G	14% of 300 = 42	13% of 200 = 26	68

21. Following the common explanation, we get

Let in the match 2, the total points scored = 2x then in the match 1, the total point scored = 150% of 2x = 3x

2x + 3x = 500

x = 100

In match1, the total points scored = 300 and in the match2, the total points scored = 200

The least number of points scored by the player F = 34

Hence, option A is correct.

22. Following the common explanation, we get
The total number of points scored by B in the both match together = 135

The reqd. % = $\dfrac{135 \times 100}{500}$ = 27%

Hence, option D is correct.

23. Following the common explanation, we get
The highest number of points scored by the player B = 135
The lowest number of points scored by the player F = 34
The required difference = 135 − 34 = 101
Hence, option C is correct.

24. Following the common explanation, we get
The total number of points scored by the player A = 64
The total number of points scored by the player G = 68
The required ratio = 64 : 68 = 16 : 17
Hence, option D is correct.

25. Following the common explanation, we get
The number of points scored by A and B together in the first match = 36 + 69 = 105
The number of points scored by F and G together in the second match = 16 + 26 = 42
The required difference = 105 − 42 = 63
Hence, option D is correct.

26. Let the total population of India = 100x then
Then, the total population of east zone = 23% of 100x = 126.5
23x = 126.5
x = 5.5 million
The population of north zone = 25% of 100x = 25x = 25 × 5.5 = 137.5 million
Hence, option A is correct.

27. Let the total population of India = 100x
Then, the total population of north zone = 25% of 100x = 25x
The total population of west zone = 18% of 100x = 18x

The reqd. % = $\dfrac{(25x - 18x) \times 100}{25x}$ = 28%

Hence, option C is correct.

28. Let the total population of India = 100x then
Then, the total population of central zone = 16% of 100x = 16x

The number of females in central zone = 16x × $\dfrac{7}{16}$ = 7x

The number of females in India = 100x × $\dfrac{12}{25}$ = 48x

The reqd. % = $\dfrac{7x \times 100}{48x}$ = $\dfrac{175}{12}$ % = $14\dfrac{7}{12}$ %

Hence, option A is correct.

29. The sum of the population of east zone and that of west zone = 23% of 125 + 18% of 125 = 41% of 125

= $\dfrac{41 \times 125}{100}$ = 51.25 crores

Hence, option **D** is correct.

30. Let the total population of India = 100x then

Then, the population of west zone = 18% of 100x = 18x

The number of males in west zone = 50% of 18x = 9x = 10% of the total population of males in India = 50 million (The number of females)

The total population of males in India = 90x = 50 × 10 = 500 million
Hence, option B is correct.

31. The total number of candidates appeared from the city A = 14% of 82000 = 11480

The number of candidates passed from the city A = $\dfrac{2 \times 11480}{5}$ = 2296 × 2 = 4592

Hence, option B is correct.

32. The total number of candidates appearing the examination from city C = 22% of 82000 = 18040

The total number of candidates appearing the examination from city D = 16% of 82000 = 13120

The reqd. % = $\dfrac{18040 \times 100}{13120}$ = 137.5%

Hence, option C is correct.

33. Total number of candidates who appeared the examination from city E = 30% of 82000 = 24600
13% of 24600 = 3198

candidates from city E didn't pass the examination = 24600 − 3198 = 21402

Hence, option A is correct.

34. The total number of candidates appearing the examination from city C = 22% of 82000 = 18040
60% of 18040 = 10824

Total number of males who appeared the examination = (100 − 25) = 75% of 82000 = 61500

total males appeared the examination except city C = 61500 − 10824 = 50676

Hence, option D is correct.

35. The total number of candidates appeared from the city A = 14% of 82000 = 11480

The total number of candidates from city A who passed the examination = (100 − 40) = 60% of 11480 = 6888

Reqd. % = $\dfrac{6888 \times 100}{82000}$ = $\dfrac{6888}{820}$ = 8.4%

Hence, option B is correct.

36.

Total quantity of milk = $\frac{2}{3} \times 2400$ = 1600 litres.

Total quantity of water = 2400 − 1600 = 800 litres.

Quantity of milk in vessels A and E together = $\frac{12 + 28}{100} \times 1600$ = 640 litres

Quantity of water in vessel D = $\frac{25}{100} \times 800$ = 200 litres

Reqd. % = $\frac{640}{200} \times 100$ = 320%

Hence, option C is correct.

37.

Total quantity of milk = $\frac{2}{3} \times 2400$ = 1600 litres.

Total quantity of water = 2400 − 1600 = 800 litres.

Quantity of water in vessels B and C together = $\frac{15 + 10}{100} \times 800$ = 200 litres

Quantity of milk in vessel D = $\frac{20}{100} \times 1600$ = 320 litres

Required ratio = 200 : 320 = 5 : 8

Hence, option A is correct.

38.

Total quantity of milk = $\frac{2}{3} \times 2400$ = 1600 litres.

Total quantity of water = 2400 − 1600 = 800 litres.

Quantity of milk in vessel C = $\frac{8}{100} \times 1600$ = 128 litres

Quantity of milk in vessel F = $128 \times \frac{120}{100}$ = 153.6 litres

Quantity of water in vessel C = $\frac{10}{100} \times 800$ = 80 litres

Quantity of water in vessel F = $80 \times \frac{80}{100}$ = 64 litres

Required ratio = 153.6 : 64 = 12 : 5
Hence, option B is correct.

