

## QUANTS QUESTIONS FOR IBPS RRB OFFICE ASSISTANT

**DIRECTION (1-5):-** What will come in the place of question (?) mark in the following number series:

**1. 12, 7, 8.5, 14.75, ?, 83**

- |       |       |
|-------|-------|
| 1. 30 | 2. 24 |
| 3. 32 | 4. 36 |
| 5. 48 |       |

**2. 12, 78, 395, 1584, 4755, ?**

- |         |         |
|---------|---------|
| 1. 9512 | 2. 9516 |
| 3. 9518 | 4. 9520 |
| 5. 9580 |         |

**3. 26, 53, 214, 1287, 10300, ?**

- |           |           |
|-----------|-----------|
| 1. 95000  | 2. 100005 |
| 3. 103000 | 4. 101005 |
| 5. 103005 |           |

**4. 4187, 2857, 2129, 1787, 1663, ?**

- |         |         |
|---------|---------|
| 1. 1647 | 2. 1642 |
| 3. 1627 | 4. 1637 |
| 5. 1630 |         |

**5. 27, 27, 54, 18, 72, ?**

- |         |         |
|---------|---------|
| 1. 19.6 | 2. 16.8 |
| 3. 18.8 | 4. 12.8 |
| 5. 14.4 |         |

**Direction (6-10):-** The following questions are accompanied by two statements (I) and (II). You have to determine which statement(s) is/are sufficient/necessary to answer the questions.

**6. What is the average salary of 10 officers, if a clerk's salary is Rs. 15,000?**

I. The total salary of 10 officers and 5 clerks is Rs. 4,25,000.

II. A clerk's salary is approximately 42.85% of the average salary of 10 officers.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
2. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
3. If the data in both statement I and II together are required to answer the question.
4. If the data either in statement I alone or in statement II alone is sufficient to answer the question
5. If the data even in both the statement I and II together are not sufficient to answer the question.

**7. How much time does Amit take alone to complete the work?**

I. Bimal alone takes 45 days, while Amit and Bimal together take 15 days to complete the work.

II. Amit and Bimal can do a piece of work in 8 days, and Bimal and Chetan can do the same work in 12 days.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
2. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

3. If the data in both statement I and II together are required to answer the question.
4. If the data either in statement I alone or in statement II alone is sufficient to answer the question
5. If the data even in both the statement I and II together are not sufficient to answer the question.

**8. If the length of the room is 10 m, then what is the height of the room?**

I. The cost of painting the walls of the room at the rate of Rs. 25 per sqmetre is Rs. 6,400.

II. The cost of carpeting the floor at the rate of Rs. 140 per sqmetre is Rs. 8,400.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
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**9. What is the downstream speed of the boat?**

I. The speed of the boat is 15 km/hr.

II. The boat rows up a river 30 km in 6 hours.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
2. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
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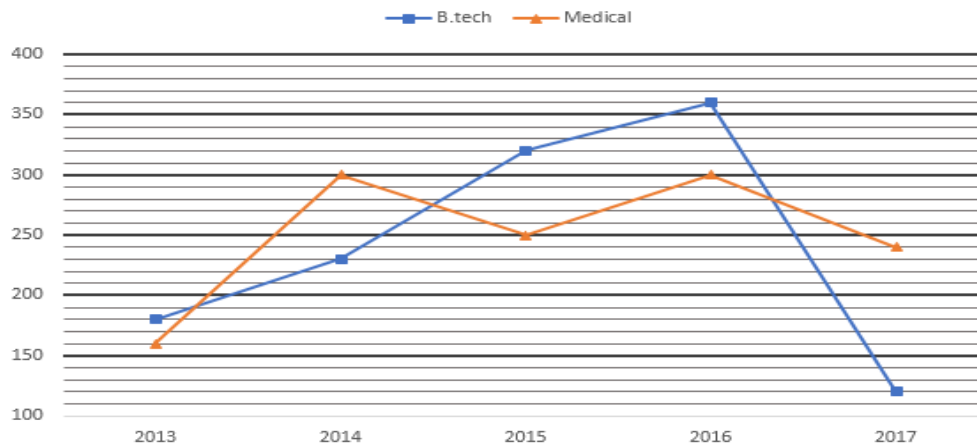
**10. In how much time will a train running at a speed of 48 km/hr cross the other train running in opposite direction?**

