

## General Intelligence and Reasoning

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# SCHEDULING

For enhancing your pace and helping you out, I'm here with an important topic of the **Reasoning Section “Scheduling”** that can boost up your score and turn you into an employee from an aspirant of banking examination.

## Scheduling

Scheduling means an ordered list of time at which certain things are meant to occur. In Logical reasoning, we use it to arrange the given data in a systematic form according to the schedule of time/date/day/month/year.

### Points to be remembered before starting the arrangement based on schedule:

1. Firstly, shortlist fixed/definite information from the given data, which means data that is not dependent on other information.
2. Start with that information through which the least possible cases can be formed.
3. Always draw a table while solving scheduling puzzles.
4. Always remember to analyze the question before you come up with any solution.
5. If you get confused at any point in time. Try to write down the gist of the given puzzle.
6. Don't be afraid to spend time studying the puzzle and the questions. Take time to understand them, otherwise you might misunderstand and get the whole puzzle wrong.

These points will definitely improve your performance and help you crack any **Banking Examination**.

### Types of scheduling:

1. Day based
2. Month based
3. Year based
4. Date & time based
5. Time & days based

Some important tips/points which will reduce the chances of mistakes in scheduling:

1. **Remember the number of days in any month:** If you get confused about the number of days in a month then use one form of **mnemonic** that is done by counting on the knuckles of one's hand. Start counting the months (January, February, and so on till December) on the consecutive knuckles and depressions of your wrist. Now, the months that fall on knuckles have 31 days and the months that fall on

depressions between knuckles have 30 days (or 28/29) days. This way you can find out the number of days in any month very easily.

2. **Elder/younger case:** If someone was born in January and another person was born in March then the person who was born in January is older and the person who was born in March is younger.
3. **'X' months/years/days before:** Let us say if A was born 3 months/years/days before B then, we would show it like this

A

—

—

B

There would be only two lines between A and B, not three lines. Sometimes students mark 3 lines and this way they end up forming a wrong table. The same logic will be applied for 'X months/years/days after' case; here only the alphabets will get reversed.

4. **3 months/years/days between:** In between cases, we will have 3 lines between the given variables.

**Note:** If the question has multiple variables, choose any one variable as your reference through which you can draw all the other conclusions. This variable should be the one that has the most definite information about it. This will make your puzzle-solving process a lot easier.

Now let us work on some questions.

### **Day-based:**

Q1. Study the following information and answer the given question.

A, B, C, D, E, F, and G go to the mall on different days of the week starting from Sunday till Saturday. They do jobs at different shops viz. Pharmacy, Bakery, Grocery, Garment, Electronics, Mobile, and Hardware. C works at a bakery shop but goes there neither on Saturday nor on Thursday. E goes on Tuesday and works at the hardware shop. A goes on Friday but works neither in pharmacy nor in a garment shop. The one who goes on Monday works at a grocery shop. The one who works at the pharmacy shop goes to the mall on Wednesday. F works in a garment shop. G works in the electronic shop and goes on Saturday. D does not go to the mall on Monday.

**Solution:** First of all, we choose the reference variable for our table. Here the most appropriate reference are the persons. Now, we will start with the definite information.

E goes on Tuesday and works at the hardware shop.

F works in a garment shop.

G works in the electronic shop and goes on Saturday.

C works at a bakery shop but goes there neither on Saturday nor on Thursday.

A goes on Friday but works neither in pharmacy nor in a garment shop.

D does not go to the mall on Monday.

Person	Shop	Day
A	(Not Pharmacy Not Garment)	Friday
B		
C	Bakery	(Not Saturday Not Thursday)
D		(Not Monday)
E	Hardware	Tuesday
F	Garment	
G	Electronic	Saturday

From the above table, it is clear that either B or D must go to the Pharmacy shop.

Now, the remaining information:

The one who goes on Monday works at a grocery shop. (From this we can infer that D does not go to the Grocery shop. Hence, B goes to the Grocery shop on Monday and D goes to the Pharmacy shop. Now, in the shops column, the only left space will be filled by Mobile)

The one who works at the pharmacy shop goes to the mall on Wednesday. (Thus D goes on Wednesday.)

Now, the only day left for C is Sunday and hence F goes on Thursday.

