

Tips on How to Tackle Input/Output Questions

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The Competition Master

Tips on Solving Input/Output Questions

Input and Output

It has been noticed that more and more competitive examinations are asking such problems on input and output where a typical data is provided in the form of particular steps which have to be strictly followed while solving a problem in which the steps can be applied. The problems can be generated in the form of instructions given by a teacher to his students, peculiar arrangements of letters, words or alphabets following mathematical rules or grammatical rules etc. The following examples will make the topic very clear.

Problem 1. (Qs. 1 to 5). In an SSB interview for the NDA, a group testing officer allocates the following instructions to the candidates divided into 7 groups, who have to perform the tasks according to the input:

Group I: Monkey crawling long jump and rope climbing.

Group II: Monkey crawling rope jump and long climbing.

Group III: Rope crawling Monkey climbing long and jump.

Group IV: Climbing Monkey crawling rope jump and long.

Group V: Climbing Monkey and rope jump crawling long. and so on ...

The questions below are based on logic given above.

1. If the task of IInd group is “*Nothing is without be achieved to determination*” then which will be the VI group?

(1) Without is nothing determination to achieved to

(2) Achieved nothing determination to is be without

(3) Nothing is achieved without be to determination

(4) Data is inadequate

(5) None of these

2. If “*Terrorism Bush job incurring remarkable did a*” is Vth

Group 3 to 4: Next time we reverse the group of first 4 words and then the last three.

Group 4 to 5: In group 5 same rule follows as in group 1 to group 2.

To solve the problems more easily we can give numbers to each word.

G. 1. Monkey(1) crawling(2) long(3) jump(4) and(5) rope(6) climbing(7).

G. 2. Monkey(1) crawling(2) long(6) jump(4) and(5) rope(3) climbing(7).

G. 3. Monkey(6) crawling(2) long(1) jump(7) and(3) rope(5) climbing(4).

G. 4. Monkey(7) crawling(1) long(2) jump(6) and(4) rope(5) climbing(3).

G. 5. Monkey(7) crawling(1) long(5) jump(6) and(4) rope(2) climbing(3).

G. 6. Monkey(5) crawling(1) long(7) jump(3) and(2) rope(4) climbing(6).

7. Monkey(3) crawling(7) long(1) jump(5) and(6) rope(4) climbing(2).

Here it ends because groups are 7 only.

Q. 1. Ans. 2.

Group II is: *Nothing(1) is(2) without(6) be(4) achieved(5) to(3) determination(7).*

In same logic group VI will be *Achieved(5) nothing(1) determination(7) to(3) is(2) be(4) without(6).*

Q. 2. Ans. 3

Group V is: *Terrorism(7) Bush(1) job(5) incurring(6) remarkable(4) did(2) a(3).*

It can also be solved by going back: *but the above system is more convenient. So Bush(1) did(2) incurring(6) remarkable(4) job(5) a(3) terrorism(7) will be Group II.*

Q. 3. Ans. 1.

Group I is: *You(1) are(2) my(3) inspiration(4) guide(5) and(6) instructor(7)*. Group IV will be *Instructor(7) you(1) are(2) and(6) inspiration(4) guide(5) my(3)*.

Q. 4. Ans. 4

Last group (VII) is: *Not(3) job(7) you(1) for(5) this(6) selected(4) are(2)*. In same logic Ist Group is: *You(1) are(2) not(3) selected(4) for(5) this(6) job(7)*.

Q. 5. Ans 5.

Group VI is: *Pollution(5) is(1) becoming(7) cause(3) of(2) deadly(4) diseases(6)*. Group III will be: *Diseases(6) of(2) is(1) becoming(7) cause(3) pollution(5) deadly(4)*.

Questions (6 to 10) are based on arrangement of numbers in descending order. The largest number comes first after interchanging its position. After that smallest number interchanges with last position, next, largest number interchanges with second position and so on....

Problem 2. (Qs. 6 to 10). Read the following information carefully and solve the questions. The arrangements of given input will follow a particular logic. Understand this logic and solve problems.

Input:	79	421	787	15	159	688
Result-1	787	421	79	15	159	688
Result-2	787	421	79	688	159	15
Result-3	787	688	79	421	159	15
Result-4	787	688	159	421	79	15
Result-5	787	688	421	159	79	15

This arrangement is final for this given input.

6. Which of the following will be 2nd last result of *Input: 99 87 152 435 699*

- 1) 99 152 87 435 699
- 2) 87 99 152 435 699

- 3) 699 99 152 435 87
 4) Indetermined
 5) None of these

7. If the given result is 5th and final then what will be the input?

- Result-5 343 225 111 81 64 9
 1) 225 111 81 64 9 343
 2) 111 225 81 9 64 343
 3) 343 225 9 81 64 111
 4) Indetermined
 5) None of these

8. Which will be the last result of given input?

- Input: 789 798 59 80 779
 1) 798 59 80 789 779
 2) 779 59 789 80 798
 3) 59 80 779 789 798
 4) 798 789 779 80 59
 5) None of these

9. Given result is first which will be the IIIrd result of input?

- Result-1 625 225 169 589 264
 1) 625 225 589 169 264
 2) 225 625 589 169 264
 3) 264 169 589 625 225
 4) Indetermined
 5) None of these

10. Following is the fourth result what will be the sixth?

- Result-4 417 414 263 219 87 65
 1) 417 414 219 263 87 65
 2) 65 87 219 263 414 417
 3) 263 87 219 65 414 417
 4) Indetermined
 5) None of these

The above questions can be solved thus:

Q. 6. Ans. 3

Input:	99	87	152	435	699
Result-I	699	87	152	435	99
Result-II	699	99	152	435	87
Result-III	699	435	152	99	87

So the final last will be Result II.

Q. 7. Ans. 4.

In this type of problem we can't determine previous steps because we can't assume the position of the number in previous results.

Q. 8. Ans. 4.

In this problem, there is no need of going through all results. Just arrange the series in descending order.

Q. 9. Ans. 5.

Result 1	625	225	169	589	264
Result 2	625	225	264	589	169
Result 3	625	589	264	225	169

Q. 10. Ans. 4.

Because 417 414 263 219 87 65 is already arranged in descending order.

Questions (11 to 14) are based on grammatical rules.

Input: cigarette smoking is injurious to health.

Rule 1	Follows <i>smoking of</i> Rule
Rule 2	Cigarette <i>when smoked</i>
Rule 3	<i>due to</i>
Rule 4	<i>In any form</i> etc

Solve the problems by using above rules.

Problem 3. (Qs. 11 to 14). A "grammar" teacher instructs her students with the following inputs for restatement as per given

rules:

Input: Cigarette smoking is injurious to health.

Rule 1—Smoking of cigarette is injurious to health

Rule 2—Cigarette when smoked injurious health

Rule 3—Health is injured due to smoking

Rule 4—Smoking in any form is injurious to health

As per rules dictated by the teacher, find out (as a student), the relevant step or the input, as asked in the given problems.

11. Input: Tobacco chewing is harmful for teeth. Which of the following rule is: “Chewing of tobacco is injurious for teeth.”

1) Rule II

2) Rule III

3) Rule I

4) Rule IV

5) None of these

12. “Students are benefited due to coachings”, is which rule of given input?

1) Rule I

2) Rule III

3) Rule II

4) Data inadequate

5) None of these

13. Rule 4 on an input is “coachings in any form are beneficial for the students”; what would be Rule 1 for the input?

1) Taking of coachings is beneficial to the students

2) Coaching when taken, benefit the student

3) Students are benefited due to coachings

4) Data inadequate

5) None of these

14. Input given by a teacher is “Excessive weightlifting is harmful for joints” which of the following will be rule 3 of the input?

1) Weights are harmful for joints.

2) Excessive weights, when lifted harm joints.

- 3) Weightlifting in any form harm joints.
- 4) Joints are harmed due to excessive weightlifting.
- 5) Data inadequate

The above questions can be solved thus:

Q. 11. Ans. 3

Input: Tobacco chewing is harmful for teeth.

