SYLLOGISM

Syllogism is a part of logical reasoning. It consists of some statements and you need to derive conclusions from the given statements. The given statements and conclusions may seem to be illogical. But we MUST assume the given statements to be 100% true.

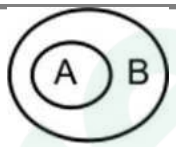
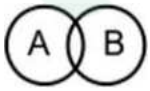
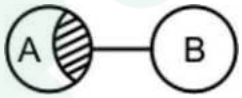
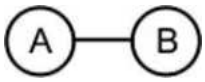
Basic Syllogism

In this section, the conclusions must be 100% true. Conclusion which are 99% true will be considered as False.

Rule #1:

If a definite conclusion is false in any of the possible diagram, then the definite conclusion is considered to be false.

The statements are as follows:

All A are B: 	**Some A are B:** 
Some A are not B: 	**No A are B:** 

Directions: **In the following question, three statements are given followed by three conclusions I, II and III. You have to consider the given statements to be true even, if they seem to be at variance with commonly known facts. Read all the conclusions and decide which of the following logically follows from the given statements disregarding the commonly known facts.**

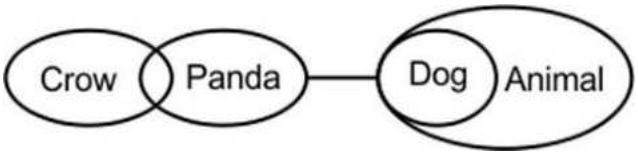
Q. Statements:

No panda is dog.
Some panda is crow.
All dogs are animal.

Conclusion:

I. Some dog are crow.
II. Some crow are panda.
III. Some animal are not panda.

A. The least possible Venn diagram for the given statements is as follows,



Conclusion:

I. Some dog are crow ⟶ False (No direct relation given hence, false)

II. Some crow are panda ⟶ True (Some panda are crow hence, some crow are panda is true)

III. Some animal are not panda ⟶ True (All dogs are animal and No dog is panda. so those animals which are dog can never be panda hence, true)

Thus, only conclusion II and III follow.

Point to Remember

If all statements are positive, then all negative conclusion will be false in definite case and vice versa.

Either - Or Case

In this section, when the conclusion are not 100% true but the two given conclusion are 50% true then the either-or case will be formed.

Rule #2:

Complementary pairs for Either or case are:

- **Some + No**
- **All + Some not**

Conditions:

- Both conclusions should consist of one of the above complementary pair.
- Subject and Predicate of the two conclusions should be same and they cannot interchange.
- The answer of both the conclusions should be can't say.

Exception: Subject and Predicate can interchange for the complementary pair "Some + No"

Direction: **In the question below are given three statements followed by some conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.**

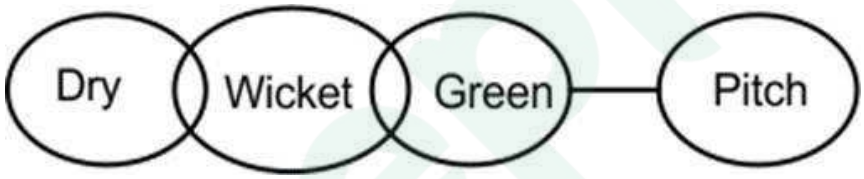
Q. Statements:

Some wicket are green.
Some wicket are dry.
No green is pitch.

Conclusion:

I. Some dry are pitch.
II. Some pitch are not green.
III. No pitch is dry.

A. The least possible Venn diagram for the given statements is as follows:



Conclusion:

I. Some dry are pitch → False (No direct relation given hence, false)

II. Some pitch are not green → True (No green is pitch so some pitch are not green is true)

III. No pitch is dry → False (No direct relation given hence, false)

Conclusive I and III form complementary pair. Thus, Either conclusion I or III and II follow.

