Bipin Nambiar
(SBI PO 2018)

Shiraz Khan
(SBI Clerk 2018)

Kuldeep Yadav
(SBI PO 2018)

Rajat Saxena
(IBPS Clerk 2018)

Anupam Tyagi
(IBPS PO 2018)

FRIENDS!
WE USED **TESTZONE**
AND CRACKED BANK EXAMS

बैंक परीक्षाओ के लिए निश्चित
रूप से सर्वश्रेष्ट मॉक
टेस्ट सीरीज

IT'S YOUR TURN NOW
TAKE A **FREE** MOCK TEST

Smartkeeda
The Question Bank

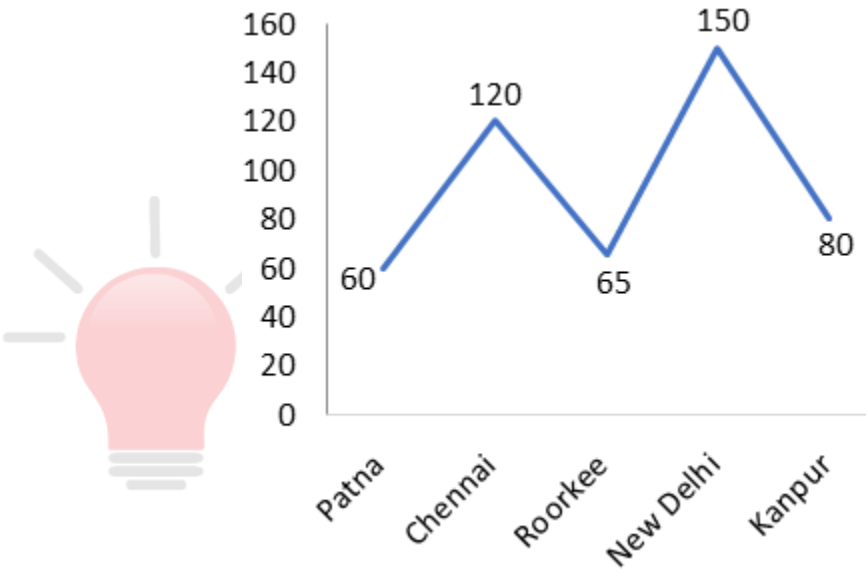
Date Interpretation Mixed Chart Questions for SBI Clerk Mains, IBPS PO Pre, IBPS Clerk Mains, and IBPS SO Pre Exams.

Direction : Read the following information carefully and answer the questions given below.

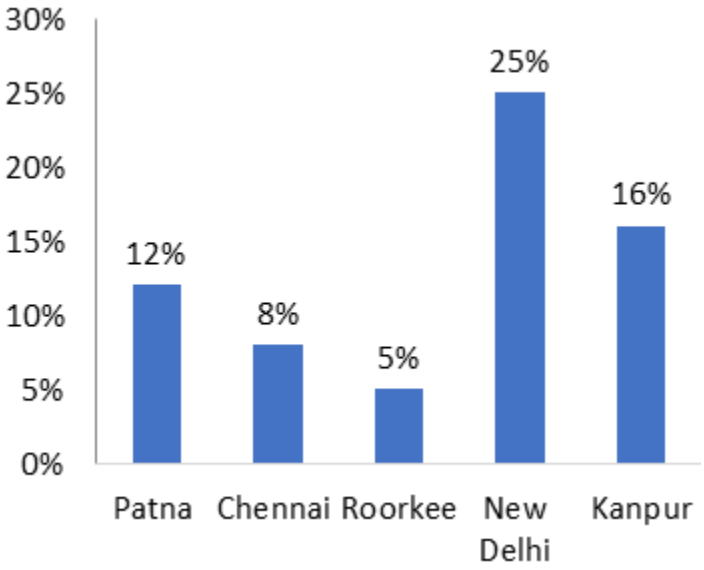
Set – 1

The line graph given below gives the information about the number of graduates hired by Tata Motors in five different IITs. The bar graph given below gives the information about the percentage of total graduates placed in Tata Motors from the respective IITs.

The number of graduates hired by Tata Motors



The percentage of graduates placed in Tata motors



1. The number of graduates who didn't get placed in Tata Motors, of IIT Roorkee was how many more than that of IIT Patna?

A. 785 B. 795 C. 800 D. 675 E. None of these

2. In IIT New Delhi, the ratio of male graduates to female graduates was 5 : 3 respectively. If total of 30 female graduates from that college get placed in Tata Motor then what percentage of the total number of male graduates get placed in Tata Motors?

A. 28% B. 30% C. 35% D. 32% E. None of these

3. In all the five IITs together, the number of female graduates is 40% of the total number of graduates then what is the total number of male graduates?

A. 2640 B. 2520 C. 2880 D. 2760 E. None of these

4. What is the total number of graduates from all the five IITs together got placed in Tata Motors?

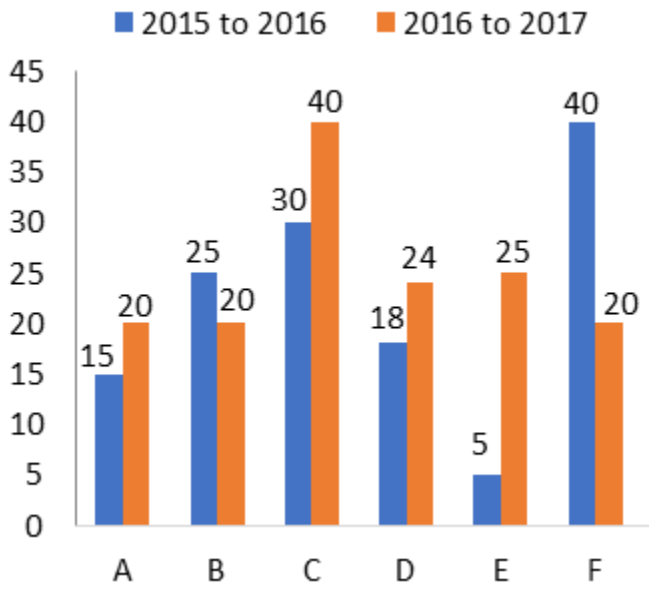
A. 480 B. 465 C. 475 D. 485 E. None of these

5. In IIT Patna, 10% of the total number of female graduates get placed in Tata Motors which formed 40% of the total number of graduates got placed from IIT Patna in Tata Motors then what was the total number of male graduates in IIT Patna?

A. 224 B. 230 C. 250 D. 260 E. None of these

SET – 2

The following bar chart gives the information about the percentage increase in turnover of six different companies from 2015 to 2016 and from 2016 to 2017



The following table chart gives the partial information about the actual turnover (In crores) of these companies in three different years.

Companies/Year	2015	2016	2017
A	-------	--------	1800
B	1200	--------	-------
C	-------	850	-------
D	950	-------	---------
E	------	---------	1700
F	-------	650	--------

6. What is the difference between the actual turnover of company A in 2016 and the actual turnover of company F in 2017?

A. Rs. 780 crores B. Rs. 720 crores C. Rs. 750 crores D. Rs. 740 crores E. None of these

7. Find the respective ratio of the actual turnover of company A and B in 2016?

A. 1 : 1 B. 2 : 1 C. 3 : 2 D. 4 : 5 E. None of these

8. The actual turnover of company F in 2015 is approximately what percent of the actual turnover of company E in 2015?

A. 32.55% B. 33.45% C. 38.65% D. 35.85% E. None of these

9. Find the sum of the turnover of company B in three different years?

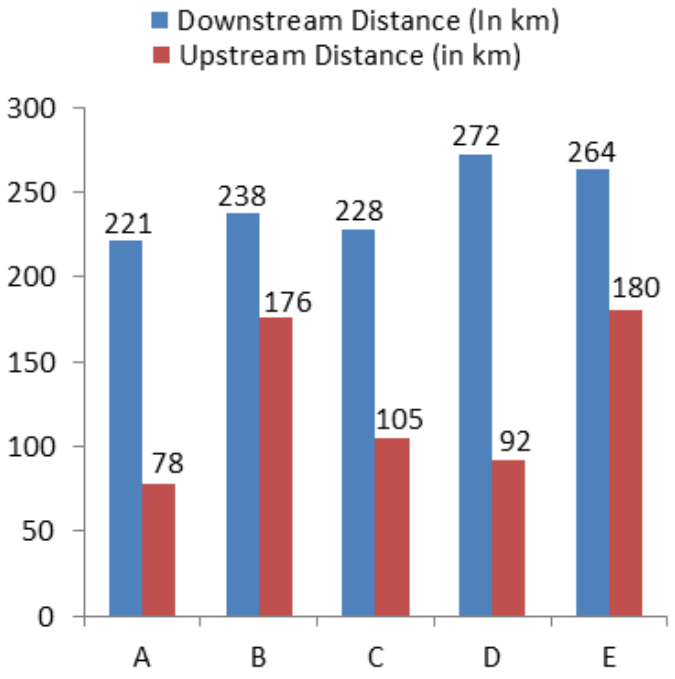
A. Rs. 4500 crores B. Rs. 4400 crores C. Rs. 4200 crores D. Rs. 4600 crores E. None of these

10. The actual turnover of company C in 2015 is approximately what percent less than the actual turnover of company E in 2015?