I. The length of the two trains is 90 metres and 120 metres respectively.

II. The speed of the second train is 60 km/hr.

1. If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
2. If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.
3. If the data in both statement I and II together are required to answer the question.
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5. If the data even in both the statement I and II together are not sufficient to answer the question.

**DIRECTION (11-15):- The following line graph shows the number of students enrolled in two different courses (B.Tech, & Medical) in a college during 2013 to 2017. Study the given graph carefully and answer the following questions.**



**11. What was the percent increase/decrease in number of students in medical in the year 2017 as compared to previous year?**

1. 12.5%
2. 25%
3. 20%
4. 22.5
5. 33.33%

**12. Number of students enrolled in B.Tech in the year 2014 and 2015 together was what percent of the total number of students enrolled in Medical in the year 2015?**

1. 500/11%
2. 120%
3. 150%
4. 220%
5. 70%

**13. Find the average no. of students enrolled in B.Tech all over the years.**

1. 242
2. 422
3. 264
4. 342
5. 282

**14. What is the ratio between students enrolled in B.tech in year 2014 and 2016 together to that of Medical in year 2017 and 2016 together?**

1. 54 : 59
2. 9 : 10
3. 55 : 58
4. 59 : 54
5. 57 : 59

**15. Total number of students enrolled in year 2016 is how much percentage more or less than total no. of students enrolled in year 2017? (total students = medical + B-tech)**

1.  $83\frac{1}{3}\%$
2.  $85\frac{1}{3}\%$

3.  $87\frac{2}{3}\%$

4. 90 %

5.  $93\frac{1}{3}\%$

**Direction (16-20):-Rate (in Rs) of the first thousand kms in different trains in different categories.**

Trains	AC I	AC II	AC III	SLEEPER III	GENERAL
<b>Shatabdi Express</b>	3500	1800	1600	800	500
<b>Rajdhani Express</b>	2400	2100	2000	1000	600
<b>Duronto Express</b>	2200	1500	1200	900	800

**NOTE:** (After every thousand km, rate is reduced by 30% for next thousand km and cost of the ticket is calculated on the exact distance travelled).

**16. Raj is planning to go to Vadodara from Mumbai with his wife and three children. Distance between Vadodara and Mumbai is 1200 kms. If he has paid Rs, 19,950 for five ticket, by which train and by which class he has planned to travel?**

1. Shatabdi Express, ACII
2. Duronto Express, AC III
3. Rajdhani Express, Sleeper
4. Shatabdi Express, AC I
5. None of these

**17. Sumit covers a distance of 1,500 kms by Shatabdi Express in AC II and his friend Rohit covers the same distance by Duronto Express in AC I. what is the difference between the amount paid by Sumit and Rohit for the tickets.**

1. Rs. 600
2. Rs. 540
3. Rs. 500
4. Rs. 640
5. None of these

**18. For an official tour from Mumbai to Delhi, the company booked the tickets in Rajdhani Express for the CEO in AC I and for three officers in AC III. Distance between Mumbai and Delhi is 2,000 kms. What is the total amount paid by the company for all the four tickets for both onward and return journey?**

1. Rs. 26,200
2. Rs. 35,200
3. Rs. 36,000
4. Rs. 28,560
5. None of these

**19. Karan wants to go to Hyderabad from Mumbai which covers the distance of 1,200 kms. Karan wants to go by Rajdhani Express in AC III but his wife suggests him to go by Duronto Express in AC II. How much amount Karan will save if he goes by his wife's suggestion instead of his plan on a round trip?**

1. Rs. 1,140
2. Rs. 980
3. Rs. 1,250
4. Rs. 1,100
5. None of these

20. If a person goes to a certain place covering a distance of 1000 kms by Shatabdi Express in AC II and returns back by Durgam Express in AC III. Amount paid by him for onward journey is how much percent more than that of amount paid by him for return journey.

