Here are **10 solved Venn diagram questions** with **step-by-step explanations**, focusing on **logical reasoning and syllogism**, which are useful for exams like MCA-CET, SSC, Banking, etc.

☑ Question 1:

Statements:

1. All apples are fruits.

2. Some fruits are mangoes.

Conclusion:
I. Some apples are mangoes.
II. All mangoes are fruits.

🧠 Venn Diagram Analysis:

- Circle A (Apples) is inside Circle F (Fruits).

- Circle M (Mangoes) overlaps partially with Fruits, but no connection with Apples.

☑ **Conclusion I is invalid** – no direct link between apples and mangoes.
☑ **Conclusion II is not given in statements** – we can't assume all mangoes are fruits.

🔨 **Answer: Neither I nor II follows.**

☑ Question 2:

Statements:

1. Some students are girls.

2. All girls are dancers.

Conclusion:
I. Some students are dancers.
II. All dancers are girls.

🧠 Venn Diagram:

- Students (circle) partially overlap with Girls.

- Girls circle completely inside Dancers.

✔ **Conclusion I follows** – some students → girls → dancers.
✘ **Conclusion II does not follow** – all dancers being girls is not given.

🔨 **Answer: Only Conclusion I follows.**

☑ Question 3:

Statements:

1. All dogs are animals.

2. All animals are living beings.

Conclusion:
I. All dogs are living beings.
II. Some animals are dogs.

🧠 **Venn Diagram:**

- Dogs ⊂ Animals ⊂ Living beings.

✔ **Conclusion I follows** – chain logic.
✔ **Conclusion II follows** – All dogs are animals implies "some animals are dogs."

🔨 **Answer: Both I and II follow.**

☑ **Question 4:**

Statements:

1. No engineers are doctors.

2. All doctors are males.

Conclusion:
I. No engineers are males.
II. Some males are doctors.

🧠 **Venn Diagram:**

- Engineers and doctors: no overlap.

- Doctors inside Males.

✖ **Conclusion I** is invalid – doctors ≠ all males.
✔ **Conclusion II** is valid – all doctors are males ⇒ some males are doctors.

🔨 **Answer: Only Conclusion II follows.**

☑ **Question 5:**

Statements:

1. Some actors are singers.

2. No singer is a dancer.

Conclusion:
I. Some actors are not dancers.
II. All singers are actors.

🧠 **Venn Diagram:**

- Actors ↔ partial overlap with Singers.

- Singers and Dancers – no overlap.

✖ **Conclusion I** – "some actors not dancers" can't be concluded.
✖ **Conclusion II** – not all singers are actors.

🔨 **Answer: Neither I nor II follows.**

☑ **Question 6:**

Statements:

1. All boys are students.

2. Some students are athletes.

Conclusion:
I. Some athletes are boys.
II. All boys are athletes.

🧠 **Venn Diagram:**

- Boys ⊂ Students.

- Students partially overlap with Athletes.

✖ **Conclusion I** – no direct link from boys to athletes.
✖ **Conclusion II** – not given.

🔨 **Answer: Neither I nor II follows.**

☑ **Question 7:**

Statements:

1. All poets are writers.

2. Some writers are singers.

Conclusion:
I. Some poets are singers.
II. All singers are writers.

🧠 **Venn Diagram:**

- Poets ⊂ Writers.

- Writers partially overlap with Singers.

✖ **Conclusion I** – no direct overlap between poets and singers.
✖ **Conclusion II** – not mentioned.

🔨 **Answer: Neither I nor II follows.**

☑ Question 8:

Statements:

    1.   All mothers are women.

    2.   All women are humans.

Conclusion:
I. All mothers are humans.
II. Some humans are women.

🧠 Venn Diagram:

- Mothers ⊂ Women ⊂ Humans.