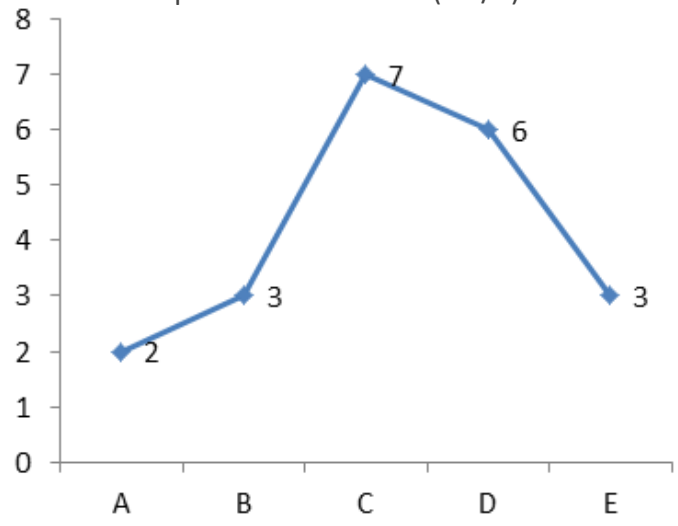
A. 52.5% B. 49.5% C. 40.5% D. 60.5% E. None of these

SET – 3

Bar chart given below shows downstream distance and upstream distance(in km) travelled by 5 different boats and the line chart shows the speed of the streams in which the boat flows.



Speed of the Stream (km/h)



11. **Downstream speed for E and upstream speed of B is same and the difference between the time taken by B going upstream and time taken by E going downstream is 8 hrs. Find the total time taken by E and B going 187 km downstream?**

A. 28 hrs B. 30 hrs C. 25 hrs D. 22 hrs E. 27 hrs

12. **If the time taken by C to complete a distance of 133 km downstream and time taken by A to complete a distance of 65 km upstream is 7 hrs and 5 hrs respectively. Then find the ratio of the time taken by C while going upstream and the time taken by A while going downstream?**

A. 12 : 13 B. 13 : 12 C. 23 : 25 D. 13 : 21 E. None of these

13. **The total time taken by D in travelling downstream and upstream both is 40 hrs. Find the time taken by boat F travelling 220 kms upstream , if the ratio of speed of the boat in still water of D and F is 1:3 and the time taken by F in going 360 kms downstream is 9 hrs?**

A. 12 hrs B. 9 hrs C. 11 hrs D. 13 hrs E. None of these

14. **The speed of Boat B downstream is 17km/hr. Boat B while travelling back to the shore downstream was struck by a rock due to which water starts to flow into the boat at the rate of 30 litres per hour. If the boat can survive up to 270 litres , find the minimum percentage increase in speed boat B requires in order to reach the shore , if the distance remaining at the moment rock hit the boat was 180 kms?**

A. 150/7% B. 153/7% C. 37% D. 53% E. None of these

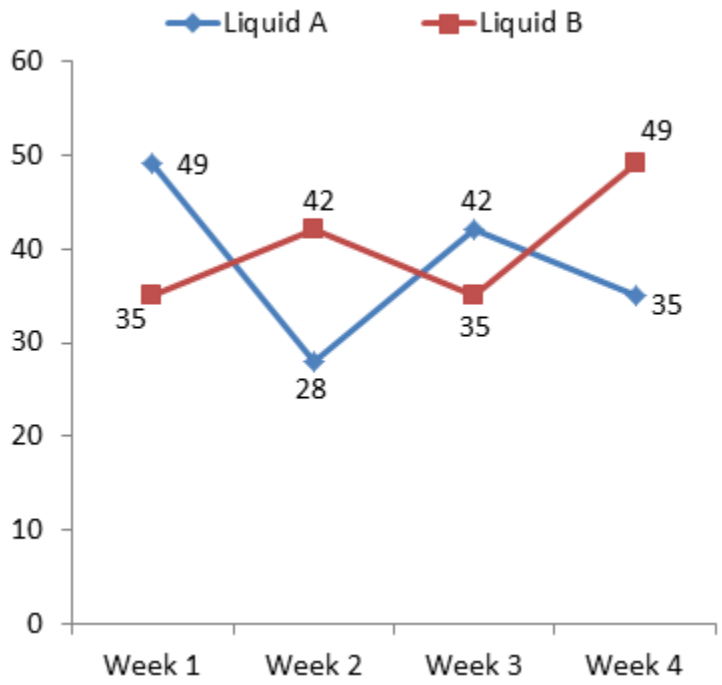
15. **The speed of Boat E going downstream is 11km/hr. Boat E while travelling back to the shore downstream was struck by a rock due to which water starts to flow into the boat at the rate of 50 litres per hour. If the boat can survive up to 1000 litres, find the minimum percentage of increase in speed boat E requires in order to reach the shore , if the distance remaining at the moment rock hit the boat was 240 kms?**

A. 8.33% B. 9.5% C. 12.5% D. 12.33% E. None of these

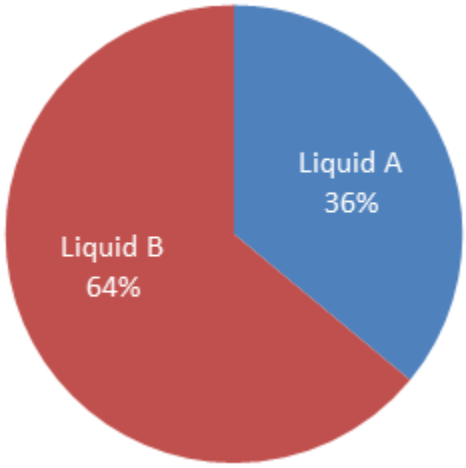
SET – 4

A scientist purchases 50 litres mixture of two liquids A and B such that their percentage composition in mixture is shown in the pie-chart. He purchases them weekly for his photographic experiments at the rates given in the line graph and after mixing them completely, sells it back to a manufacturing company.

Cost price of liquids (in rupees)



Liquid distribution percentage



16. The average cost of the mixture per litre to the scientist, for the 1st three weeks is –

A. Rs. $\frac{2863}{75}$ B. Rs. $\frac{2863}{100}$ C. Rs. $\frac{2863}{50}$ D. Rs. $\frac{2863}{5}$ E. None of these

17. In the 4th Week, find the profit or loss % received by the scientist if he sells the entire mixture solution of that week to the company for Rs. 3297 -

A. 50% loss B. 50% gain C. 25% gain D. 75% loss E. None of these

18. During week-3, 20% of the entire mixture (in container M) was separated in another container N. Find the ratio of the sum of liquid A in N and liquid B in M to the sum of liquid A in M and liquid B in N.