Chewing of tobacco is injurious for teeth.

So rule I follows.

Q. 12. Ans. 2.

In this *due to* comes so rule III follows.

Students are benefited *due to* coachings.

Q. 13. Ans 1.

Rule 4. Coaching in any form are beneficial for the students.

Rule 1. *Taking of* coachings is beneficial to the students.

Q. 14. Ans. 4

Rule 3 will follow rule *due to*. So joints are harmed *due to* excessive weightlifting is the answer.

Problem 4. (Qs. 15 to 18). A word arrangement, when rearranged by given input follow a particular logic behind it. Study that logic and apply on given problems.

Input: Heater and sun rays helps in winter.

Result I—Winter heater and sun rays helps in

Result II—Winter sun heater and rays helps in

Result III—Winter sun rays heater and helps in

Result IV—Winter sun rays in heater and helps

Result V—Winter sun rays in helps heater and

Now words are fully arranged, and we finish the process here.

15. Which of the following will be result 3 for the given input?

Input: "Life become bore without success."

(1) Bore life become success without

Result III Without success life bore become.

Q. 16. Ans 4.

Result II The success my is outcome of diligence.

Result III The success outcome my is of diligence.

Result IV The success outcome of my is diligence.

Q. 17. Ans. 5.

In such type of problems direct rule follows that is to arrange the input in descending order.

Input: An invitation to a most exclusive evening.

Last result will be "To most invitation exclusive evening an a"

Q. 18. Ans 3.

Input: Never break your elders trust.

Result I Your never break elders trust

Result II Your trust never break elders

Result III Your trust never elders break

Coded Relationships and Numericals

Introduction:

As the name suggests, in such type of questions, the problem is not direct but in the form of some coded data. The student has to read the code, then refer to the problem and derive the answer. The questions can be both mathematical or involve blood relationships.

Format of the problems asked:

Let's consider a typical example:

If $A \star B$ implies that $A \geq B$,

$C \star D$ implies that $C \geq D$,

and $B \phi D$ implies that $B < D$,

then, which of these conclusions follow:

Conclusion 1: $B < C$

Conclusion 2: $D = A$

However, the actually asked problem may appear even lengthier, although its meaning will be more or less, the same.

Solving Methodology

1. Be systematic, do not be in hurry and thus commit errors. At the same time, do not waste too much time in understanding.

2. Read the coded information quickly. There is absolutely no need to learn it by heart.

3. Now, read each question very carefully, applying codes in your mind and quickly pen them down to get a systematic, clear view of the situation. Form a small table. It takes only seconds to do so.

4. Use this small table to arrive at the conclusion. Match your conclusion with that given with the question.

5. *Tricky problems

(a) For \geq (and \leq), there can be many possibilities. The positions may not be fixed, they may vary. (Refer examples).

(b) A typical, tricky problem is: A is brother of B

Here, we know that "A is brother" \rightarrow A is male.

But, we don't know whether B is sister of A or brother of A.

\rightarrow No definite conclusion.

Be very careful while solving this type of step.

Directions (Qs. 1 to 7)

In the following questions, the symbols α , ϕ , $\#$, \star and ∞ are used with the following meanings.

$R \alpha S$ implies that R is greater than S.

$R \phi S$ implies that R is lesser than S.

$R \# S$ implies that R is equal to S.

$R \star S$ implies that R is either greater than or equal to S.

$R \infty S$ implies that R is either lesser than or equal to S.

In the following questions, the given statements should be taken as true. On behalf of these statements find which of the two conclu-

sions given below are correct.

Give result

A—If conclusion I is true but II is false.

B—If conclusion II is true but I is false.

C—If both the conclusions are true.

D—If none of the conclusions are true.

E—If either I or II is true.

Statements :

1. $A \star B, C \star D, B \phi D$

Conclusions :

I. $B \phi C$

II. $D \# A$

Statements :

2. $C \# D, I \alpha J, D \star I$

Conclusions :

I. $C \star I$

II. $J \phi D$

Statements :

3. $R \star S, C \phi S, R \# T$

Conclusions :

I. $S \phi T$

II. $S \# T$

Statements :

4. $W \phi X, M \# X, R \star W$

Conclusions :

I. $M \# W$

II. $M \infty R$

Statements :

5. $M \alpha N, O \phi M, M \infty P$

Conclusions :

I. $M \star P$

II. $O \phi P$

Statements :

6. $Q \phi N, A \phi H, H \# Q$

Conclusions :

I. $Q \phi A$

II. $N \star H$

Statements :

7. $L \# V, X \infty V, N \infty X$

Conclusions :

I. $V \alpha L$

II. $L \infty X$

Directions (8 to 12)

In the following questions some words are given to show relationships between N and P.

N loves P shows N is equal to P.

N adores P shows N is more than P.

N admires P shows N is less than P.

N inspires P shows N is either more than or equal to P.

N guides P shows N is either less than or equal to P.

Now, in the following questions, assume given statements as true and find which of the two given conclusions are definitely TRUE.

Give result

A—If conclusion I is true.

B—If conclusion II is true.

C—If either of them is true.

D—If neither I nor II is true.

E—If both I and II are true.

Statements:

8. X guides Y, Z admires A, X inspires A.

Conclusions:

I. Y adores Z.

II. Y loves A.

Statements:

9. A loves B, C adores D, D admires A.

Conclusions:

I. C inspires A.

II. A adores D.

Statements:

10. O inspires P, N adores O, P adores M.

Conclusions:

I. M admires O.

II. N guides O.

Statements:

11. A loves H, B guides G, G guides A.

Conclusions:

I. H inspires G.

II. B admires H.

Statements:

12. K adores T, T adores L, L loves M.

Conclusions:

I. K admires L.

II. T inspires M.

In the following questions relationships have been used as codes to solve the problems.

Directions (13 to 15)

Neetu + Charu means Neetu is elder sister of Charu.

Neetu - Charu means Neetu is younger sister of Charu.

Neetu ÷ Charu means Neetu is elder brother of Charu.

Neetu × Charu means Charu is daughter of Neetu.

(Neetu) (Charu) means Neetu is father of Charu.

Neetu = Charu means Neetu is husband of Charu.

In each of the following questions, given III Statements should be assumed as true, find which of the two conclusions given below are TRUE.

Give Result

A—If only conclusion I is true.

B—If only conclusion II is true.

C—If either of them is true.

D—If neither of them is true.

E—If both the conclusions are true.

Statements:

13. Guncha + Sachin, Sachin - Guncha, Nitesh \div Guncha.

Conclusions:

I. Nitesh \div Sachin.

II. Nitesh \times Sachin.

Statements:

14. Neeraj \div Deepa, Renuka \times Deepa, Jagdish = Renuka.

Conclusions:

I. Deepa - Neeraj.

II. (Jagdish) (Deepa)

Statements:

15. Sonu \div Guddu, Honey - Guddu, Sandy = Ritu.

Conclusions:

I. Guddu \div Honey.

II. Guddu + Honey.

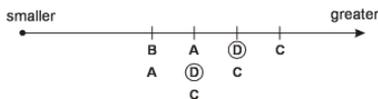
Solutions to the Problems

Arrange the given statements after changing the code language to real language. Assign smaller positions to left hand side, same positions together and larger things to right hand side. Thus, we have . Circles and dark figures indicate that position is not fixed.

1. (A) $A \star B \Rightarrow A \geq B$

$C \star D \Rightarrow C \geq D$

$B \phi D \Rightarrow B < D$



* Position of (D) is not clear because $D > B$ only is given.

* Also Position of (C) is not clear. It can occupy any of the 3 places above.

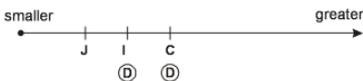
Conclusion I $\rightarrow B \phi C \Rightarrow B < C$. It follows from the above diagram.