1. 50%
2. 95%
3. 100%
4. 85%
5. None of these

Solutions

1 (3)

Pattern of series

$$12 \times 0.5 + 1 = 7$$

$$7 \times 1 + 1.5 = 8.5$$

$$8.5 \times 1.5 + 2 = 14.75$$

$$? = 14.75 \times 2 + 2.5 = 32$$

$$32 \times 2.5 + 3 = 83$$

2 (1)

Pattern of series —

$$12 \times 6 + 6 = 78$$

$$78 \times 5 + 5 = 395$$

$$395 \times 4 + 4 = 1584$$

$$1584 \times 3 + 3 = 4755$$

$$? = 4755 \times 2 + 2 = 9512$$

3 (5)

$$26 \times 2 + 1 = 53$$

$$53 \times 4 + 2 = 214$$

$$214 \times 6 + 3 = 1287$$

$$1287 \times 8 + 4 = 10300$$

$$? = 10300 \times 10 + 5 = 103005$$

4 (4)



Pattern of series —

$$4187 - (11^3 - 1) = 2857$$

$$2857 - (9^3 - 1) = 2129$$

$$2129 - (7^3 - 1) = 1787$$

$$1787 - (5^3 - 1) = 1663$$

$$? = 1663 - (3^3 - 1) = 1637$$

5 (5)

Pattern of series

$$27 \div 1 = 27$$

$$27 \times 2 = 54$$

$$54 \div 3 = 18$$

$$18 \times 4 = 72$$

$$? = 72 \div 5 = 14.4$$

6 (4)

From I

$$4,25,000 = \text{salary of 10 officers} + (5 \times 15000)$$

$$\text{Salary of 10 officers} = 425000 - 75000 = 350000$$

$$\text{Average salary of 10 officers} = 350000/10 = \text{Rs. } 35000$$

From II

$$15,000 = 42.85/100 \times \text{average salary of 10 officers}$$

$$\text{Average salary of 10 officers} = \text{Rs. } 35000$$

Therefore, either statement I or statement II is sufficient to answer the question.

7 (1)

From I,

$$1/A = 1/15 - 1/45 = 2/45$$

Therefore, Amit takes  $45/2 = 22.5$  days to complete the work.

8 (3)

Let breadth and height of the room be  $b$  and  $h$  respectively.

From I,

$$\text{Area of the four walls of the room} = 2(10 + b)h = 6400/25$$

$$\Rightarrow 2(10 + b)h = 256$$

$$\Rightarrow (10 + b)h = 128 \text{ m} \quad \dots\dots(i)$$

From II,

$$10 \times b = 8400/140$$

$$\Rightarrow b = 8400/(140 \times 10) = 6 \text{ m} \quad \dots\dots(ii)$$

By putting the value of  $b$  in equation (i), we get

$$(10 + 6)h = 128 \text{ m} \Rightarrow h = 8 \text{ m}.$$

Therefore, both statement I and statement II together are required to answer the question.

9 (3)

From statement II

$$\text{Upstream speed} = 30/6 = 5 \text{ km/hr}$$

From both I and II,

$$\text{Speed of boat} = 1/2 \times (\text{Downstream} + \text{upstream speed})$$

30 = downstream + 5

Downstream speed = 25 km/hr

10 (3)

From I,

Distance = 120 + 90 = 210 m.

From II, and the question,

Relative speed = 48 + 60 = 108 km/hr.