A. $\frac{29}{52}$ B. $\frac{113}{52}$ C. $\frac{73}{52}$ D. $\frac{155}{52}$ E. None of these

19. In week-2, had the scientist sold back both the liquids A & B separately at Rs. 35 & Rs. W per litre, he would have got a total loss of 7%, but while selling them for Rs. 28 & Rs. 35 per litre, he would have got a loss of Z%. Then the product of W & Z is -

A. $\frac{4536}{17}$ B. $\frac{4536}{15}$ C. $\frac{4536}{13}$ D. $\frac{4536}{11}$ E. None of these

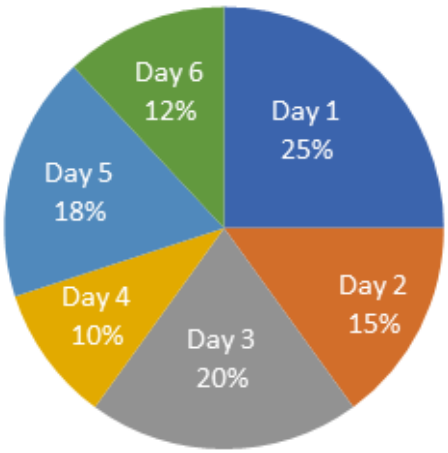
20. In week-1, if the scientist secretly converted some percent of liquid B to A (total volume remaining constant) and then mixed them such that the difference in the cost price of the mixtures for the same volume per litre rose by Rs.(248/50). Then, what percent of B was converted from B to A?

A. $\frac{557}{14}$ B. $\frac{577}{14}$ C. $\frac{575}{14}$ D. $\frac{755}{14}$ E. $\frac{775}{14}$

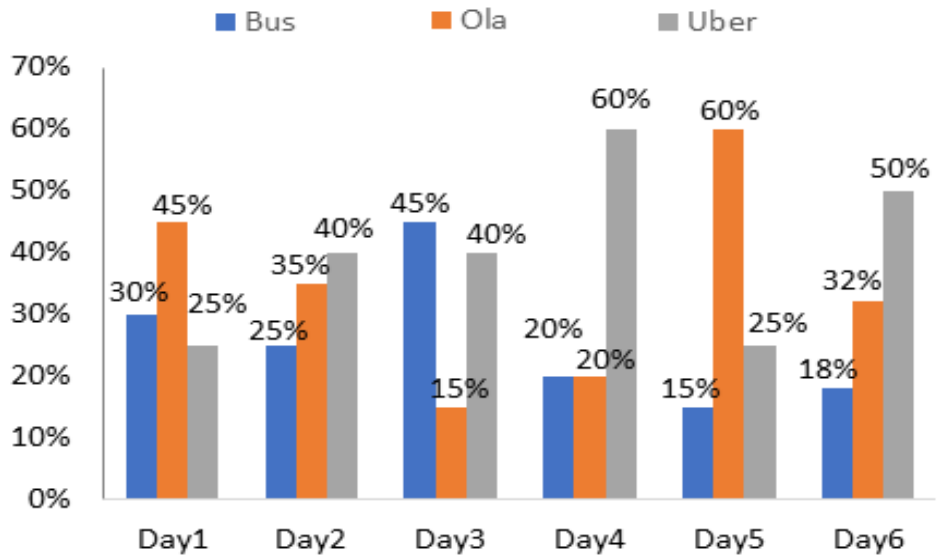
SET – 5

A person covers a total distance of 3000 km in 6 days, by bus, by Ola, and by Uber. Study the pie chart and bar graph to answer these questions.

The percentage of total distance travelled in 6 different days



The percentage of distance
covered by each mode on each day



21. What is the total distance covered by Bus?

A. 814.9 km B. 812.3 km C. 813.3 km D. 821.23 km E. None of these

22. If everywhere Ola maintains an average speed of 40 km per hour then what is the total time (In hour) in six days spent on Ola? (approximately)

A. 25 hours B. 26 hours C. 27 hours D. 28 hours E. 28.5 hours

23. The distance travelled by Ola is approximately how much percentage of the distance travelled by Uber? (Round off two decimal)

A. 97.21% B. 102.32% C. 98.34% D. 99.91% E. 106.29%

24. Find the respective ratio of the distance travelled by Bus, Ola, and Uber.

A. 2711 : 3614 : 3675 B. 8133 : 10837 : 11020 C. 2713 : 3612 : 3675
D. 2717 : 3614 : 3681 E. None of these

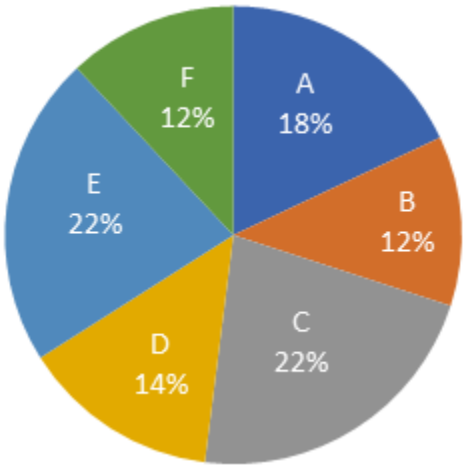
25. Suppose, Instead of Bus, the person uses Ola and the speed of Ola is 25% more than the speed of bus then approximately how many hours the person would save? (The average speed of bus is 30 km per hour)

A. 6.8 hours B. 7.2 hours C. 4.6 hours D. 5.4 hours E. 4.8 hours

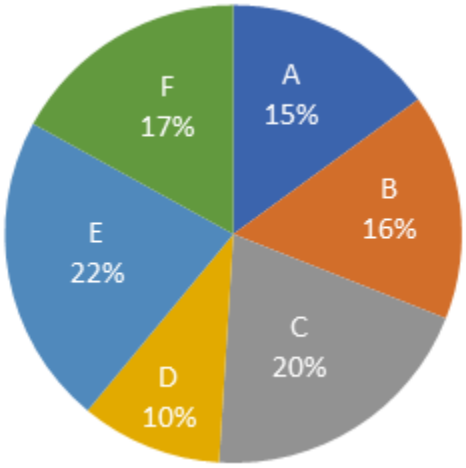
SET – 6

In 2017, the total number of SBI PO applicants in six different states, A, B. C. D, E, and F was 7.4 lakhs and the total number of SBI Clerk applicants in six different states A, B, C, D, E, and F was 8.2 lakhs.

Statewise distribution of SBI PO applicants



Statewise distribution of SBI PO applicants



M : F Ratio (M = Male, F = Female)

States	SBI PO Applicants		SBI Clerk applicants	
	M :	F	M :	F
A	4	5	8	7
B	7	5	1	1
C	6	5	3	2
D	3	4	3	2
E	8	3	5	6
F	5	3	20	21

26. **What is the ratio between the total number of male applicants for SBI PO in 2017 from the given six states and the total number of female applicants for SBI PO in 2017 from the given six states?**

A. 119 : 81 B. 113 : 87 C. 229 : 171 D. 19 : 17 E. None of these

27. **The total number of male applicants for SBI PO in 2017 from the given six states together is approximately what percent of the total number of male applicants for SBI Clerk in 2017 from the given six states together?**

A. 79.5% B. 73.5% C. 97.5% D. 69.5% E. 87.5%

28. **In 2018, it is expected that the total number of SBI PO applicants will increase by 10% over the previous year and the total number of SBI Clerk applicant will increase by 25% over the previous year. If expectations come true then by what number the total female applicants of PO and Clerk will increase over the previous year? (If we consider only the given six states and the ratio of male and female remains same when the applicants increase in 2018)**

A. 1.2999 lakhs B. 1.6245 lakhs C. 0.9827 lakhs D. 1.1002 lakhs E. None of these

29. **Find the difference between the total number of male applicants for the examination SBI PO 2017 and SBI Clerk 2017 together from the states A, B, and C together and that from the states D, E, and F together?**