Conclusion II $\rightarrow B \# A \Rightarrow D = A$. It may or may not be true.

2. (C) $C \# D \Rightarrow C = D$

$I \propto J \Rightarrow I > J$

$D \star I \Rightarrow D \geq I$



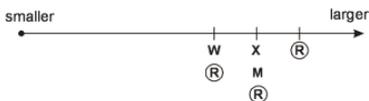
Conclusion I $\rightarrow C \star I \Rightarrow C \geq I \rightarrow$ Follows.

Conclusion II $\rightarrow J \phi D \Rightarrow J < D \rightarrow$ Follows.

3. (E) $R \star S \Rightarrow R \geq S$

$C \phi S \Rightarrow C < S$

$R \# T \Rightarrow R = T$



Conclusion I $\rightarrow S \phi T \Rightarrow S < T \rightarrow$ Not necessary ($S = T$ or $S < T$)

Conclusion II $\rightarrow S \# T \Rightarrow S = T \rightarrow$ Not necessary ($S = T$ or $S < T$).

But either follows.

4. (D) $W \phi X \Rightarrow W < X$

$M \# X \Rightarrow M = X$

$R \star W \Rightarrow R \geq W$



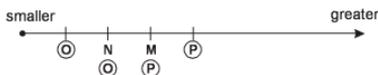
Conclusion I $\rightarrow M \# W \Rightarrow M = W$. Not follows.

Conclusion II $\rightarrow M \infty R \Rightarrow M \leq R$. May or may not follow.

5. (B) $M \propto N \Rightarrow M > N$

$O \phi M \Rightarrow O < M$

$M \infty P \Rightarrow M \leq P$



Conclusion I $\rightarrow M \star P \Rightarrow M \geq P$. No.

Conclusion II $\rightarrow O \phi P \Rightarrow O < P$. Follows.

6. (D) $Q \phi N \Rightarrow Q < N$

$A \phi H \Rightarrow A < H$

$H \# Q \Rightarrow H = Q$



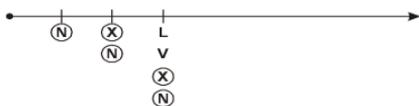
Conclusion I $\rightarrow Q \phi A \Rightarrow Q < A \rightarrow$ Does not follow.

Conclusion II $\rightarrow N \star H \Rightarrow N \geq H \rightarrow$ Does not follow.

7. (D) $L \# V \Rightarrow L = V$

$X \infty V \Rightarrow X \leq V$

$N \infty X \Rightarrow N \leq X$



Conclusion I. $V \propto L \Rightarrow V > L \rightarrow$ Doesn't follow.

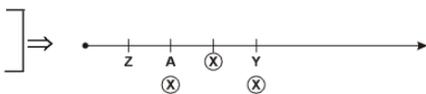
Conclusion II. $L \infty X \Rightarrow L \leq X \rightarrow$ Doesn't follow.

(8 to 12) In these also the same above mentioned logic is developed.

8. (A) X guides $Y \Rightarrow X \leq Y$

Z admires A $\Rightarrow Z < A$

X inspires A $\Rightarrow X \geq A$



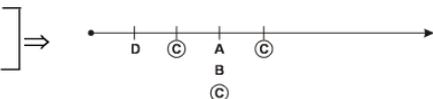
Conclusion I. Y adores Z $\rightarrow Y > Z$. It follows.

Conclusion II. Y loves A $\rightarrow Y = A$. It does not follow.

9. (B) A loves B $\Rightarrow A = B$

C adores D $\Rightarrow C > D$

D admires A $\Rightarrow D < A$



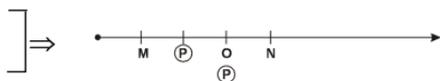
Conclusion I. C inspires A $\rightarrow C \geq A$. \rightarrow Does Not follow.

Conclusion II. A adores D $\rightarrow A > D$. \rightarrow Follows.

10. (D) O inspires P $\Rightarrow O \geq P$

N adores O $\Rightarrow N > O$

P adores M $\Rightarrow P > M$



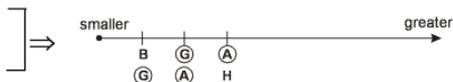
Conclusion I. $M \geq O \rightarrow$ No, it doesn't follow.

Conclusion II. N guides O $\rightarrow N \leq O$. \rightarrow No, it doesn't follow.

11. (B) A loves H $\Rightarrow A = H$

B guides G $\Rightarrow B \leq G$

G guides A $\Rightarrow G \leq A$



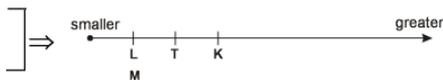
Conclusion I. H inspires G $\rightarrow H \geq G \rightarrow$ No.

Conclusion II. B admires H $\rightarrow B < H \rightarrow$ Yes.

12. (E) K adores T $\Rightarrow K > T$

T adores L $\Rightarrow T > L$

L loves M $\Rightarrow L = M$



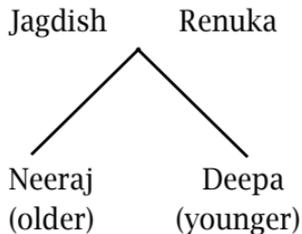
Conclusion I. K admires L $\rightarrow K < L$. It does not follow.

Conclusion II. T inspires M $\rightarrow T \geq M$. It does not follow.

Questions 13 to 15 are based on relationships. So, first of all arrange them according to relations in ascending or descending order then solve the problems.

13. (A) Guncha + Sachin \Rightarrow Guncha is elder sister of Sachin (but Sachin's **sex is not** known).
 Sachin - Guncha \Rightarrow Sachin is younger sister of Guncha means Sachin is **female**.
 Nitesh \div Guncha \Rightarrow Nitesh is elder brother of Guncha means combined relationship is:
 Nitesh (elder brother).
 Guncha (younger to Nitesh, sister).
 Sachin (younger to both Nitesh and Guncha, sister).
 Now, conclusion is:
 1. Nitesh \div Sachin means Nitesh is elder brother of Sachin. Yes, it follows.
 2. Nitesh \times Sachin shows Nitesh is daughter of Sachin. Which is false. Not follows.
 So only conclusion (I) follows.

14. (E) Neeraj \div Deepa \Rightarrow Neeraj elder brother of Deepa. (Deepa is male or female—not known).
 Renuka \times Deepa \Rightarrow Deepa is daughter of Renuka. Renuka is father or mother—not known).
 Jagdish = Renuka \Rightarrow Husband wife. (Jagdish is husband and Renuka is wife)
 So all the relations are clear; that Deepa is younger sister and daughter. Neeraj is elder brother and son.
 Conclusion:
 1. Deepa - Neeraj \Rightarrow Deepa is younger sister of Neeraj. It follows.



2. (Jagdish) (Deepa) \Rightarrow Jagdish is father of Deepa because he is Renuka's husband. Follows.

15. (C) Sonu \div Guddu \Rightarrow Sonu is elder brother of Guddu.

(Guddu's sex is unknown).

Honey - Guddu \Rightarrow Honey is younger sister of Guddu.

Sandy = Ritu \Rightarrow Sandy is puppy of Ritu.

In this, relation of Guddu is not clear, other relations are clear.



Conclusion:

1. Guddu \div Honey—Guddu is elder brother of Honey—May or, may not be.

2. Guddu + Honey \Rightarrow Guddu is elder sister of Honey \Rightarrow May or may not be.

So either of conclusion I or II true because Guddu's relation is not clear.

Cause and Effect Relationship

(A systematic study with time-saving techniques)

Introduction:

Consider the following pairs of statements:

(A) (1) The Supreme Court has banned smoking in public places.

(2) Smoking is disliked by many people, it causes discomfort in breathing and effects non-smokers too when they are near a smoker.

(B) (1) THE COMPETITION MASTER has started a special supplement to introduce new trends to the candidates.

(2) Most candidates were not aware of the new trends.