✔ **Conclusion I** – clear by chain logic.
✔ **Conclusion II** – "all women are humans" ⇒ "some humans are women"

🔨 **Answer: Both I and II follow.**

☑ Question 9:

Statements:

    1.   Some fruits are sweet.

    2.   All sweet things are healthy.

Conclusion:
I. Some fruits are healthy.
II. All fruits are healthy.

🧠 Venn Diagram:

- Fruits ↔ some overlap with Sweet.

- Sweet ⊂ Healthy.

✔ **Conclusion I** – sweet fruits are healthy ⇒ some fruits are healthy.
✗ **Conclusion II** – not all fruits are sweet/healthy.

🔨 **Answer: Only Conclusion I follows.**

☑ Question 10:

Statements:

    1.   Some computers are laptops.

    2.   No laptop is mobile.

Conclusion:
I. Some computers are not mobiles.
II. No computer is mobile.

🧠 **Venn Diagram:**

- Some Computers ↔ Laptops

- Laptops ⊄ Mobiles

✖ **Conclusion I** – can't say some computers are not mobiles.
✖ **Conclusion II** – can't conclude all computers are not mobiles.

🔨 **Answer: Neither I nor II follows.**

Would you like **40 unsolved Venn diagram questions with answer key at the end** for practice?

Here are **40 unsolved Venn diagram-based logical reasoning questions**. These are useful for practice in exams like **MCA-CET, SSC, Banking, etc.**.
You'll find the **answer key at the end** for self-checking.

🔑 **Unsolved Questions:**

1.

Statements: All roses are flowers.
Some flowers are yellow.
Conclusions:
I. Some roses are yellow.
II. All flowers are roses.

2.

Statements: All pens are tools.
All tools are instruments.
Conclusions:
I. All pens are instruments.
II. Some instruments are tools.

3.

Statements: Some boys are engineers.
All engineers are smart.
Conclusions:

I. Some boys are smart.
II. All smart people are engineers.

4.

Statements: Some mobiles are tablets.
No tablet is a computer.
Conclusions:
I. Some mobiles are not computers.
II. No mobile is a computer.

5.

Statements: All actors are artists.
Some artists are painters.
Conclusions:
I. Some actors are painters.
II. All artists are actors.

6.

Statements: No fruits are vegetables.
All carrots are vegetables.
Conclusions:
I. No carrot is a fruit.
II. All vegetables are fruits.

7.

Statements: All books are papers.
Some papers are notes.
Conclusions:
I. All books are notes.
II. Some papers are books.

8.

Statements: All dogs are loyal.
Some dogs are strong.
Conclusions:
I. Some strong beings are loyal.
II. All loyal beings are dogs.

9.

Statements: Some fans are ACs.
All ACs are machines.
Conclusions:
I. Some fans are machines.
II. All machines are ACs.

10.

Statements: No tiger is a deer.
All deer are animals.
Conclusions:
I. No animal is a tiger.
II. Some animals are not tigers.

11.

Statements: Some teachers are poets.
All poets are writers.
Conclusions:
I. Some teachers are writers.
II. All writers are teachers.

12.

Statements: All pens are blue.
Some blues are inks.
Conclusions:
I. All pens are inks.
II. Some pens are inks.

13.

Statements: All buses are vehicles.
All vehicles are transports.
Conclusions:
I. All buses are transports.
II. All transports are buses.

14.

Statements: Some birds are parrots.
All parrots can talk.
Conclusions:

I. Some birds can talk.
II. All birds can talk.

15.

Statements: All phones are electronic.
No electronic item is organic.
Conclusions:
I. No phone is organic.
II. Some electronic items are phones.

16.

Statements: All soldiers are brave.
Some brave are disciplined.
Conclusions:
I. Some soldiers are disciplined.
II. All disciplined are brave.

17.

Statements: Some students are hard-working.
All hard-working people are successful.
Conclusions:
I. Some students are successful.
II. All successful people are students.

18.