So, our final arrangement will be as shown below:

Person	Shop	Day
A	Mobile	Friday
B	Grocery	Monday
C	Bakery	Sunday
D	Pharmacy	Wednesday

E	Hardware	Tuesday
F	Garment	Thursday
G	Electronic	Saturday

Now we will deal with the following questions based on this puzzle:

1. D is associated with which field?

- A. Garment
- B. Pharmacy
- C. Mobile
- D. Electronics
- E. Bakery

Ans. Option B

According to the table, D is associated with pharmacy.

2. Who goes to the mall on Saturday?

- A. B
- B. C
- C. G
- D. D
- E. None of these

Ans. Option C

We can see in the table that G goes to the mall on Saturday.

3. If G is related to Thursday in a certain manner, similarly D is related to Monday, then with which day is A related to?

- A. Wednesday
- B. Saturday
- C. Tuesday
- D. Sunday
- E. None of these

Ans. Option A

According to the question G is related to Thursday and D is related to Monday means two days above/before the assigned day for that person. Similarly, A will be related to Wednesday, which is 2 days before Friday.

4. Which of the following is the wrong match?

- A. Thursday – F – Garment
- B. Wednesday – D – Pharmacy
- C. Monday – B – Grocery
- D. Saturday – C – Bakery
- E. None of these

Ans. Option D

According to the question, G goes on Saturday, not C. So, option D is the wrong match.

5. In a certain manner, Bakery is related to D, similarly, Hardware is related to A. So, who is related to Grocery?

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

Ans. Option B

Here, bakery is related to D and hardware is related to A means three 3 days after the assigned day.

Bakery - Sunday; D - Wednesday (Sunday + 3 days = Wednesday)

Hardware - Tuesday; A - Friday (Tuesday + 3 days = Friday)

So, 3 days after B (which is related to Grocery - Monday) is Thursday, which is related to F.

**Time and day based:**

Q2. Study the following information carefully and answer the questions given below them:

After months of talent searching for an Administrative Assistant to the President of the college, the field of applicants has been narrowed down to five (A, B, C, D, and E). It was announced that the finalist would be chosen after holding a series of all-day group personal interviews. The examining committee agreed upon the following procedure:

1. Interviews will be held once a week.
2. Not more than three candidates will appear at any all-day interview session.
3. Each candidate will appear at least once.
4. If it becomes necessary to call applicants for an additional interview, then not more than one such applicant should be asked to appear the next week.
5. Because of a detail in the written application, it was agreed that whenever candidate B appears, A should be present.
6. Because of the travel difficulties, it was agreed that C will appear for only one interview.

1. Which of the following correctly states the procedure followed by the search committee?

1. After the second interview, all the applicants have appeared at least once.
2. The committee sees at least one applicant a second time.
3. If a third session is held, then it is possible for all the applicants to appear at least twice.

- A. 2 only
- B. 1 only
- C. 1 and 2 only
- D. 3 only
- E. None of these

Ans. Option E

Since a maximum of 3 applicants can go per week where only one of them is allowed to be repeated and the others are new, hence, within 2 interviews 6 candidates can be interviewed out of which one is the same as before. Hence, 5 candidates can be interviewed in 2 weeks. But it is not necessary that 3 applicants come every week. Thus, it is not true.

Since a maximum of 3 applicants is to go each week. 3 applicants in 1<sup>st</sup> week and the remaining 2 in 2<sup>nd</sup> week can be called for an interview. Thus, the committee sees at least one applicant a second time is not compulsory. Hence, this statement is not true.

If a 3<sup>rd</sup> session is held then, there will be 9 interviews in 3 weeks. Since there are 5 candidates, 10 interviews will be required for each candidate to appear twice. Hence, this statement is not true.

Hence, none is true or correct regarding the procedure. That's why we will go with the option - none of these.

2. Which of the following is a possible sequence of combinations for interviews in two successive weeks?

- A. ABC: ABE
- B. ABC: BDE
- C. ADE: ABC
- D. BDE: ACD
- E. None of these

Ans. Option C

ABC: ABE = According to the given information, not more than one applicant can be asked to appear the next week for an additional interview, therefore, this is not the correct option because A and B both are repeated.

ABC: BDE and BDE: ACD = In BDE, A is not present in both cases, so both are not correct because whenever B appears, A should also be present.