(C) (1) The tank over which 23 army men were running contained

septic substances.

(2) The tank collapsed and all the army men died.

(D) (1) Indians desirous of management courses abroad, prefer going to the USA.

(2) There is no racial discrimination in the USA.

(E) (1) India, Thailand and Myanmar have agreed to construct an international expressway connecting the three countries.

(2) The trade among the three countries will increase.

The above statements are based on cause and effect. While one statement is the cause, the second one is its effect. You can also call it reason and outcome (result). Such problems have been introduced in Bank P.O. examination recently and are likely to be asked in various other examinations also.

Format/Shape of the problems asked:

Directions: *You are being given pairs of events 1 and 2. You have to read the two events and decide their nature of relationship. Assume that the information given in 1 and 2 is true. Do not assume anything else while deciding your answers.*

Mark your answers as:

(a) If 1 is the effect and 2 its immediate and principal cause.

(b) If 1 is the immediate and principal cause and 2 is its effect.

(c) If 1 is an effect but 2 is not its immediate and principal cause.

(d) If 2 is an effect but 1 is not its immediate and principal cause.

(e) None of the above.

Example: Event 1: Rainfall is a boon for the crop.

Event 2: There was sufficient rainfall this year.

How to solve these kind of problems:

1. **Read the instructions very carefully:**

Before you start solving the problems, a careful reading of the directions and all the available choices is a must.

(a) ***A major misunderstanding:***

Very often, I have found candidates failing to distinguish between the *terms—cause and immediate or principal cause.*

You must be very clear in your mind whether the given event is just one of the “possible” causes or is it the “principal and immediate” cause.

(b) Caution:

There is no provision of “possible” causes in our problems. You CANNOT “ASSUME” beyond the given events.

The directions clearly mention that you will *not assume* anything beyond the given information in deciding the answers.

Example:

Event 1—Sachin Tendulkar received several awards this year *for* his excellent performance.

Event 2—He also got many T.V. advertisements.

In the above example, event A itself is composed of both the principal cause and its effect. The cause is his excellent performance while its effect is the awards.

Event 2 *may be* linked with his excellent performance and popularity, but, there is no immediate and principal cause.

Thus, our answer is (e) None of these.

2. Looking up for key-words:

Such key-words provide us a clear picture of the situation—therefore, thus, hence, so, for, as a result of, because of, due to, etc.

(i) See whether the key-word operates within a single event or outside it.

E.g. Event 1—Sachin Tendulkar received several awards this year *for* his excellent performance.

In this case, both the cause and effect are lying within event 1 only.

(ii) See whether the key word connects the two given events or not:

Example:

Event 1—The company ‘X’ gave up its plan to start a hydro-electric project in Bihar.

Event 2—Laloo Yadav’s government was creating hurdles in its

way.

In this example, it is very clear that Event 2 is the cause and Event 1 is its effect.

(3) Meaning of the terms:

“IMMEDIATE” and “PRINCIPAL” cause, “ITS” effect.

(a) IMMEDIATE AND PRINCIPAL CAUSE:

There can be several causes for an event. As discussed above, the cause and effect may even lie within the same single event. This is not needed. We are not concerned with the following:

(i) Other possible effects.

(ii) An effect which is not due to the other event.

Example:

Event 1—The sale of shirts of the company ‘C’ increased tremendously last year.

Event 2—Company ‘C’ invested a good amount in advertising their shirts.

What do you think the answer is?

It is misleading that the sale increased due to investment in advertising. Why?—

Because mere investment in advertising does not mean that:

(i) the advertisement was appealing,

(ii) the advertisement was the only major cause (*i.e.* the immediate and the principal cause).

You can understand very well that sales is not solely dependent on advertising. It depends a lot on the goodwill of the company, the quality of its goods produced and to a great extent on its sales and marketing staff and the strategies and schemes which they adopt.

Thus, Event 2 is *not* the immediate and principal cause. It is *not* mentioned anywhere in the question that sale will increase due to a mere investment in advertising. You do not have to assume things about sales. Also, the question itself provides no definite clues.

(b) “ITS” EFFECT

As you have with the cause, so with the effect. Again, you have

to be careful that the effect is *due to* event 1 (or 2) only; *i.e.* you should not go out of the given events.

Consider the following statement:

Event 1—The employees of company 'K' went to court to get their new salary scales implemented.

Event 2—The management of the company 'K' had been making false promises since past 6 years.

It is evident here that 2 is *its* (1's) principal cause.

(4) **When should you write your answer as (e)?** (*i.e.* None of these):

Case (a) When the two events have no relation of cause and effect.

Case (b) When both the events are effects (or both are causes).

Case (c) The cause and its effect lie within the same statement.

(5) **How to arrive quickly at the answer:**

(a) Catch the key words given at point 2 of our discussion.

(b) See which one is effect and which one is cause.

(c) Check whether the cause is immediate and principal.

PROBLEM SET

Directions (Questions 1-10): *You are being given pairs of events 1 and 2. You have to read the two events and decide the nature of relationship. Assume that the information given in A and B is true. Do not assume anything else while deciding your answers.*

Mark your answers as:

(a) If 1 is the effect and 2 is its immediate and principal cause.

(b) If 1 is the immediate and principal cause and 2 is its effect.

(c) If 1 is an effect but 2 is not its immediate and principal cause.

(d) If 2 is an effect but 1 is not its immediate and principal cause.

(e) None of the above.

1. Event 1—In 1960, the Indus Water Treaty was signed by India and Pakistan.

Event 2—Pakistan was allowed to use total water of Sind,

Jhelum and Chenab rivers, since the treaty.

2. Event 1—The Minister ‘M’ said in a public meeting—“vote for the man who promises least, he’ll be the least disappointing”.
Event 2—Minister ‘M’ emerged victorious in the following elections.
3. Event 1—There is an increasing tendency among children and adolescents to go violent these days.
Event 2—Violence is presented as a sweet-meal in most T.V. serials and movies, which the children watch with curiosity.
4. Event 1—A reasonable rate of inflation means a good level of economic activity.
Event 2—The inflation in India was rated 8% last year and there was all round development of the economy.
5. Event 1—India and Kazakhstan signed a declaration against terrorism on Kazakh President’s visit to India.
Event 2—India and Kazakhstan are friendly nations.
6. Event 1—The judicial bench noted that the judicial system could not be taken in a non-serious fashion in the name of freedom of speech and expression.
Event 2—The court sentenced Arundhati Roy to one-day symbolic imprisonment and Rs 2000 fine.
7. Event 1—The government tried hard to implement POTO.
Event 2—There was an attack on the Parliament.
8. Event 1—The 32-day-old strike in Kerala came to an end after the government offered a couple of concessions.
Event 2—The Kerala government expected to save money through the proposed austerity measures.
9. Event 1—The climate of a geographical region depends on altitude and distance from the sea.
Event 2—Since Verkhoyansk in Siberia lies near the poles, it is very cold there.
10. Event 1—India wants to earn fame in the world and attack

back when Pakistan attacks India this time.

Event 2—India launched its missile programme and developed several missiles like the *Nag*, *Trishul*.

Solutions

1. (b) 1 is cause and 2 is the immediate effect
2. (e) None of these. Relationship is not definite.
3. (a) 2 is the cause of 1. The given statements are very clear about it.
4. (b) Since inflation is a cause of good activity, it has led to all round development of the economy.
5. (c) 1 is an effect, but 2 is not its principal cause.
6. (b) Event 1 is the principal cause of Event 2.
7. (e) There is no cause and effect relationship between the two events.
8. (e) Event 1 itself is composed of both the cause and the effect. Thus, there is no correct choice except 'e'.
9. (e) Both the events are causes. We can't say that one is cause and the other is its effect.
10. (d) Event 2 is an effect, but India does not necessarily develop its missiles to earn fame or to launch missile attacks even on a minor attack. Thus, '1' is not the main cause for '2'.