39.

Total quantity of milk = $\frac{2}{3} \times 2400 = 1600$ litres.

Total quantity of water = 2400 − 1600 = 800 litres.

Quantity of milk in vessels B and D together $= \frac{32 + 20}{100} \times 1600 = 832$ litres

Quantity of water in vessels D and E together $= \frac{25 + 20}{100} \times 800 = 360$ litres

Required sum = 832 + 360 = 1192 litres.

Hence, option B is correct.

40.

Total quantity of milk = $\frac{2}{3} \times 2400 = 1600$ litres.

Total quantity of water = 2400 − 1600 = 800 litres.

Quantity of milk in vessel C $= \frac{8}{100} \times 1600 = 128$ litres

Quantity of water in vessel C $= \frac{10}{100} \times 800 = 80$ litres

Quantity of mixture in vessel C = 128 + 80 = 208 litres

Quantity of milk in vessel E $= \frac{28}{100} \times 1600 = 448$ litres

Quantity of water in vessel E $= \frac{20}{100} \times 800 = 160$ litres

Quantity of mixture in vessel E = 448 + 160 = 608 litres

Reqd. % $= \frac{608 - 208}{608} \times 100$

$= \frac{400}{608} \times 100 = 65.78\%$ less

Hence, option C is correct.

41. Total amount of Iron ore mined by machine C

$$= 200 \times \frac{45}{360} = 25 \text{ kg}$$

Total wasted amount of Iron ore by machine C = 8% of 25 kg = 2 kg

Total amount of Iron ore mined by machine E = $200 \times \frac{90}{360}$ = 50 kg

Total wasted amount of Iron ore by machine E = 28% of 25 kg = 7 kg

Total amount of Iron extracted = (25 + 50) − (2 + 7) = 75 − 9 = 66 kg

Hence, option C is correct.

42. Total amount of Iron extracted from Iron ore mined by machine D

$$= 200 \times \frac{36}{360} = 20 \text{ kg}$$

Wasted amount of Iron ore mined by machine D = 12% of 25 = 3 kg

Amount of Iron extracted from Iron ore mined by machine D = 20 − 3 = 17 kg

Total wasted amount of Iron ore mined by machine B and F together = 32% of 25 = 8 kg

Required difference = 17 − 8 = 9 kg

Hence, option D is correct.

43. Total wasted amount of Iron ore mined by machine A and C together = (20 + 8) % of 25 = 7 kg

Total amount of Iron ore mined by machine F alone = $200 \times \frac{63}{360}$ = 35 kg

Reqd. % = $\frac{7}{35} \times 100 = 20\%$

Hence, option E is correct.

44. Total amount of Iron ore mined by machine B

$$= 200 \times \frac{72}{360} = 40 \text{ kg}$$

Total cost of Iron ore mined by machine B = 40 × 200 = 8000

Total wasted amount of Iron ore mined by machine B = 16% of 25 = 4 kg

Amount of Iron extracted from Iron ore = 40 – 4 = 36 kg

Total cost of Iron extracted from Iron ore by machine B = 36 × 250 = 9000

$$\text{Profit \%} = \frac{9000 - 8000}{8000} \times 100 = 12.5\%$$

Hence, option B is correct.

45. Total amount of Iron ore mined by machine E

$$= 200 \times \frac{90}{360} = 50 \text{ kg}$$

Total wasted amount of Iron ore mined by machine E = 28% of 25 = 7 kg

Amount of Iron extracted from Iron ore at present = 50 – 7 = 43 kg

Amount of Iron extracted from Iron ore at the end of 2 years from present = 90% of 90% of 43 = 34.83 kg

Total cost of Iron extracted from Iron ore mined by machine E = 34.83 × 200 = Rs.6966

Hence, option C is correct.

46. Total purchase of items made by R = 12% of total purchase
Total purchase of items made by T = 16% of total purchase
Similarly,
Total purchase made by P = 18% of total purchase
Total purchase made by S = 15% of total purchase
Reqd. difference = (15% + 18%) of total purchase - (16% + 12%) of total purchase = (33% - 28%) of total purchase = 5% of total purchase
= 5% of 4700 = 235.
Hence, option B is correct.

47. Total purchase made by P, R and T together = (18 + 12 + 16)% of total purchase = 46% of total purchase

And the total purchase made by S and Q together = (15 + 35)% of total purchase = 50% of total purchase

$$\therefore \text{ Reqd. ratio} = \frac{46\% \text{ of total purchase}}{50\% \text{ of total purchase}} = \frac{46}{50}$$

= 23 : 25.

Hence, option A is correct.

48. If Q pays 6300 for 35% purchase

Let, P pays Rs. x for 18% purchase

Therefore, 35% ≡ 6300

18% ≡ x

$$x = \frac{6300 \times 18}{35} = 3240$$

Hence, P has to pay Rs. 3240 for their purchase.

Hence, option D is correct.

49. Total purchase percentage of R = 12%

And the total purchase percentage of S = 15%

$$\text{Reqd. \%} = \frac{15 - 12}{15} \times 100 = \frac{3}{15} \times 100 = 20\%$$

Hence, R is 20% less than S.

Therefore, option C is correct.

50. As, we know that the whole pie is 360°

therefore, 15% will be 15% of 360= $\frac{15}{100} \times 360 = 54°$

Hence, option B is correct.