Common Mistake

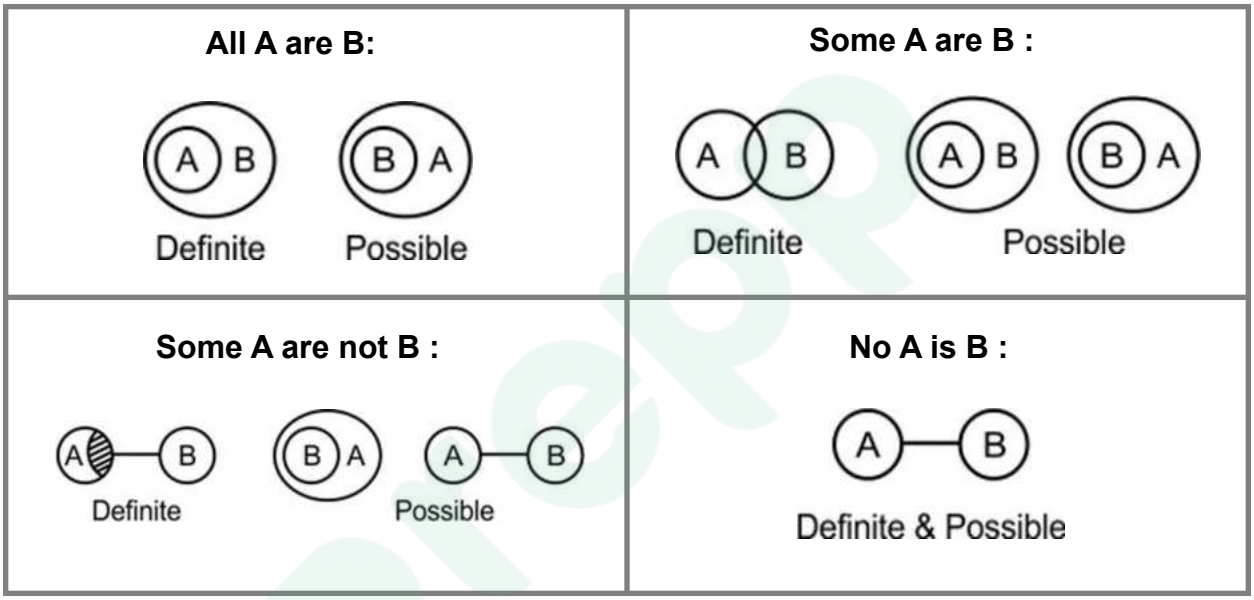
- **If two conclusions have same subject &predicate and consist of a complementary pair but one of the conclusions is true, then it will not form an either-or case.**
- **Do not consider "Some + Some" as a complementary pair for Either or case.**

Syllogism Possibility

Rule #3:

If a possible conclusion is true in any one of the possible diagrams, then the possibility is considered to be true.

The definite and possible diagrams are shown together for better understanding:



Directions: **In the question below are given three statements followed by two conclusions I and II. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.**

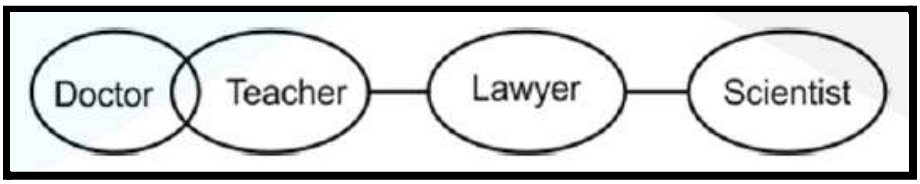
Q. Statements:

Only a few doctors are teachers.
No teacher is a lawyer.
No lawyer is a scientist.

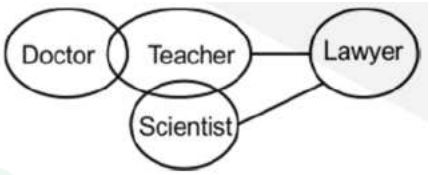
Conclusions:

I. Some teachers can be scientist is a possibility.
II. Some doctors are not lawyers.

A. The least possible Venn diagram for the given statements is as follows:



Conclusion:



I. Some teachers can be scientist is a possibility → True (Possibility is true as shown below)

II. Some doctors are not lawyers → True (As some Doctors are Teachers and no Teacher is a Lawyer)

Thus, both conclusions I and II follows.

Memory Tip

Statement	Definite Conclusion	Possible Conclusion
All A are B	All A are B Some A are B Some B are A	All B are A Some B are not A
Some A are B	Some A are B Some B are A	All A are B All B are A Some A are not B Some B are not A
Some A are not B	Some A are not B	Some A are B No A is B No B is A Some B are not A All B are A
No A is B	No A is B No B is A	No possibility is true

New Keywords

The meaning of new words are:

- Each, Every, Only,100% → All
- Almost, Little, Few, At most, At least, Many, Mostly, 1-99% → Some
- None, 0% → No

Direction: In the question below are given three statements followed by three conclusions numbered I, II and III. You have to take the given statements to be true if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

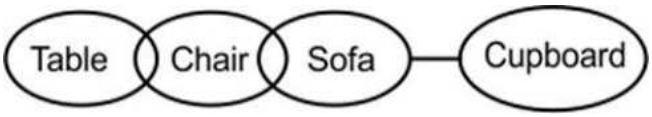
Q. Statements:

Some tables are chairs.
Only a few chairs are sofas.
No sofa is a cupboard.