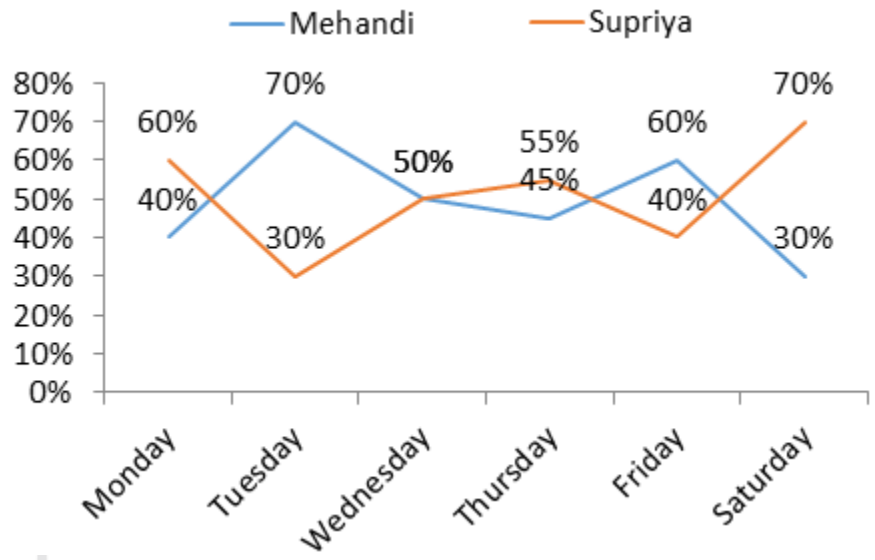
A. 0.881 lakhs B. 0.132 lakhs C. 0.119 lakhs D. 0.612 lakhs E. None of these

30. **In 2017, SBI PO female applicants from the state B is what percent of the SBI Clerk male applicant from the state F? (rounded off to nearest integer)**

A. 44.41% B. 64.98% C. 59.21% D. 54.41% E. 49.82%

SET – 7

Mehandi and Supriya are working in a chemistry laboratory and handled different number of student's everyday



Number of students visiting the chemistry lab on different days

Day	Number of students
Monday	180
Tuesday	270
Wednesday	150
Thursday	240
Friday	225
Saturday	210

31. Students handled by Mehandi on Thursday and Friday are what percent of students handle by Supriya on Thursday?

A. 214.67% B. 192.32% C. 184.09% D. 186.56% E. 134.64%

32. On which day of the week Mehandi handled minimum number of students?

A. Wednesday B. Tuesday C. Friday D. Saturday E. Monday

33. Find the ratio of the number of students handled by Mehandi on Monday and Tuesday together to number of students handled by Supriya on Wednesday and Friday?

A. 59 : 22 B. 83 : 26 C. 44 : 31 D. 76 : 25 E. 87 : 55

34. The number of students handled by Supriya on Monday is what percent of the students handled by her on Tuesday and Saturday together?

A. 48.39% B. 47.37% C. 50.41% D. 42.73% E. 45.56%

35. The number of students handled by Supriya from Monday to Friday are what percent of number of students handled by Mehandi from Monday to Friday?

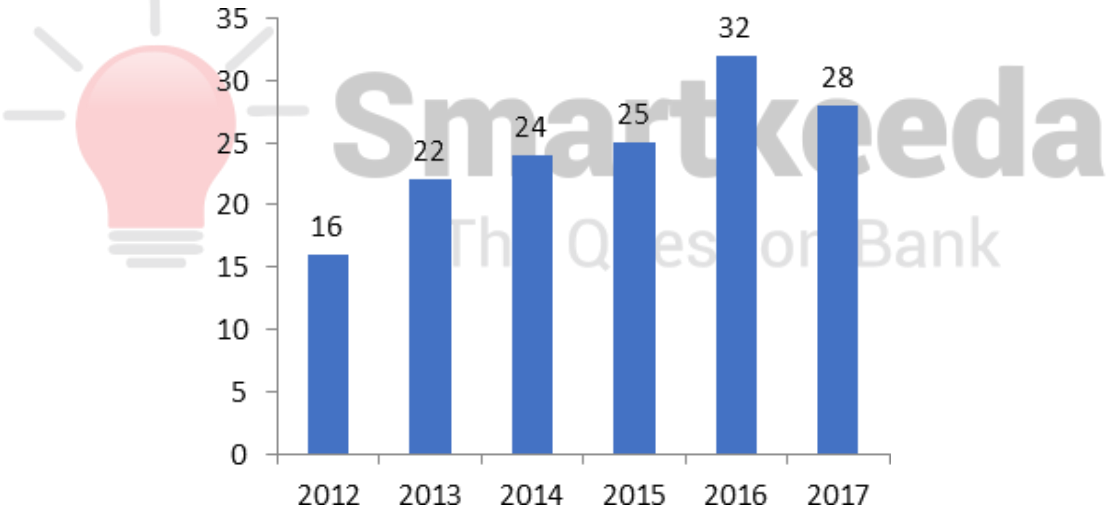
A. 83.94% B. 78.56% C. 87.34% D. 91.34% E. 88.30%

SET – 8

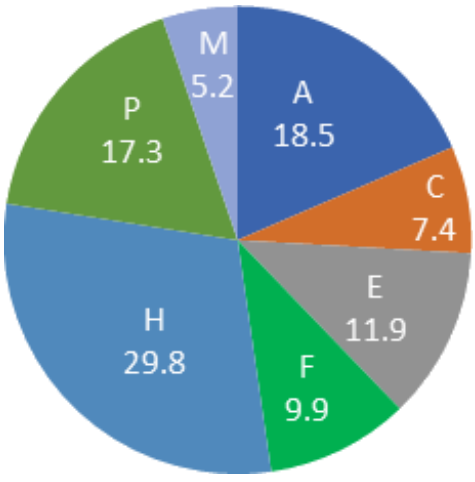
The bar graph gives the information about the approximate number of students, who graduated in a year, for 6 years (2012 – 2017). The pie chart gives the information about the percentage of the students who took the following 6 streams in graduation every year.

A = Arts, C = Commerce, E = Engineering, F = Finance, H = History, P = Physics, M = Maths

Number of students (in lakhs)



Percentage distribution of streams



36. By what percent is the number of students who graduated in finance stream in 2013 is more than or less than the number of students who graduated in commerce stream in 2015?

A. 17.73% more B. 17.73% less C. 18.83% more D. 18.83% less E. 18.65% less

37. Find the difference between the sum of the number of students who graduated in commerce during the year 2012, 2013, and 2014 and the sum of the number of students who graduated in finance stream during the year 2015, 2016, and 2017.

A. 3.629 lakhs B. 4.527 lakhs C. 3.827 lakhs D. 4.588 lakhs E. None of these

38. In 2013 the ratio of First Class Division holder(FCD) in different streams was A : C : E : F : H : P : M = 2 : 1 : 1 : 3 : 4 : 2 : 1 and the total number of students who scored FCD was 2.8 lakhs then how many percent of the engineering students had scored FCD?

A. 7.64% B. 6.43% C. 2.12% D. 7.54% E. 7.60%

39. 25% of the students who graduated in between 2012 and 2017 had applied for SBI clerk 2017 examination but only 10% of them had cleared prelims. It was observed that 65% of those who had cleared prelims had bought SMARTKEEDA practice set then find how many of the students had bought SMARTKEEDA practice sets? (students, who cleared prelims exam were only those who graduated in between 2012 and 2017)

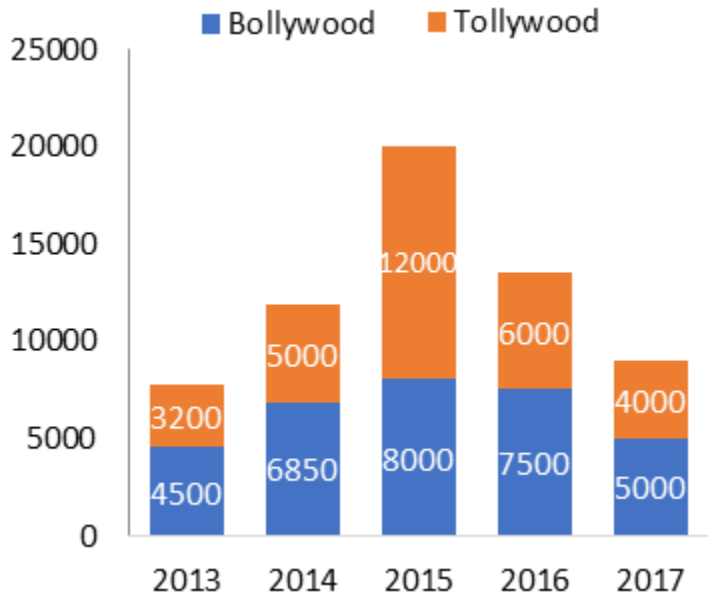
A. 2.14564 lakhs B. 2.14564 lakhs C. 2.0765 lakhs D. 3.675 lakhs E. 2.38875 lakhs

40. The ratio of number of students in 2017 to that of in 2018 is likely to be 4 : 7 and the percentage share of students who will be graduated in finance is likely to increase by 9% then how many more students will be graduated in finance stream?