Critical Reasoning

Directions (Q. 1 to 5): *In the following questions, assuming the three statements to be true, which are followed by two conclusions I and II, find out which conclusions is/are definitely true. In these questions certain symbols have been used to indicate relationships between elements as follows.*

A @ B means A is equal to B.

A @ B means A is either greater than or equal to B.

A # B means A is less (smaller) than B.

A \leq B means A is either smaller than or equal to B.

A ★ B means A is greater than B.

Mark Answer:

1. if only conclusion I is true.
2. if only conclusion II is true.
3. if either conclusion I or II is true.
4. if neither I nor II is true.
5. if both conclusions I and II are true.

1. Statements : M # N. O # N. N @ B

Conclusions : I. M @ B

II. M ★ B

2. Statements : P @ R. R ★ C. D @ P

Conclusions : I. D @ R

II. P # C

3. Statements : S ∝ K. K ∝ T. R ★ T

Conclusions : I. T @ K

II. T ★ K

4. Statements : X ★ Y. Y # Z. Z # W

Conclusions : I. Y @ Z

II. Y # W

5. Statements : R @ S. S @ T. T # U

Conclusions : I. U ★ R

II. T ∝ R

Directions (Q. 6 to 10): In each question below are given two statements followed by four conclusions numbered I, II, III and IV. You have to take the two given statements to be true even if they seem to be at variance from the commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

6. Statements : All boys are girls.

All girls are naughty.

Conclusions : I. Some boys are naughty.

II. All boys are naughty.

III. Some naughty are boys.

IV. All girls are boys.

- (1) Only I follows (2) Only II and III follow
(3) All follow (4) Only I and IV follow
(5) None of the above

7. Statements : All devotees are students.

No student is a sacrificer.

Conclusions : I. All students are devotees.

II. All devotees are sacrificer.

III. Some students are devotees.

IV. No devotee is a sacrificer.

- (1) Only I and II follow.
(2) Either I or II and III follow.
(3) Either I and II or III and IV follow.
(4) Only III and IV follow.
(5) None follows.

8. Statements : Some reds are roses.

Some roses are painful.

Conclusions : I. Some reds are painful.

II. Some roses are reds.

III. No red is painful.

IV. All reds are painful.

- (1) All follow
(2) Only II and IV follow
(3) Only III and IV follow
(4) Either II or III follows
(5) None follows

9. Statements : Some illiterates are intelligents.

All intelligents are scientists.

Conclusions : I. Some scientists are intelligents.

II. Some illiterates are scientists.

III. Some scientists are illiterates.

IV. Some intelligents are illiterates.

(1) Only I and IV follow

(3) Only II follows

(4) All follow

(5) None follows

10. Statements : Some tables are chairs.

No chair is a bed.

Conclusions : I. Some beds are tables.

II. Some chairs are tables.

III. Some tables are not beds.

IV. All tables are bed.

(1) Only I follows

(2) Only II and III follow

(3) Only I and III follow

(4) Either III or IV follows

(5) Only I and II follow

Directions (Q. 11 to 15): In each question below is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement. Give answer:

1. if only assumption I is implicit.

2. if only assumption II is implicit.

3. if either I or II is implicit.

4. if neither I nor II is implicit.

5. if both I and II are implicit.

Statement:

11. "If I am not well you have to go to Bombay for attending the meeting"—A manager tells his subordinate.

Assumptions

I. If the manager is well, he would himself like to go for the

meeting.

- II. It is necessary that only manager-level staff can attend this meeting.

Statement:

12. “Mother is a name of sacrifices for her child.”

Assumptions:

- I. Father does not make sacrifices.
- II. Only mother can do sacrifices.

Statement:

13. Buy ‘Verka milk—fresh, hygienic and cheap’—An advertisement.

Assumptions:

- I. Verka milk is very tasty, even children like this.
- II. There are other brands of milk also available in the market.

Statement:

14. Warning: “Cigarette smoking is injurious to health”—written on every packet of cigarette.

Assumptions:

- I. People will pay attention to this warning.
- II. Those who don’t smoke are healthy people.

Statement:

15. Microsoft corporation has formed a broad alliance to get Net, Windows to phones.

Assumptions:

- I. Customers will be able to do Net and Windows through phones.
- II. Company expects to be on the benefit side through this deal.

Directions (Q. 16 to 20): *Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the questions. Read both the statements and give answer:*

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 statement I alone or in statement II alone are sufficient to answer the question.
 4. if the data in both the statements I and II are not sufficient to answer the question.
 5. if the data in both the statements I and II together are necessary to answer the question.
16. How many members belong to Gymkhana Club.
- I. There are 50 members which belong to Dine Club.
 - II. This year 120 new members have taken membership in Gymkhana Club.
17. What was Champa's income in 2001.
- I. Her total income for last three years was Rs 100000.
 - II. She earned 25% more in 2000 than she earned in 1999.
18. Is the number divisible by 8?
- I. The number is divisible by 4.
 - II. The last three digits of the number are zeros.
19. Among five colleagues A, B, C, D, E who is the highest salary earner?
- I. B's salary is less than the sum of the salaries of A and C but more than the sum of salaries of E & D.
 - II. A's salary is more than that of C who ranks second in the descending order of their salaries.
20. What are the dimensions of a certain rectangle?
- I. The diagonal of the rectangle is 7.
 - II. The perimeter of the rectangle is 22.

Directions (Q. 21 to 30): *Following are the criteria for drawing a list of candidates to be called for interview after written test for*

“M.B.A.” for Panjab University. The candidate must

1. be holding a degree in commerce/science with 60% marks at graduation level and must be post-graduate with IInd division.
2. be atleast 25 as on 01.01.02.
3. have taken atleast 70% marks in written examination through CAT paper.
4. have work experience of minimum of 3 years as management trainee.
5. be drawing atleast Rs 7000 salary p.m.
6. have Indian Nationality.

In case of the candidates who satisfies all the conditions except

7. (2) above the case should be referred to Asst. Manager.
8. (4) above, then candidate should have atleast 1 year full experience as a manager in MNC's. Case should be referred to the Director.

Based on these conditions provided below, decide the course of action in each case. You are not to assume any data other than those described. If the data provided is not adequate to decide the course of action, then your answer will be “data inadequate”.

Give answer:

1. if the candidate can be admitted for interview.
2. if the candidate cannot be admitted for interview.
3. if the candidate should be referred to Asst. Manager.
4. if the candidate should be referred to the Director.
5. if the data given is inadequate to decide course of action.

21. Nirmal has been working in a company as a Management trainee for the last 4 and a half years. She is a citizen of India. She has secured 67% marks in graduation and 76% marks in the written examination. Her date of birth is 1st September, 1975. She is drawing a salary of Rs 7700 p.m.

22. Rahul was born on 1st December 1978. He is science graduate with 70% marks and done post-graduation with IInd class. He is

currently working in a company for last 3 years as management trainee. He is Indian. He got 71% in written examination of CAT, drawing 8000 p.m. salary.

23. Gaurav has done B.Com with 62% marks and post-graduation with IInd class. He has been employed from September '98 and currently drawing salary of Rs 7000 p.m. He has secured 65% marks in written test of CAT. He is NRI. His date of birth is Nov '73.

24. Chandni has done her M.Sc with IInd class and graduation in B.Com with 72% marks. She is working in a company for the past 1 year. She has also done 1½ year job of Manager in M.N.C. She has secured 73% in CAT written examination and running her 27th year of age. She is a citizen of India. At present she is drawing a salary of Rs 7500 p.m.

25. Meena is 28-year old, got first division in B.Com and IInd in M.Sc. She is working in a company for last three years. She has secured a good percentage in written examination and having nationality of India. She is getting salary in 5 digits.

26. Kushal is living in India for the past 27 years. He has secured 69% marks in written examination. He is a management trainee in a company since 1998. He is first divisioner in his graduate and post-graduate level. Being a commerce graduate he is earning Rs 90,000 per annum. His written examination was conducted through CAT.