∴ Time =  $(210 \times 18)/(108 \times 5) = 7$  sec.

11 (3)

$$\text{Required percentage} = \frac{300-240}{300} \times 100$$

$$= \frac{60}{300} \times 100 = 20\%$$

12 (4)

$$\text{Required percentage} = \frac{230+320}{250} \times 100$$

$$= 220\%$$

13 (1)

$$\text{Required average} = \frac{180+230+320+360+120}{5}$$

$$= \frac{1210}{5} = 242$$

14 (4)

$$\text{Required ratio} = \frac{230+360}{300+240} = \frac{590}{540}$$

$$= 59 : 54$$

15 (1)

$$\text{Required percentage} = \frac{(360+300)-(120+240)}{(120+240)} \times 100$$

$$= \frac{660-360}{360} \times 100 = \frac{300}{360} \times 100$$

$$= \frac{250}{3}\% = 83\frac{1}{3}\%$$

16 (4)

Cost of 1 ticket = 19950/5 = 3,990

Let the cost of first 1000 km = Rs. x

For the next 200 km =  $x \times 70/100 \times 200/1000 = 7x/50$

Therefore, total cost of one ticket =  $x + 7x/50 = 3,990$

⇒  $57x/50 = 3,990$

∴  $x = \text{Rs. } 3,500$

We can see in the given table Rs. 3,500 is the rate of Shatabdi Express in AC I.

17 (2)

For Sumit,

For the first 1000 km, cost of the ticket = Rs. 1,800

For the next 500 km, cost of the ticket =  $\text{Rs. } 1,800 \times 70/100 \times 500/1000 = 630$

∴ Total cost of the ticket =  $1,800 + 630 = \text{Rs. } 2,430$

For Rohit,

For the first 1000 km, cost of the ticket =  $\text{Rs. } 2,200$

For the next 500 km, cost of the ticket =  $\text{Rs. } 2,200 \times 70/100 \times 500/1000 = 770$

∴ Total cost of the ticket =  $2,200 + 770 = \text{Rs. } 2,970$

∴ Required difference =  $\text{Rs. } 2,970 - \text{Rs. } 2,430 = \text{Rs. } 540$

18 (4)

For CEO,

For the first 1000 km, cost of the ticket =  $\text{Rs. } 2,400$

For the next 1000 km =  $2,400 \times 70/100 = \text{Rs. } 1,680$

∴ Total cost of the ticket =  $2,400 + 1,680 = \text{Rs. } 4,080$

For officers,

For the first 1000 km, cost of the ticket =  $\text{Rs. } 2,000$

For the next 1000 km =  $2,000 \times 70/100 = \text{Rs. } 1,400$

∴ Total cost of four tickets =  $(2,000 + 1,400) \times 3 = 3,400 \times 3 = \text{Rs. } 10,200$

∴ Total amount for onward & return journey =  $(4,080 + 10,200) \times 2 = 14,280 \times 2 = \text{Rs. } 28,560$

19 (1)

By Rajdhani Express in AC III,

For the first 1000 km, cost of the ticket =  $\text{Rs. } 2,000$

For the next 200 km =  $2,000 \times 70/100 \times 200/1000 = \text{Rs. } 280$

∴ Total cost of the ticket =  $(2,000 + 280) \times 2 = 2,280 \times 2 = \text{Rs. } 4,560$

By Duronto Express in AC II,

For the first 1000 km, cost of the ticket =  $\text{Rs. } 1,500$

For the next 200 km =  $1,500 \times 70/100 \times 200/1000 = \text{Rs. } 210$

∴ Total cost of the ticket =  $(1,500 + 210) \times 2 = \text{Rs. } 3,420$

∴ Required difference =  $\text{Rs. } 4,560 - \text{Rs. } 3,420 = \text{Rs. } 1,140$

20 (1)

Required percent =  $(1800 - 1200)/1200 \times 100 = 600/1200 \times 100 = 50\%$