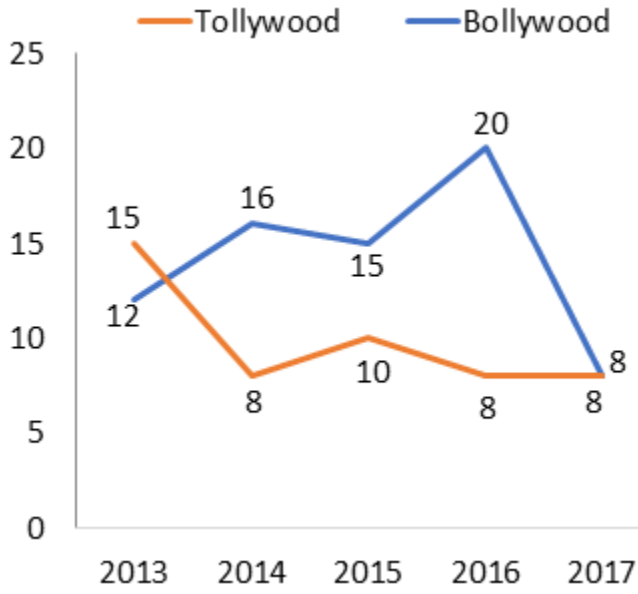
A. 6.489 lakhs B. 2.772 lakhs C. 9.261 lakhs D. 11.993 lakhs E. None of these

SET – 9

The stacked graph gives the information about the average revenue collection (in '000) per movie in five consecutive years.



The line graph given below gives the information about the number of movies released in the consecutive years.



41. The total revenues from Bollywood in the year 2015 was how much less than that in the year 2016 from Bollywood?

A. Rs. 25000 thousand
B. Rs. 30,000 thousand
C. Rs. 35,000 thousand
D. Rs. 20,000 thousand
E. None of these

42. What was the ratio between the total revenues in the year 2014 to that in the year 2016?

A. 17 : 21 B. 17 : 21 C. 34 : 45 D. 34 : 33 E. None of these

43. The number of Bollywood movies released in the given five years was how many more than that of Tollywood movies released in the given five years?

A. 24 B. 22 C. 18 D. 21 E. None of these

44. In the year 2017, the total revenues collection from Bollywood was what percentage of the total revenues collection of that year? (rounded off two decimal)

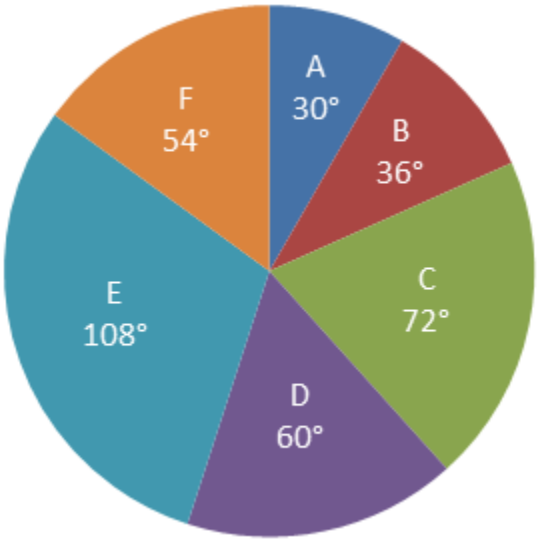
A. 125% B. 44.44% C. 55.56% D. 66.67% E. None of these

45. What was the difference between the average revenue collection per movie in the year 2015 and that in the year 2017?

A. Rs. 5500 thousand B. Rs. 5100 thousand C. Rs. 5200 thousand
D. Rs. 5400 thousand E. None of these

SET – 10

The pie chart below shows the number of students in six different schools of a city. All values in the pie-chart are in degrees.



Total Number of students = 5400

The table below shows the percentage distribution of students by standard (6 to 10) and division for school D. Each standard of school D has the same number of students.

STD	Division		
	I	II	III
6^{th}	30%	35%	35%
7^{th}	50%	25%	25%
8^{th}	20%	55%	25%
9^{th}	45%	35%	20%
10^{th}	35%	30%	35%

46. Division II in school B's 7th standard has the same number of students as division I in school D's 8th standard. What is the ratio of number of students in division II in school B's 7th standard to the number of students in division III in school D's 10th standard?

A. 1 : 1 B. 5 : 7 C. 5 : 6 D. 4 : 7 E. 2 : 3

47. What is the total number of students in Division I of all standards of school D?

A. 252 B. 320 C. 322 D. 250 E. 324

48. The number of students in division III of standard 9 of school D forms what percent of the total number of students in school A?

A. 5% B. 6% C. 8% D. 10% E. 12%

49. If 20% of the students in school A move to school D and are equally distributed in each standard, what is the number of students in division II of std. 8 of school E?

A. 36 B. 99 C. 45 D. 72 E. Can't be determined

50. What is the difference between the total number of students in school C and students in division III across all standards of school D?

A. 828 B. 830 C. 838 D. 756 E. None of these

CORRECT ANSWERS:

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

Explanations:

1. In IIT Roorkee, 5% of the total number of graduates = 65

100% of the total number of graduates = $\frac{65 \times 100}{5}$ = 1300

The number of graduates who didn't get placed in Tata Motors = 1300 – 65 = 1235

In IIT Patna, 12% of the total number of graduates = 60

100% of the total number of graduates = $\frac{60 \times 100}{12}$ = 500

The number of graduates who didn't get placed in Tata Motors = 500 – 60 = 440

The required difference = 1235 – 440 = 795

Hence, option B is correct.

2. In IIT New Delhi, The total number of graduates

= $\frac{150 \times 100}{25}$ = 600

The number of female graduates = 3 × $\frac{600}{8}$ = 75 × 3 = 225

The number of male graduates = 600 – 225 = 375

The number of male graduates get placed = 150 – 30 = 120

The reqd. % = $\frac{120 \times 100}{375}$ = 32%

Hence, option D is correct.

3. In IIT Patna,

In IIT Patna, 12% of the total number of graduates = 60

100% of the total number of graduates = $\frac{60 \times 100}{12}$ = 500

In IIT Chennai, the total number of graduates = $\frac{120 \times 100}{8}$ = 1500

In IIT Roorkee, the total number of graduates = $\frac{65 \times 100}{5}$ = 1300

In IIT New Delhi, the total number of graduates = $\frac{150 \times 100}{25}$ = 600

In IIT Kanpur, the total number of graduates = $\frac{80 \times 100}{16}$ = 500

the total number of graduates = 500 + 1500 + 1300 + 600 + 500 = 4400

The total number of male graduates = (100 – 40)% of 4400 = 60% of 4400 = 2640

Hence, option A is correct.

4. The required answer = 60 + 120 + 65 + 150 + 80 = 475

Hence, option C is correct.

5. In IIT Patna, 40% of 60 = 24

It means, 24 female graduates got placed which was 10% of the total number of female graduates

The total number of female graduates = 24 × 10 = 240

In IIT Patna, 12% of the total number of graduates = 60

100% of the total number of graduates = $\frac{60 \times 100}{12}$ = 500

The required answer = 500 – 240 = 260

Hence, option D is correct.

6. The actual turnover of company A in 2017 = 1800

Let in 2016, it was x then 120% of x = 1800

$X = \frac{1800 \times 100}{120} = 1500$

The actual turnover of company F in 2016 = 650

Therefore, the actual turnover of Company F in 2017 = 120% of 650 = 780

The required difference = 1500 – 780 = 720 crores

Hence, option B is correct.

7. The actual turnover of company A in 2016

$= \frac{1800 \times 100}{120} = 1500$

The actual turnover of company B in 2016 = 125% of 1200 = 1500

The required ratio = 1 : 1

Hence, option A is correct.