27. Bipasha is earning 9500 p.m. in ABC Company. She was born on 23rd October, 1975. She is B.Com with 75% marks. She got post as Management trainee in ABC Company because she is post-graduate with first division. She is working there for the past 3 years. She got 80% marks in CAT written exam. Being Indian she is very cultural.

28. Monu has done her graduation at the age of 21. She got more than 65% in both graduation and post-graduation. Currently she is working in a MNC as Manager for last 2½ years with a salary of Rs 7900. She got merit in written examination. She is Indian.

29. Puja is a commerce graduate and has secured 78% marks in the written examination of CAT. She is a topper in both graduation

and post-graduation examination held by the University of KLMN. She was born on 17.10.1972, working in ABC Company for the past 4½ years and her current salary is Rs 86424 per annum.

30. Sandeep, an Indian, has beaten the previous records by securing 96% marks in the written examination of MBA conducted through CAT. He has done B.Sc and M.Sc from Kanpur University with good first division. He is 30 years old and working as a Manager in MNC for the last 4 years with an handsome salary of Rs 15000 p.m.

Directions (Q. 31 to 35): *Below is given a passage followed by several possible inferences which can be drawn from the facts stated in the passage. You have to examine each inference separately in the context of the passage and decide upon its degree of truth or false.*

Mark Answer:

1. if the inference is 'definitely true' i.e. it properly follows from the statement of facts given.
2. if the inference is 'probably true' though not definitely true in the given facts.
3. if the data are inadequate, i.e. from the given facts you cannot say whether the inference is likely to be true or false.
4. if the inference is 'probably false' though not definitely false in the light of the facts given.
5. if the inference is 'definitely false', i.e. it cannot possible be drawn from the facts given or it contradicts the given facts.

Passage

Innumerable books are published now a days. Naturally, there is no time to read even the best ones which are available in large numbers. One should, therefore, read only the best books. Besides classics, best books are those that give maximum of wisdom and inspiration. For a quick and right choice, the advice of teachers, parents, well-read-friends or public librarians, is really helpful and one must not go by advertisements.

31. Books are read only by those who don't have any work to do?

32. Advertisements had much significance in the selection of

good books.

33. Good books are a source of guidance and encouragement.

34. Some exhibitions should be arranged to show collection of best books.

35. Books are a necessary part of our reading.

Directions (Q. 36 to 40): Read the following information carefully and answer the questions given below it:

On a shelf six volumes of cassettes are placed side by side labelled M, N, O, P, Q, R. Three volumes M, P and Q have white covers while the other volumes have red covers. M, P and N are new volumes while the rest are old volumes. M, O and N are English films while the rest are Hindi films.

36. Which two volumes are new English films and have red cover.

- (1) M and N (2) Q and M (3) P and R
(4) O and P (5) None of these

37. Which volume is old, white covered and a Hindi film.

- (1) M (2) P (3) Q
(4) O (5) None of these

38. Which of the following is the old volume of a Hindi film.

- (1) O (2) P (3) M
(4) R (5) None of these

39. Which is the white covered, new English film.

- (1) M (2) R (3) Q
(4) N (5) None of these

40. Which is red covered old English film of cassette.

- (1) P (2) R (3) Q
(4) N (5) None of these

Directions (Q. 41 to 49): Read the following character, sequence carefully and then answer the questions.

S T U 6 P M N 8 A D E 9 W V 7 F I L 5 Z H 3 O B C 2 G

41. What will be the seventh character to the left of Eighteenth character from the left in the above alphabet number sequence.

- (1) I (2) W
(3) E (4) C
(5) U

42. Which of the following will come in place of question mark in the following series.

TU2 PMB 8A3 ? V7L

- (1) DEH (2) E9Z
(3) IL7 (4) 9W5
(5) None of these

43. In each of the letters in the above series of elements is given a value equivalent to its serial no. in the English alphabet. What will be difference between the sum of the consonants and sum of the vowels.

- (1) 195 (2) 159
(3) 143 (4) 144
(5) 200

44. What will be the third letter of the meaningful word made of 11th, 16th, 17th & 18th character of the given sequence? If no such word can be made your answer is 'Y'. If more than one such word can be made your answer is K.

- (1) K (2) F (3) E
(4) Y (5) None of these

45. Indolence is related to work in the same way as Taciturn is related to:

- (1) Cheat (2) Act
(3) Speak (4) Agreement
(5) None of these

46. In a certain language 'SWIFT' is coded as 'RVJGS', which word would be coded as LOVELY.

- (1) MNXFMX (2) KMXHMA
(3) KNWGOZ (4) KNWFKX

(5) None of these

47. A is the son of E, D is the son of B. A is married to F, F is A's daughter. How is D related to A.

- (1) Brother (2) Brother-in-law
(3) Father-in-law (4) Uncle
(5) Husband

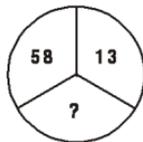
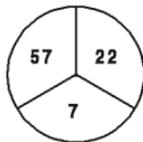
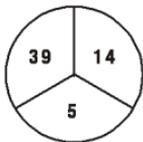
48. Going 50 m to the South of her house, Reena turns left and goes another 30m. Then, turning to the North, she goes 20m and then starts walking to her house back. In which direction is she working now?

- (1) East (2) North-West
(3) North (4) South-East
(5) None of these

49. Sachin's position in a row is fourteenth from the front side and sixth from the back side. How many persons are in that row.

- (1) 17 (2) 18
(3) 19 (4) 20
(5) 21

50. Find the missing no. from among the given alternatives.



- (1) 11 (2) 9
(3) 6 (4) 10
(5) None of these

Directions (Q. 51 to 55): In each question below is given a statement followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically followed beyond a reasonable doubt from the given information.

Give answer:

1. if only conclusion I follows
2. if only conclusion II follows
3. if either I or II follows
4. if neither I nor II follows
5. if both I and II follow

Statement:

51. Parents are paying any price for the education of their children.

Conclusions:

- I. Now-a-days parents are rich.
- II. Parents have a great desire to give best to their children for their development through good schooling.

Statement:

52. Government should reject the application of those ministers for re-election who have been found corrupt.

Conclusions:

- I. Corrupt ministers also fill application for re-election.
- II. Government has a authority to cancel their applications.

Statement:

53. T.V. is becoming the most information giving media through cable network.

Conclusions:

- I. T.V. is the only such type of media which can give information.
- II. Cable operators should be given more facilities to improve their network.

Directions (Q. 54 to 57): *Following is the criteria of numbers given which has to be rearranged by using a particular rule in each step. Understand the logic and solve the questions. Nothing has to assume more than given input steps.*

Input	70	10	39	45	40	
Step 1	7	1	12	9	4	
Step 2	36	0	121	64	9	
Step 3	41	4	124	66	10	
Step 4	36	25	64	169	4	and so on...
Step 5	9	7	10	16	4	

from step 5 same rule will follow as in step 1, 2....

54. Which will be the third step for the following input?

Input :	49	67	27	18
1.	169	144	121	81
2.	158	147	66	64
3.	148	147	66	65
4.	Can't say			
5.	None of these			

55. If 5 8 19 38 65 is third step then which will be the 6th step.

1.	Can't be determined				
2.	104	96	81	64	225
3.	64	9	64	64	225
4.	64	64	9	64	225
5.	None of these				

56. If the given input is fourth step then find out the 2nd step.

Step IV	16	25	121	361	81
1.	1	7	5	8	11
2.	4	5	11	19	9
3.	6	1	13	18	8
4.	Can't be determined				
5.	None of these				

57. If the given input is third step find out the second step.

Step III		20	52	83	26
1.	Can't be determined				
2.	5		8	10	6
3.	23		54	83	27
4.	None of these				
5.	16		49	81	25

Directions (Q. 58 to 60): You are given a pair of events 1 and 2. You have to read the two events and decide the nature of relationship. Assume that the information given in A and B is true. Do not assume anything else while deciding your answer.