Statements: No cow is a tiger.
Some tigers are lions.
Conclusions:
I. Some lions are not cows.
II. No lion is a cow.

19.

Statements: Some chairs are tables.
Some tables are furniture.
Conclusions:
I. Some chairs are furniture.
II. All tables are chairs.

20.

Statements: Some pens are pencils.
Some pencils are erasers.
Conclusions:
I. Some pens are erasers.
II. No pen is an eraser.

21.

Statements: Some books are novels.
All novels are fiction.
Conclusions:
I. Some books are fiction.
II. All fiction are books.

22.

Statements: No boy is a girl.
All girls are students.
Conclusions:
I. No boy is a student.
II. Some students are not boys.

23.

Statements: Some oranges are sweet.
All sweet things are healthy.
Conclusions:
I. Some oranges are healthy.
II. All healthy things are oranges.

24.

Statements: All goats are animals.
Some animals are white.
Conclusions:
I. Some goats are white.
II. All white things are goats.

25.

Statements: All newspapers are printed.
Some printed things are colorful.
Conclusions:

I. Some newspapers are colorful.
II. All colorful things are newspapers.

26.

Statements: No rich man is honest.
All honest men are respected.
Conclusions:
I. Some respected people are not rich.
II. No respected man is rich.

27.

Statements: All roads are paths.
Some paths are ways.
Conclusions:
I. Some roads are ways.
II. Some ways are roads.

28.

Statements: Some scientists are logical.
All logical people are intelligent.
Conclusions:
I. Some scientists are intelligent.
II. All intelligent people are scientists.

29.

Statements: Some glasses are cups.
All cups are utensils.
Conclusions:
I. Some glasses are utensils.
II. All glasses are cups.

30.

Statements: No artist is a cricketer.
All cricketers are sportspersons.
Conclusions:
I. No artist is a sportsperson.
II. Some sportspersons are not artists.

31.

Statements: Some actors are dancers.
All dancers are professionals.
Conclusions:
I. Some actors are professionals.
II. All professionals are dancers.

32.

Statements: All apples are fruits.
No fruit is meat.
Conclusions:
I. No apple is meat.
II. Some fruits are not apples.

33.

Statements: Some keys are locks.
All locks are metal.
Conclusions:
I. Some keys are metal.
II. All metal are locks.

34.

Statements: Some students are girls.
Some girls are intelligent.
Conclusions:
I. Some students are intelligent.
II. Some intelligent are students.

35.

Statements: All engineers are educated.
Some educated are rich.
Conclusions:
I. Some engineers are rich.
II. Some rich are engineers.

36.

Statements: Some mobiles are smart.
All smart are expensive.
Conclusions:

I. Some mobiles are expensive.
II. All expensive things are smart.

37.

Statements: No politician is honest.
Some honest are social workers.
Conclusions:
I. Some social workers are not politicians.
II. No social worker is a politician.

38.

Statements: All buses are fast.
Some fast are dangerous.
Conclusions:
I. Some buses are dangerous.
II. All dangerous things are fast.

39.

Statements: Some lions are wild.
All wild are dangerous.
Conclusions:
I. Some lions are dangerous.
II. All lions are wild.

40.

Statements: Some people are kind.
All kind are noble.
Conclusions:
I. Some people are noble.
II. All noble are kind.

☑ **Answer Key:**

1. Neither 2. Both   3. Only I   4. Neither 5. Neither

6. Only I   7. Only II 8. Only I   9. Only II 10. Only II

11. Only I 12. Neither 13. Only I   14. Only I 15. Both

16. Neither 17. Only I 18. Only II 19. Neither 20. Neither

21. Only I 22. Only II 23. Only I   24. Neither 25. Neither

26. Both   27. Neither 28. Only I   29. Only I   30. Only II

31. Only I 32. Both   33. Only I   34. Neither 35. Neither

36. Only I 37. Only I 38. Neither 39. Only I   40. Only I