8. Let the turnover of company F in 2015 = x
Then, 140% of x = 650,

$x = \frac{650 \times 100}{140} = \frac{3250}{7}$

Let the turnover of company E in 2015 = y then, (105% of y) of 125% = 1700

$Y \times \frac{105}{100} \times \frac{125}{100} = 1700$

$Y = \frac{1700 \times 16}{21}$

The reqd. % $= \frac{(3250/7) \times 100}{(1700 \times 16/21)}$

$= \frac{3250 \times 3}{17 \times 16}$ = approximately 35.85%

Hence, option D is correct.

9. The turnover of company B in 2015 = 1200

The turnover of company B in 2016 = 125% of 1200 = 1500

The turnover of company B in 2017 = 120% of 1500 = 1800

The required sum = 1200 + 1500 + 1800 = Rs. 4500 crores

Hence, option A is correct.

10. Let the actual turnover of company C in 2015 = x

Then, 130% of x = 850

$$x = \frac{850 \times 100}{130} = \frac{8500}{13}$$

= approximately 653.85 crores

Let the turnover of company E in 2015 = y then, (105% of y) of 125% = 1700

$$y \times \frac{105}{100} \times \frac{125}{100} = 1700$$

$$y = \frac{1700 \times 16}{21} = \frac{27200}{21}$$

= approximately 1295.24 crores

$$\text{The reqd. \%} = \frac{(1295.24 - 653.85) \times 100}{1295.24}$$

= approximately 49.5%

Hence, option B is correct.

11. Distance covered by E in downstream D(dE) = 264 km

Speed of the stream of E= 3 km/h

Downstream speed of E = upstream speed of B

S(dE) = S(uB)

$$\frac{264}{t(dE)} = \frac{176}{t(uB)}$$

$$\frac{t(uB)}{t(dE)} = \frac{2}{3}$$

Difference = 8 hrs

Hence 3x – 2x = 8, x = 8 hrs

Hence t(uB) = 16 hrs , t(dE) = 24 hrs

So total time by E and B going 187 km downstream,

$$t\,(dE) + t\,(dB) = \frac{187}{S\,(dE)} + \frac{187}{S(dB)} \text{ .....(i)}$$

$$S\,(dE) = \frac{264}{t(dE)} = \frac{264}{24} = 11 \text{ km/h}$$

Now S(dE) = S(uB)

So S(uB) = 11 km/h

$$\text{Speed (B)} = \frac{[S(dB) - S(uB)\,]}{2}$$

$$3 = \frac{[S(dB) - 11\,]}{2}$$

S(dB) = 17 km/h

Putting all values in eq 1

t (dE) + t (dB) = 17 + 11 = 28 hrs

Hence, option A is correct.

12. Distance covered by C upstream = 105 km

Upstream speed of C = S(uC)

Downstream Distance covered by A = 221 km

$t(uC) : t(dA) = \frac{105}{S(uC)} : \frac{221}{S(dA)}$ .....(i)

$t(dC) = \frac{133}{S(dC)}$

$7 = \frac{133}{S(dC)}$, $S(dC) = \frac{133}{7} = 19$ km/h

$S(C) = \frac{[S(dC) - S(uC)]}{2}$

$7 \times 2 = 19 - S(uC)$

$S(uC) = 5$ km/h

$t(uA) = \frac{65}{S(uA)}$, $S(uA) = \frac{65}{5} = 13$ km/h

$S(A) = \frac{S(dA) - S(uA)}{2}$

$2 \times 2 = S(dA) - 13$

$S(dA) = 17$ km/h

Put all values in eq1

$t(uC):t(dA) = \frac{105}{5} : \frac{221}{17} = 21 : 13$

Hence, option E is correct.

13.

$t(uF) = \frac{220}{S(uF)}$ .....(i)

$t(dD) + t(uD) = 40$ hrs

$\frac{272}{S(dD)} + \frac{92}{S(uD)} = 40$

[272/(boat speed in still water + stream speed)] + [92/(boat speed in still water – stream speed) = 40

$\frac{272}{B + 6} + \frac{92}{B - 6} = 40$

Speed of boat D in still water B(D) = 10 hrs

B(D) : B(F) = 1 : 3

$\frac{10}{B(F)} = \frac{1}{3}$

B(F) = 30 km/h

So speed of boat F in still water = 30 km/h

$t(dF) = \frac{360}{B(F) + S(F)} = 9$

putting B(F) = 30 km/h

S(F) = 10 km/h

Stream speed of F = 10 km/h

So Upstream speed of F, S (uF) = B(F) – S(F) = 30 – 10 = 20 km/h

Putting this in eq1

$t(uF) = \frac{220}{20} = 11$ hrs

Hence, option C is correct.

14.

time = $\frac{270}{30}$ = 9 hrs

That means boat can survive up to 9 hrs.

Speed = $\frac{180}{9}$ = 20 km/h

Speed should be 20 km/h to survive
But the speed of B going downstream,
S(dB)=17 km/h
S(dB) = B+S
17= B+ 3
B= 14 km/h
Hence boat B's Speed = 14 km/h
Minimum speed should be 20 km/h to survive.
Stream speed is 3 km/h which con not be changed
So boat B's speed should be 14+3 = 17 km/h , to reach 20 km/h

Hence, reqd. % = $\frac{3}{14} \times 100 = \frac{150}{7}$ %

Hence, option A is correct.

15.

time = $\frac{1000}{50}$ = 20 hrs

That means boat can survive up to 20 hrs.

Speed = $\frac{240}{20}$ = 12 km/h

Speed should be 20 km/h to survive
But the speed of E going downstream,
S(dE) = 11 km/h
S(dE) = B+S
11 = B+ 3 (Speed of stream for boat E = 3km/h)
B = 8 km/h
Hence boat E's Speed = 8 km/h
Minimum speed should be 12 km/h to survive.
Stream speed is 3 km/h which con not be changed
So boat E's speed should be 8+1 = 9 km/h , to reach 12 km/h

Hence, reqd. % = $\frac{1}{8} \times 100 = \frac{25}{2}$ % = 12.5%

Hence, option C is correct.

16. Litres of Liquid B = 64% of 50 litres

$= \frac{64}{100} \times 50 = \frac{64}{2}$

Litres of Liquid B = 32 litres

Litres of Liquid A = 50 – 32 = 18 litres

Average C.P of liquid A = $\frac{49 + 28 + 42}{3}$ = Rs.$\frac{119}{3}$

Average C.P of liquid B = $\frac{35 + 42 + 35}{3}$ = Rs.$\frac{112}{3}$

Let C.P of per litre mixture be Rs. x.

Then, ($\frac{119}{3}$ – x) (18litres) = (x – $\frac{112}{3}$) (32 litres)

$\frac{119 \times 9}{3} + \frac{112 \times 16}{3}$ = 16x + 9x = 25x

$\frac{1071 + 1792}{3}$ = 25x

x = Rs.$\frac{2863}{75}$

Hence, option A is correct.

17. C.P of mixture per litre for 4th week be Rs. x.

Then, [49 – x] (32 litres) = [x –35] (18 litres)

x = Rs. $\frac{2198}{50}$

For 50 litres, C.P = Rs. 2198

Profit = Rs. 3297 – Rs. 2198 = Rs. 1099

Profit % = $\frac{1099}{2198} \times 100 = \frac{100}{2}$ = 50% gain

Hence, option B is correct.

18.

20% of mixture = $\frac{20}{100}$ of 50 litres

= 10 litres (moved from M to N)

Liquid A in container N = 36% of 10litres = 3.6 litres

Liquid B in container N = 64% of 10litres = 6.4 litres

Liquid A in container M = 36% of 40litres = 14.4 litres

Liquid B in container M = 64% of 40litres = 25.6 litres

$$\text{Ratio} = \frac{\text{Liquid A in N + Liquid B in M}}{\text{Liquid A in M + Liquid B in N}}$$

$$= \frac{3.6 + 25.6}{6.4 + 14.4}$$

$$= \frac{29.2}{20.8} = 292/208 = 73/52$$

Hence, option C is correct.

4.