Mark answer:

1. if I is the *effect* and II is its immediate and *principal cause*.
2. if I is the immediate and *principal cause* and II is its *effect*.
3. if I is an *effect* but II is not its immediate and *principal cause*.
4. if II is an *effect* but I is not its immediate and *principal cause*.
5. None of the above.

58. Event I—On 26th May 2002, Pakistan conducted its missile test keeping in view the danger posed by India.

Event II—India had been conducting missile tests since the past 10 years.

59. Event I—India and Russia signed an extradition treaty recently.

Event II—India and Russia are friendly countries.

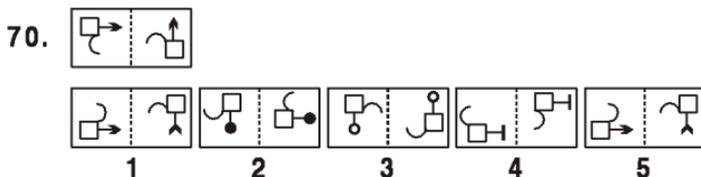
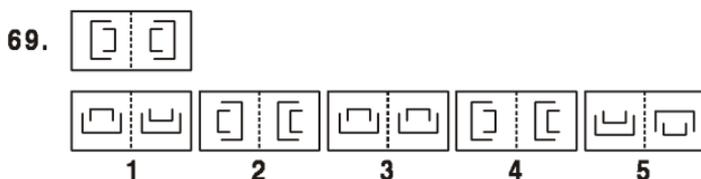
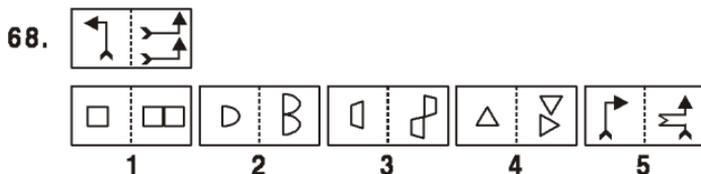
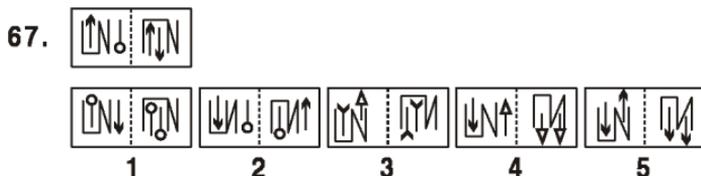
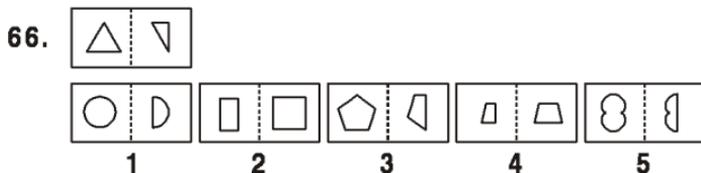
60. Event I—The heroine 'H' said during a press conference "I also plan to start social work very soon."

Event II—The heroine 'H' was awarded Kelina Miss India 2002 award.

Directions (Q. 61 to 65): Each of these questions has seven figures, the end figures being unnumbered. The five numbered figures have one figure which does not fit into the given series. Mark your answer as the number of the figure which does not fit into the series.

	1	2	3	4	5		
61.							
62.							
63.							
64.							
65.							

Directions (Q. 66 to 70): In the following problems a related pair of figures is given. From the answer figures (labelled 1-5), choose any one pair that has a similar relationship.



Directions (Q. 71 to 75): The following questions consist of problem figures and answer figures. The problem figures follow a definite pattern. Choose the alternative from among the answer figures, that would come next in the series.

PROBLEM FIGURES

71.					
72.					
73.					
74.	$\begin{matrix} + & \bullet \\ \square & \triangle \\ D & S \end{matrix}$	$\begin{matrix} + & \square \\ S & \triangle \\ D & \bullet \end{matrix}$	$\begin{matrix} \triangle & S \\ S & D \\ + & \bullet \end{matrix}$	$\begin{matrix} \triangle & S \\ \bullet & D \\ + & \square \end{matrix}$	$\begin{matrix} D & S \\ \bullet & + \\ \triangle & \square \end{matrix}$
75.	$\begin{matrix} \circ \\ \triangle \end{matrix}$	$\begin{matrix} \circ \# \\ \nabla \end{matrix}$	$\begin{matrix} \# \circ \triangle \end{matrix}$	$\begin{matrix} \# \\ \nabla \end{matrix}$	$\begin{matrix} \triangle \circ \\ \# \end{matrix}$

ANSWER FIGURES

A	B	C	D	E
$\begin{matrix} + & \bullet \\ \square & \triangle \\ D & S \end{matrix}$	$\begin{matrix} D & \bullet \\ \square & + \\ \triangle & S \end{matrix}$	$\begin{matrix} S & \square \\ S & + \\ + & \bullet \\ D \end{matrix}$	$\begin{matrix} C & \square \\ S & + \\ \triangle & \bullet \end{matrix}$	$\begin{matrix} S & \bullet \\ \square & C \\ + & \triangle \end{matrix}$
$\begin{matrix} \triangle \\ \# \circ \end{matrix}$	$\begin{matrix} \triangle \# \circ \end{matrix}$	$\begin{matrix} \# \\ \nabla \end{matrix}$	$\begin{matrix} \nabla \\ \# \circ \end{matrix}$	$\begin{matrix} \nabla \\ \circ \\ \# \end{matrix}$

ANSWERS WITH EXPLANATIONS

1. (4) We will solve these on a single line with smaller and bigger sides.

$$M \# N \Rightarrow M < N$$

$$O \# N \Rightarrow O < N$$

$$N @ B \Rightarrow N = B$$

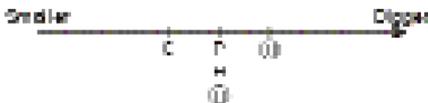


Position of O is not fixed it can occur at any of the places marked above.

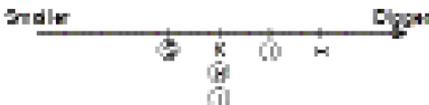
Conclusions : $M @ B \Rightarrow M = B \Rightarrow$ Not follows.

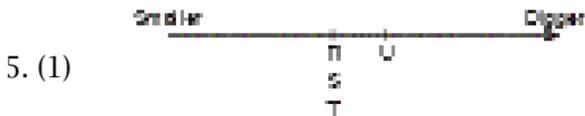
$$M \star B \Rightarrow M > B \Rightarrow \text{Not follows.}$$

2. (1)



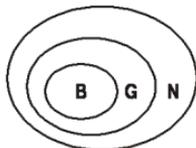
3. (3)





Q. 6 to 10: are based on syllogism problems. These can be solved in two ways—either by Venn diagrams or by All, Some, Not, Some Not rule. Use simple rules of syllogism.

6. (5) Because 1st, 2nd and third conclusions are followed.



7. (4) Conclusion III is a conversion of 1st statement and conclusion IV is a direct conclusion from two statements.
8. (5) Not given in the options. Only conclusion II follows, which is a conversion of first statement.
9. (4) Conclusion II follows and others are conversions of main and given statements. So all follow.
10. (2) II is followed because it's conversion of first statement. Third is a direct conclusion from two statements.
11. (1) Assumption I is implicit because assumption is conditional and in the statement it is given if I am not....
12. (4) Both are not related to the given statements.
13. (2) I is not implicit because it is not related with the statement. II is implicit because advertisement is generally given to compete with other brands.
14. (1) When a warning is given it is assumed that it will be followed or given attention so I is implicit. II is not because nothing is given about non-smokers.
15. (2) I is the result, not the assumption. II is directly related.
16. (4) I is not sufficient because members of Dine Club are not relat-

ed to Gymkhana. II also not tell total no. of members.