ADE: ABC = Since, not more than one applicant can be asked to appear the next week for an additional interview, and only A is a repeated candidate so this is the correct option.

3. If A, B, and D appear at the interview, and D is called for an additional interview the following week, then which two candidates may be asked to appear with D?

1. A
2. B
3. C
4. E

- A. 1 and 3 only
- B. 1 and 2 only
- C. 2 and 3 only
- D. 3 and 4 only
- E. None of these

Ans. Option D

A, B, and D are present where D is called for an additional interview. Now, since D is called for the interview again, therefore, A and B can't go again next week. Hence, C and E are the correct candidates.

**Date and time based:**

Q3. Study the following information carefully and answer the questions given below them:

An exam is to be conducted on 14<sup>th</sup>, 15<sup>th</sup>, and 22<sup>nd</sup> of November, and on each day, there are 3 different shifts – 10 AM, 1 PM, and 4 PM. In this way, there are 9 different shifts in the exam. 9 friends Alok, Aman, Sagar, Vikas, Jai, Rao, Ansh, Harsh, and Sameer have their exams on these 9 different shifts but not necessarily in the same order. Only 2 persons have the exam after Aman. Two persons give exam between Alok and Rao. Only one person gives exam between Rao and Jai but Rao gives the exam before Jai. Rao gives the exam at 10 AM shift. Sagar and Aman does not give the exam on the same day. Only two persons give exam between Jai and Sagar but Jai gives the exam before Sagar. Sameer and Vikas have their exams on the same shifts of two different days. Only one person gives exam between Aman and Ansh but not on the same day. Sameer gives the exam before Sagar.

Solution. This is a date and time-based question so we will make the table according to both of it and calculate all the possibility outside of the table and the table would be like this:

Time (Row) Date (Column)	10 AM	1 PM	4 PM
14th Nov.	Rao	Sameer	Jai
15th Nov.	Alok	Ansh	Sagar
22nd Nov.	Aman	Vikas	Harsh

1. Who had given the examination on the 15<sup>th</sup> of November at 1 PM?

- A. Alok
- B. Rao
- C. Sameer
- D. Ansh
- E. None of these

Ans. Option D

According to the table, we can clearly get that Ansh had given the examination on the 15<sup>th</sup> of November at 1 PM.

2. Who did not give the exam before or after Sameer?

- A. Rao
- B. Jai
- C. Sameer
- D. Harsh
- E. None of these

Ans. Option D

Rao is before Sameer and Jai is after Sameer, and Sameer himself wouldn't be the answer. So the correct answer would be Harsh.

This is all for this topic. This is an important, scoring, and quite an easy topic. Keep practicing and you will definitely ace it.

### **Practice Questions:**

**Q(1-5) Read the given information carefully and answer the following questions:**

Ten friends - Arham, Banita, Chetna, Dharmesh, Ekta, Farah, Ganesh, Hiten, Ikshita and Jay, meet at a friend's party, where all of them tell each other their birthday months. Each one of them owns a cellphone of different brands - Samsung, iPhone, Mi, Nokia, Oppo,

Oneplus, Vivo, Honour, Asus and MotoG. No two of them have their birthdays in the same month. Ekta, who was born in one of the months after Dharmesh's birth month, owns a Vivo phone. The person born in July owns an Honour phone. The person born in September owns a Nokia phone. Ikshita was born two months before Dharmesh. MotoG phone is owned by either Hiten or Ikshita. Arham owns a Mi phone. Dharmesh was born a month after August but neither October nor December. Ganesh owns a Oneplus phone. Banita was born in one of the months before May. The person who was born in December owns a Oneplus phone while the one who was born in February owns a Mi phone. Hiten was born two months before the person who owns Honour phone. Jay was born in November and owns an Asus phone. Farah was born eleven months before Gautam. Banita owns neither Samsung nor Nokia nor Oppo phone. Chetna was born in the third month of the year and owns neither Oppo nor Oneplus phone.