In week-2, C.P of liquid A = Rs.28 and sold at Rs. 35

C.P of liquid B = Rs. 42 and sold at Rs.W

Total C.P = Rs. (28 × 18 + 42 × 32) = Rs. (504 + 1344) = Rs. 1848 …(1)

Total S.P = Rs. (35 × 18 + W × 32) = Rs.(630 + 32W)

Loss = Rs. [1848 – (630+32W)] = Rs. (1218 – 32W)

$$\text{Loss \%} = \frac{1218 - 32W}{1848} \times 100 = 7$$

$$(1218 - 32W) = \frac{7 \times 1848}{100}$$

$$32W = \frac{121800}{100} - \frac{12936}{100} = \frac{3402 \times 32}{100}$$

$$W = \frac{3402}{100}$$

Also,

Total S.P = Rs.(28 x 18 + 35 x 32) = Rs.(504+1120) = Rs.1624

Loss = Rs. [1848 – 1624] = Rs. 224

$$\text{Loss \%} = Z = \frac{224}{1848} \times 100 = \frac{400}{33}$$

$$\text{Then, } W \times Z = \frac{3402}{100} \times \frac{400}{33} = \frac{3402 \times 4}{33} = \frac{4536}{11}$$

Hence, option D is correct.

20. Let s litres of liq. B be converted.

New volume of B = 32 – s

New volume of A = 18 + s

C.P of mixture per litre for 1st week be Rs. x.

Then, [49 – x] (18 litres) = [x –35] (32 litres)

882 – 18x = 32x – 1120

50x = 1120 + 882 = 2002

$x = \text{Rs. } \frac{2002}{50}$

Then cost price of mixture will be

$\frac{2002}{50} + \frac{248}{50} = \frac{2250}{50} = 45$

(18 + s) (49 – 45) = (45 – 35) (32 – s)

4(18 + s) = 10(32 – s)

72 + 4s = 320 – 10s

14s = 320 – 72 = 248

$s = \frac{248}{14} = \frac{124}{7}$

$\%\text{ of B} = \frac{124/7}{32} \times 100 = \frac{775}{14}$

Hence, option E is correct.

21.

Day	Total distance	By bus
Day1	25% of 3000 = 750 km	30% of 750 = 225 km
Day2	15% of 3000 = 450 km	25% of 450 = 112.5 km
Day3	20% of 3000 = 600 km	45% of 600 = 270 km
Day4	10% of 3000 = 300 km	20% of 300 = 60 km
Day5	18% of 3000 = 540 km	15% of 540 = 81 km
Day6	12% of 3000 = 360 km	18% of 360 = 64.8 km
		Total = 813.3 km

Hence, option C is correct.

22. The total distance travelled by Ola = 1084.2 km

Speed = 40 km per hr

Time = $\frac{1084.2}{40}$ = 27.105 hours = approximately 27 hours

Day	Total distance	By Ola
Day1	25% of 3000 = 750 km	45% of 750 = 337.5 km
Day2	15% of 3000 = 450 km	35% of 450 = 157.5 km
Day3	20% of 3000 = 600 km	15% of 600 = 90 km
Day4	10% of 3000 = 300 km	20% of 300 = 60 km
Day5	18% of 3000 = 540 km	60% of 540 = 324 km
Day6	12% of 3000 = 360 km	32% of 360 = 115.2 km
		Total = 1084.2 km

Hence, option C is correct.

23. The total distance travelled by Ola = 1084.2 km

The total distance travelled by Uber = 3000 – 813.3 – 1084.2 = 1102.5 KM

The reqd. % = $\frac{1084.2 \times 100}{1102.5}$ = 98.34%

Hence, option C is correct.

24. The distance travelled by bus = 813.3 km

The distance travelled by Ola = 1084.2 km

The distance travelled by Uber = 1102.5 km

The required Ratio = 8133 : 10842 : 11025 = 2711 : 3614 : 3675

Hence, option A is correct.

25. The average speed of bus is 30 km per hour then the average speed of Ola

= $\frac{30 \times 125}{100}$ = 37.5 km

The total distance travelled by bus = 813.3 km

The reqd. time = $\frac{813.3}{30} - \frac{813.3}{37.5}$

= 813.3 × $\frac{7.5}{30 \times 37.5}$ = 5.422 hours = 5.4 hours approximately

Hence, option D is correct.

26.

States	Number of applicants for SBI PO	Number of male applicants for SBI PO	Number of female applicants for SBI PO
A	18% of 7.4 lakhs = 1.332 lakhs	4/9 × 1.332 = 0.592 lakhs	1.332 – 0.592 = 0.74 lakhs
B	12% of 7.4 lakhs = 0.888 lakhs	7/12 × 0.888 = 0.518 lakhs	0.888 – 0.518 = 0.37 lakhs
C	22% of 7.4 lakhs = 1.628 lakhs	6/11 × 1.628 = 0.888 lakhs	1.628 – 0.888 = 0.74 lakhs
D	14% of 7.4 lakhs = 1.036 lakhs	3/7 × 1.036 = 0.444 lakhs	1.036 – 0.444 = 0.592 lakhs
E	22% of 7.4 lakhs = 1.628 lakhs	8/11 × 1.628 = 1.184 lakhs	1.628 – 1.184 = 0.444 lakhs
F	12% of 7.4 lakhs = 0.888 lakhs	5/8 × 0.888 = 0.555 lakhs	0.888 – 0.555 = 0.333 lakhs
Total		Total = 4.181 lakhs	Total = 3.219 lakhs

The required ratio = 4.181 : 3.219 = 113 : 87

Hence, option B is correct.

27. The total number of male applicants for SBI PO in 2017 from the given six states together = 4.181 lakhs

States	Number of applicants for SBI Clerk	Number of male applicants for SBI Clerk
A	15% of 8.2 lakhs = 1.23 lakhs	8/15 × 1.23 = 0.656 lakhs
B	16% of 8.2 lakhs = 1.312 lakhs	1/2 × 1.312 = 0.656 lakhs
C	20% of 8.2 lakhs = 1.64 lakhs	3/5 × 1.64 = 0.984 lakhs
D	10% of 8.2 lakhs = 0.82 lakhs	3/5 × 0.82 = 0.492 lakhs
E	22% of 8.2 lakhs = 1.804 lakhs	5/11 × 1.804 = 0.82 lakhs
F	17% of 8.2 lakhs = 1.394 lakhs	20/41 × 1.394 = 0.68 lakhs
Total		Total = 4.288 lakhs

The total number of male applicants for SBI Clerk in 2017 from the given six states together = 4.288 lakhs

The reqd. % = $\frac{4.181 \times 100}{4.288}$ = approximately 97.5%

Hence, option C is correct.

28. If the total number students increase by 10% then even the total number of female students will increase by 10% .
The total number of SBI PO female applicants in 2017 = 3.219 lakhs
In 2018, The total number of female applicants = 110% of 3.219 = 3.5409 lakhs
The total number of female SBI Clerk applicants in 2017 = 8.2 – 4.288 = 3.912 lakhs
In 2018, the total number of female applicants = 125% of 3.912 lakhs = 4.89 lakhs
The required number = (3.5409 + 4.89) – (3.219 + 3.912) = 8.4309 – 7.131 = 1.2999 lakhs
Hence, option A is correct.

29. The total number of male applicants for the examination SBI PO 2017 from the states A, B, C together = 0.592 + 0.518 + 0.888 = 1.998 lakhs

The total number of male applicants for the examination SBI Clerk 2017 from the states A, B, C together = 0.656 + 0.656 + 0.984 = 2.296 lakhs

the total number of male applicants for the examination SBI PO 2017 and SBI Clerk 2017 together from the states A, B, and C together = 1.998 + 2.296 = 4.294 lakhs

The total number of male applicants for the examination SBI PO 2017 from the states D, E, F together = 0.444 + 1.184 + 0.555 = 2.183 lakhs

The total number of male applicants for the examination SBI Clerk 2017 from the states D, E, F together = 0.492 + 0.82 + 0.68 = 1.992 lakhs

the total number of male applicants for the examination SBI PO 2017 and SBI Clerk 2017 together from the states D, E, and F together = 2.183 + 1.992 = 4.175 lakhs

The required difference = 4.294 – 4.175 = 0.119 lakhs

Hence, option C is correct.