17. (4) I and II both are not sufficient to answer the question.
18. (2) I is not sufficient because 36 is divisible by 4 but not by 8. II is sufficient because any no. having last 3 digits zeros is always divisible by 8.
19. (2) We have : $A + C > B > E + D$ (from 1)
and $A > C > \dots\dots\dots$ (from 2)
Since statement II states that C is 2nd in order and $A > C \rightarrow A$ is 1st.
20. (5) Statement II gives $2x + 2y = 22$ $x + y = 11$
Statement I gives $x^2 + y^2 = 7^2$. So we can get the value of x and y by solving these two equations.
21. (5) Because stream of graduation is not given and nothing is mentioned about P.G. So data are inadequate.
22. (3) Because he is less than 25 years as on 01.01.02. So case should be referred to Asst. Manager.
23. (2) Because his written examination marks is not 70%.
24. (4) Because his work experience is less than 3 years but she has done $1\frac{1}{2}$ year job in MNC as a manager.
25. (5) Good percentge can't tell whether it is above 70% or not. So data provided are inadequate.
26. (2) Percentage in written examination is less than 70%.
27. (1) She fulfils all the conditions. So, she is selected for the interview.
28. (5) Data are inadequate. Marks percentage is not provided. Age is also not given.
29. (5) Data provided is inadequate. Percentage of graduation and post-graduation is not provided.
30. (1) He fulfils all the conditions. Selected for the interview.
31. (4) Because it is given that Good books are read by people.
32. (5) This is just opposite of what is given in the last line of passage.
33. (1) Directly given in the passage *i.e.* books give maximum

wisdom and inspiration.

34. (3) Nothing is mentioned about exhibition so it is inadequate.
35. (2) Because if books are not necessary then not even good books are readable. But it is not directly related so probably true.

36 to 40: For this kind of problems, it is better to make a table and then solve the problems:

Volume	White	Red	New	Old	English F.	Hindi F.
M	✓		✓		✓	
N		✓	✓		✓	
O		✓		✓	✓	
P	✓		✓			✓
Q	✓			✓		✓
R		✓		✓		✓

36. (5) Because only N is the volume which have new English film volume with red cover. So answer is none of these.
37. (3) As shown in the table.
38. (4) R is a old volume and Hindi film.
39. (1) It is clear from above mentioned table.
40. (5) Only O volume fulfils conditions.

Q. 41 to 44 are based on alphabet and number arrangement. There are total 27 alphabets and numbers.

41. (3) Seventh to the left of eighteenth from the left means ($18 - 7 = 11$). So we will consider 11th character from the left that is E.
42. (2) Top 2nd and 3rd character from left side and 2nd from right, second time leave next from both the sides and take 5th and 6th from left and 4th from right and so on.
43. (4) For this, write all alphabet values corresponding with their

numbers.

S T U P M N A D E W V F I
19 20 21 16 13 14 1 4 5 23 22 6 9
L Z H O B C G
12 26 8 15 2 3 7

Take sum of vowels: $21 + 1 + 5 + 9 + 15 = 51$

Take sum of consonants: $19 + 20 + 16 + 13 + 14 + 4 + 23 + 22 + 6 + 12 + 26 + 8 + 2 + 3 + 7 = 195$

Now difference is $= 195 - 51 = 144$

44 (1) Character 11th, 16th, 17th and 18th gives E, F, I, L.

It makes two meaningful words:

LIFE and FILE

So the answer is K.

45. (3) They are antonyms.

46. (4) J G

S W I F T

R V S

In this first two letters are one step ahead of the corresponding letter of code and 3rd and 4th are one step behind the corresponding letter of codes. Then again 5th and sixth step are one step ahead and so on.

So LOVELY will be coded as

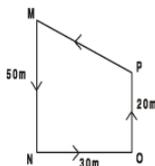
W F

L O V E L Y = K N W F K X

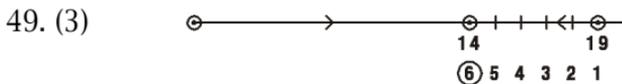
K N K X

47. (2) D is B's son and F is B's daughter. F is married to A means A is F's husband and D is brother of F. So, D is brother-in-law of A.

48. (2) The movement of Reena is shown in the figure shown below:



Thus Reena is now moving towards North-West. So answer is 2nd option.



Short cut : Just remember $(14 + 6) - 1 = 19$

50. (2) The difference of upper sides is five times of lower side digit.

e.g. $39 - 14 = 25$ and $5 \times 5 = 25$

So $58 - 13 = 45$ which is $9 \times 5 = 45$

51. (2) Richness of parents is not related to statement. II follows direct from statement.

52. (5) both follow.

53. (4) both conclusions are unrelated with the statement.

Q. 54 to 57: This problem will be solved by understanding the logic used in steps given.

In Step I —Take sum of digits

Input	70	10	39	45	40
Step I	$(7 + 0)$	$(1 + 0)$	$(3 + 9)$	$4 + 5$	$4 + 0$
	7	1	12	9	4

Step 2 $\Rightarrow 7 - 1 = 6 \quad 1 - 1 = 0 \quad 12 - 1 = 11 \quad 9 - 1 = 8 \quad 4 - 1 = 3$

(-1 from digits and square it).

6^2	0^2	11^2	8^2	3^2
36	0	121	64	9

Step 3 $\Rightarrow 36 + 5 \quad 0 + 4 \quad 121 + 3 \quad 64 + 2 \quad 9 + 1$

(Start adding 1, 2, 3, 4, 5.... from last digits).

41	4	124	66	10
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Step 4 $\Rightarrow 4 + 1 = 5 \quad 4 \quad 1 + 2 + 4 = 7 \quad 6 + 6 = 12 \quad 1 + 0 = 1$

$5 + 1 = 6 \quad 4 + 1 = 5 \quad 7 + 1 = 8 \quad 12 + 1 = 13 \quad 1 + 1 = 2$

$$\begin{array}{cccccc}
 (6)^2 & (5)^2 & (8)^2 & (13)^2 & (2)^2 & \\
 \text{(Take sum of digits, add 1 in all and square it)} & & & & & \\
 \hline
 36 & 25 & 64 & 169 & 4 &
 \end{array}$$

Step 5 is same as *step 1* and so on...

54. (3) Input	49	67	27	18
Step 1.	$4 + 9 = 13$	13	9	9
Step 2.	$13 - 1 = (12)^2$	$13 - 1 = (12)^2$	$9 - 1 = (8)^2$	$(9 - 1) = (8)^2$
	144	144	64	64
Step 3.	148	147	66	65
	$(144 + 4)$	$(144 + 3)$	$(64 + 2)$	$(64 + 1)$

55. (4) Solve yourself from above given logic

6th step will take logic of *2nd step* but for this solve all the steps 4, 5 and 6.

56. (4) Because in this type of problem you can't go back for more than 1 step and that is too in some cases possible.

57. (5) In this problem going to 2nd step is possible because only one rule is applicable that is of adding 1, 2, 3, 4, 5 ... in the digits from the last. So for getting second step we will deduct 1, 2, 3, 4, 5... from the last.

Q. 58 to 60 are based on cause and effect problems.

58. (1) Clearly, Event II is the principal and immediate cause of Event I.

59. (3) Event I is an effect but Event II not its immediate cause.

60. (5) The relationship between the two events is not clear.

61 to 75. These questions are based on movement of pictures and symbols. Read each given figure very carefully. Figures may move clockwise, anti-clockwise, right or left, up or down points. The figures can rotate upside or downside. They can also change their place, and some may drop their place. Keep all above mentioned information in mind and solve the problems.

- | | | | |
|---------|---------|---------|---------|
| 61. (1) | 62. (3) | 63. (1) | 64. (1) |
| 65. (4) | 66. (3) | 67. (1) | 68. (4) |
| 69. (3) | 70. (2) | 71. (1) | 72. (3) |
| 73. (5) | 74. (2) | 75. (4) | |