1. Choose the option in which all the elements are matched correctly.

- A. Banita - April - iPhone
- B. Ekta - October - Vivo
- C. Ganesh - December - Oneplus
- D. Arham - February - Mi
- E. All are correct

2. Who was born in the month of May and owns the cell phone of which brand?

- A. Banita, Mi
- B. Ikshita, Honour
- C. Ekta, Vivo
- D. Hiten, MotoG
- E. Dharmesh, Nokia

3. What is the birth month of the person who owns a Samsung cell phone?

- A. January
- B. April
- C. March
- D. August
- E. July

4. What is the brand of Ikshita's cellphone?

- A. Honour
- B. Asus
- C. Samsung
- D. Nokia
- E. Oneplus

5. Who was born in the month of June?

- A. Ganesh
- B. Hiten
- C. Farah
- D. Arham

E. No one

**Solutions:**

1. (E)

Solution:

1) Jay was born in November and owns an Asus phone.

2) Dharmesh was born a month after August but neither October nor December.

(Thus, Dharmesh was born in September)

3) Ganesh owns a Oneplus phone. Arham owns a Mi phone.

4) Ekta, who was born in one of the months after Dharmesh's birth month, owns a Vivo phone.

(Thus, Ekta could have her birthday in either October or December)

Person	Birth month	Phone brand
Arham		Mi
Banita		
Chetna		
Dharmesh	September	
Ekta	(December /October)	Vivo
Farah		
Ganesh		Oneplus
Hiten		
Ikshita		
Jay	November	Asus

5) Banita owns neither Samsung nor Nokia nor Oppo phone.

6) MotoG phone is owned by either Hiten or Ikshita.

7) Ikshita was born two months before Dharmesh.

8) The person born in July owns an Honour phone.

9) The person born in September owns a Nokia phone.

(The above statements imply that Banita must own an iPhone because that is the only brand left)

Person	Birth month	Phone brand
Arham		Mi
Banita		iPhone
Chetna		
Dharmesh	September	Nokia
Ekta	(December /October)	Vivo
Farah		
Ganesh		Oneplus
Hiten		MotoG
Ikshita	July	Honor
Jay	November	Asus

10) Chetna was born in the third month of the year and owns neither Oppo nor Oneplus phone.

(Thus, only Samsung phone is left which Chetna must own. This also implies that Farah must own Oppo)

11) The person who was born in December owns a Oneplus phone while the one who was born in February owns a Mi phone.

Person	Birth month	Phone brand
Arham	February	Mi
Banita		iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia
Ekta	(December /October)	Vivo
Farah		Oppo
Ganesh	December	Oneplus
Hiten		MotoG
Ikshita	July	Honor
Jay	November	Asus

12) Farah was born eleven months before Gautam.

13) Hiten was born two months before the person who owns Honour phone.

14) Banita was born in one of the months before May.

Person	Birth month	Phone brand
Arham	February	Mi
Banita	April	iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia

Ekta	October	Vivo
Farah	January	Oppo
Ganesh	December	Oneplus
Hiten	May	MotoG
Ikshita	July	Honor
Jay	November	Asus

Hence, no one among the ten friends was born in the month of June.

2. (D)

Ans: Ikshita owns an Honour cell phone.

Person	Birth month	Phone brand
Arham	February	Mi
Banita	April	iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia
Ekta	October	Vivo
Farah	January	Oppo
Ganesh	December	Oneplus
Hiten	May	MotoG
Ikshita	July	Honor
Jay	November	Asus

3. (C)

Ans: Chetna owns a Samsung cellphone and she was born in March.

<b>Person</b>	<b>Birth month</b>	<b>Phone brand</b>
Arham	February	Mi
Banita	April	iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia
Ekta	October	Vivo
Farah	January	Oppo
Ganesh	December	Oneplus
Hiten	May	MotoG
Ikshita	July	Honor
Jay	November	Asus

4. (A)

Ans: Hiten was born in the month of May and owns a MotoG cell phone.

<b>Person</b>	<b>Birth month</b>	<b>Phone brand</b>
Arham	February	Mi
Banita	April	iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia

Ekta	October	Vivo
Farah	January	Oppo
Ganesh	December	Oneplus
Hiten	May	MotoG
Ikshita	July	Honor
Jay	November	Asus

5. (E)

Ans: All the options have all the three elements matched correctly.

<b>Person</b>	<b>Birth month</b>	<b>Phone brand</b>
Arham	February	Mi
Banita	April	iPhone
Chetna	March	Samsung
Dharmesh	September	Nokia
Ekta	October	Vivo
Farah	January	Oppo
Ganesh	December	Oneplus
Hiten	May	MotoG
Ikshita	July	Honor
Jay	November	Asus