30. SBI PO Female applicants from the state B = 0.37 lakhs

SBI Clerk male applicants from the state F = 0.68 LAKHS

$$\text{Reqd. \%} = \frac{0.37 \times 100}{0.68} = 54.41\% \text{ approximately}$$

Hence, option D is correct.

31. Students handled by Mehandi on Thursday and Friday together = 45% of 240 + 60% of 225 = 243

Students handled by Supriya on Thursday = 55% of 240 = 132

$$\text{Therefore, Percentage} = \frac{243}{132} \times 100 = 184.09\%$$

Hence, option C is correct.

32. Students handled by Mehandi on Monday = 40% of 180 = 72

Students handled by Mehandi on Tuesday = 70% of 270 = 189

Students handled by Mehandi on Wednesday = 50% of 150 = 75

Students handled by Mehandi on Thursday = 45% of 240 = 108

Students handled by Mehandi on Friday = 60% of 225 = 135

Students handled by Mehandi on Saturday = 30% of 210 = 63

On Saturday Mehandi handled minimum number of students.

Hence, option D is correct.

33. Number of students handled by Mehandi on Monday and Tuesday together = 72 + 189 = 261

Number of students handled by Supriya on Wednesday and Friday = 50% of 150 + 40% of 225 = 165

Therefore, respected ratio = 87: 55

Hence, option E is correct.

34. Number of students handled by Supriya on Monday = 60% of 180 = 108

Number of students managed by her on Tuesday and Saturday together = 30% of 270 + 70% of 210 = 228

Therefore, Percentage = $\frac{108}{228} \times 100 = 47.37\%$

Hence, option B is correct.

35. Number of students handled by Supriya from Monday to Friday = 486

Number of students handled by Mehandi from Monday to Friday = 579

Therefore, Percentage = $\frac{486}{579} \times 100 = 83.94\%$

Hence, option A is correct.

36. Number of students who graduated in finance stream in 2013 = 9.9% of 22 lakhs = 2.178 lakhs

the number of students who graduated in commerce stream in 2015 = 7.4% of 25 lakhs = 1.85 lakhs

Reqd. % = $\frac{2.178 - 1.85}{1.85} \times 100 = \frac{32.8}{1.85}$ % = 17.73% more

Hence, option A is correct.

37. The sum of the number of students who graduated in commerce during the year 2012, 2013, and 2014 = 7.4% of 16 lakhs + 7.4% of 22 lakhs + 7.4% of 24 lakhs = 7.4% of 62 lakhs = 4.588 lakhs

the sum of the number of students who graduated in finance stream during the year 2015, 2016, and 2017 = 9.9% of 25 lakhs + 9.9% of 32 lakhs + 9.9% of 28 lakhs = 9.9% of 85 lakhs = 8.415 lakhs

Difference = 8.415 – 4.588 = 3.827 lakhs

Hence, option C is correct.

38. A : C : E : F : H : P : M = 2 : 1 : 1 : 3 : 4 : 2 : 1, assume it A = 2X, C = X, E = X, F = 3X, H = 4X, P = 2X, M = X

According to question, the sum of the FCD holder 2x + x + x + 3x + 4x + 2x + x = 14x = 2.8 lakhs

So, the value of x = 0.2

Number of engineering students who scored FCD = x = 0.2 lakhs

In 2013, The number of students who graduated in engineering = 11.9% of 22 = 2.618 lakhs

percent of the engineering students had scored FCD

= $\frac{0.2}{2.618} \times 100 = 7.64\%$

Hence, option A is correct.

39. Total number of students, who graduated in between 2012 and 2017 = 16 + 22 + 24 + 25 + 32 + 28 = 147 lakhs

Number of students who had applied for SBI clerk 2017 examination = 25% of 147 lakhs = 36.75 lakhs

Number of students who cleared prelims = 10% of 36.75 lakhs = 3.675 lakhs

Number of students who had bought SMARTKEEDA practice sets = 65% of 3.675 lakhs = 2.38875 lakhs

Hence, option E is correct.

40. Number of students in 2017: Number of students in 2018 = 4 : 7

Assume, number of students in 2017 = 4x and, the number of students in 2018 = 7x

According to the question, number of students in 2017 = 4x = 28 lakhs

So, the value of x = 7 lakhs

Percentage share of students who graduated in Finance stream in 2017 = 9.9% = 9.9% of 28 = 2.772 lakhs

The number of students in 2018 = 7x = 7 × 7 = 49 lakhs

According to the question, the percentage share of students who will be graduated in finance is likely to increase by 9% = (9 + 9.9) % = 18.9%

In 2018, the number of students, who graduated in finance stream = 18.9% of 49 = 9.261 lakhs

Number of more students who will be graduated in finance stream in 2018 = (9.261 – 2.772) lakhs = 6.489 lakhs

Hence, option A is correct.

41. In the year 2015, the total revenues from Bollywood = 15 × 8000 = 120,000 thousand

In the year 2016, the total revenues from Bollywood = 20 × 7500 = 150,000 thousand

The required difference = 150,000 – 120,000 = 30,000 thousand

Hence, option B is correct.

42. The total revenues in the year 2014, 6850 × 16 + 5000 × 8 = 109600 + 40000 = 149600 thousand

The total revenues in 2016 = 7500 × 20 + 6000 × 8 = 150000 + 48000 = 198000 thousand

The required ratio = 149600 : 19800 = 34 : 45

Hence, option C is correct.

43. The number of Bollywood movies released in the given five years = 12 + 15 + 16 + 20 + 8 = 71

The number of Tollywood movies released in the given five years = 15 + 8 + 10 + 8 + 8 = 49

The required difference = 71 – 49 = 22
Hence, option B is correct.

44. In the year 2017, the total revenues collection = 5000 × 8 + 4000 × 8 = 9000 × 8

The total revenues collection from Bollywood = 5000 × 8

The reqd. % = $\frac{5000 \times 8 \times 100}{9000 \times 8} = \frac{500}{9} = 55.56\%$

Hence, option C is correct.

45. The total revenue collection in the year 2015, = Rs. (8000 × 15 + 12000 × 10) = Rs. (120,000 + 120,000) = Rs. 240,000

The reqd. average = $\frac{240{,}000}{25}$ = 9600 thousand

The total revenues collection in the year 2017 = Rs. (5000 × 8 + 4000 × 8) = Rs. 9000 × 8

The reqd. average = $\frac{9000 \times 8}{16}$ = 4500 thousand

The required difference = Rs. (9600 – 4500) = Rs. 5100 thousand

Hence, option B is correct.

46. Number of students in division II in school B's 7th standard : number of students in division III in school D's 10th standard

= Number of students in division I in school D's 8th standard : number of students in division III in school D's 10th standard

Each standard in school D has the same number of students, and there are five such standards.

∴ Number of students in any standard of school D

$= \frac{1}{5} \times \frac{60}{360} \times 5400 = 180$

∴ Required ratio = (20% of 180) : (35% of 180) = 20 : 35 = 4 : 7

Hence, option D is correct.

47. Consider the solution to the first question.

Since each standard of school D has 180 students,

Total number of students in division I of all standards of school D = (30 + 50 + 20 + 45 + 35)% of 180 = 180% of 180 = 1.8 × 180 = 324

Hence, option E is correct.

48. Consider the solution to the first question.

Number of students in division III of standard 9 of school D = 20% of 180 = 36

Total number of students in school A

$= \frac{30}{360} \times 5400 = 450$

$\therefore$ Reqd. % $= \frac{36}{450} \times 100 = 8\%$

Hence, option C is correct.

49. Consider the original data given.

The standard and division wise breakup of school E is not known.

Hence, the number of students in division II of std 8. of school E cannot be found.

Hence, option E is correct.

50. Consider the solution to the first question.

Total number of students in school C

$= \frac{72}{360} \times 5400 = 1080$

Total number of students in division III across all standards of school D = (35 + 25 + 25 + 20 + 35)% of 180 = 140% of 180 = 1.4 × 180 = 252

$\therefore$ Required difference = 1080 – 252 = 828

Hence, option A is correct.