Conclusions:

I. Some chairs are not Sofa.
II. All table can be cupboard is a possibility.
III. No chair is a cupboard.

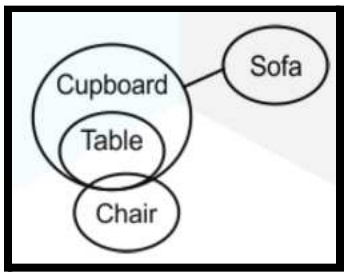
A. The least possible Venn diagram for the given statements is as follows:



Conclusions:

I. Some chairs are not Sofa →True (As only a few chairs are sofa which means rest of the chairs are not sofa. Hence true)
II. All table can be cupboard is a possibility → True (Possibility is true as shown below)
III. No chair is a cupboard → False (It is possible but not definite)

Thus, the correct answer is "Only conclusion I and II follow".



Point to Remember

"Only a few" means some and some not both conclusions are definitely true i.e. If only a few A are B then it means conclusions: some A are B and some A are not B will be definitely true.

Reverse Syllogism

In this section, conclusions will be given, and you need to find the set of statements from which the given conclusions can be derived.

Q. Conclusions:

I. No real is fake.

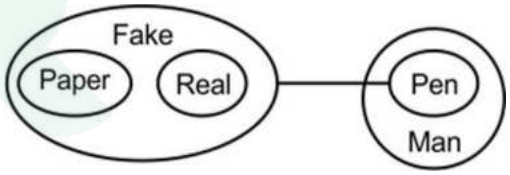
II. All fake can be a man.

Statements:

1) All the papers are fake. No fake is pen. All real is fake. All pens are man.
2) All the papers are fake. No fake is pen. All real are pen. All pens are man.
3) Some papers are fake. No fake is man. All real are pen. All pens are man.
4) Some papers are fake. No fake is pen. All real is fake. All pens are man.
5) All the papers are fake. No fake is man. All real are pen. All pens are man.

A. 1) Statement: All papers are fake. No fake is pen. All realis fake. All pens are man.

The least possible Venn diagram for the given statements is as follows:



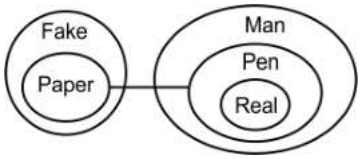
Conclusions:

I. No real is fake. ⟶ False

II. All fake can be a man. ⟶ True (Possibility is true)

Here, conclusion II follows.

2) Statement: All papers are fake. No fake is pen. All real are pen. All pens are man.
The least possible Venn diagram for the given statements is as follows:



Conclusions:

I. No real is a fake. → True
II. All fake can be a man. → True (Possibility is true)

Here, both conclusions follow. Hence, both the given conclusions can be derived from the 2nd set of statements.

Coded Syllogism

In this section, statements and conclusions are given in coded form. You need to decode the statements and conclusions to find the answer.

Direction: In the question below are given a statement followed by three conclusions Numbered I, II, and III. You have to take the given statements to be true even if they Seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

"A*B" means "Some A's are B's."
"A$B" means "All A's are B's."
"A~B" means "No A's are B's."
"A! B" means "All B's are A's."
"%" means "Possibility."

Example: "A$%B" means "All A's being B's is a possibility.

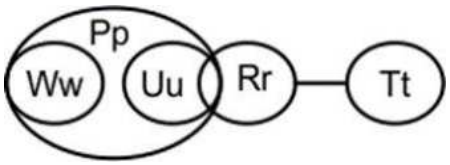
Q. Statement: Ww $ Pp !Uu * Rr ~ Tt

Conclusion:

I. Ww * Tt]
II. Uu $ Tt
III. Pp * Rr

A. Given Statement: Ww $ Pp !Uu * Rr ~ Tt

Decoding the Statement: All Ww are Pp. All Uu are Pp. Some Uu are Rr. No Rr is Tt.



Conclusion:

I. Ww * Tt means (Some Ww are Tt) → False (there is a possibility but not specific).
II. Uu $ Tt means (All Uu are Tt) → False as Some Rr which Uu cannot be Tt because it is given that

No Rr are Tt.

III. Pp * Rr means (Some Pp are Rr) ⟶ True

Hence, “Only III” is true.

Sequential Syllogism

In this section, statements are given followed by the options. You need to choose the set in which the third statement can be logically deduced from first two statements.

Q. Statement:

I. All cars are cycle

II. All trucks are scooter

III. No cycle are scooter

IV. some trucks are cars

V. some cars are scooter

a) I, v, iii

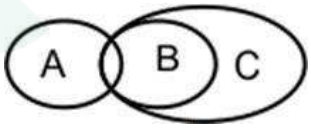
b) ii, v, iv

c) iv, ii, v

d) all are true

e) None of these

A. c) iv, ii, v



Hence, iv, ii, v is true.