

## LOGICAL VENN DIAGRAM

Logical Venn diagram was discovered by a mathematician named Euler. This type of diagram is used to represent the relation between two or more groups. In this, the questions consists of two or more information followed by Venn diagram representing the relation between the groups in the given information. The candidates are required to choose that option which expresses the correct relation between these groups.

### **Group and Venn diagram-:**

A group consists of many with similar facts. This group can be represented by a venn diagram. The diagram is always a closed one. Inside the diagram, there may be some diagram that symbolizes facts about that group. There is no direct relation between the sizes of the shapes.

### **Relation of Groups between Each Other:**

In questions of vein diagram, facts are very important. All the groups are related to each other on the basis of facts and not on each other's relations.

The relation between groups are of following types:

1. Relation between two groups.
2. Relation between three groups

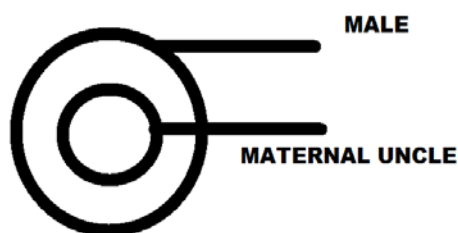
### **Relation between Two Groups**

If all relation between two groups are understood, then it will help in understanding the relation between three groups also.

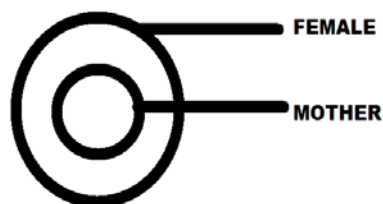
**TYPE-1**  
**(Completely Related Group)**

EXAMPLES:-

1. Male: Maternal uncle
2. Mother: Female



Logic: All maternal uncles are male

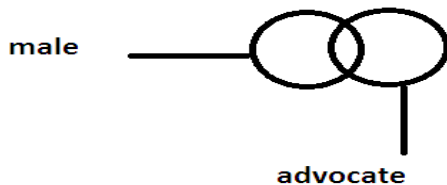


Logic: All mothers are female

**Note:** When a group consists of a relation (maternal uncle, brother, etc.) and the second word in the group is a male or a female, then it is in either completely related group or completely non-related group.

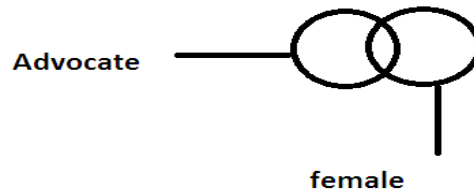
**TYPE – 2**  
**(Partly Related Group)**

3. Male: Advocate



Logic: Some males are advocate or some advocates are male because advocates can be both males and females.

4. Advocate: Women



Logic: Some females are advocates or some advocates are females because advocates can be both male and female.

**Note:** Some professions, such as, doctor, engineer, advocate etc are perused by both male and female group, so such, relation are in partly related and not in completely related groups.

**TYPE – 3**  
**(Completely Non-Related Group)**

When any of the group is not related to each other then it is said to be completely non-related groups.

5. Doctor: Advocate



Logic: Both are different profession

6. Female: Male



Logic: None of the females are male

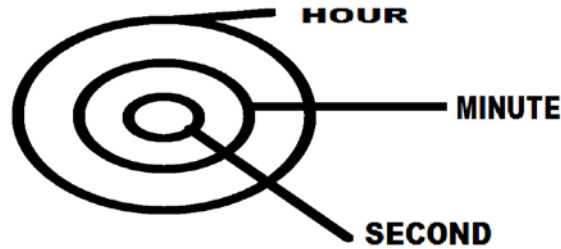
**Relation Between Three Groups**

Relation between three groups can be of the following types – (Questions on relation between three groups can be solved in the same way as it is done in relation between two groups.)

**TYPE-1 :**

In this, one group is related to the second group and the second group is related to the third group.

Example 1: Hour: Minute: Second

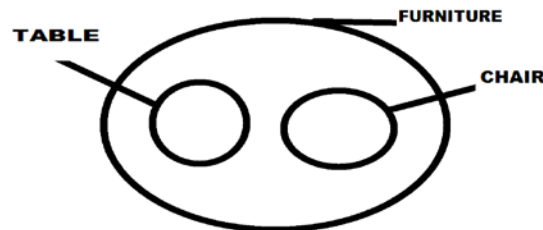


Logic: Seconds make minute and minutes make hour

**TYPE -2:**

When two groups are completely related to the another group but those two groups are completely not related to each other

Example 2: Table: Chair: Furniture

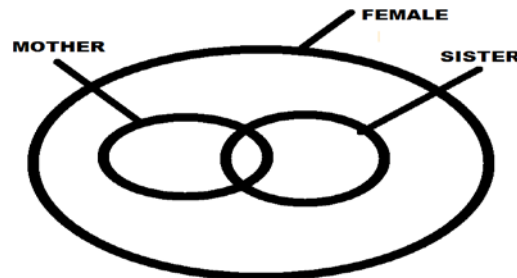


Logic: None of the tables are chair but both table and chair belong to the group – furniture.

**TYPE -3:**

When two groups are completely related to each other but both are partly related to another group

Example 3: Female: Mother: Sister

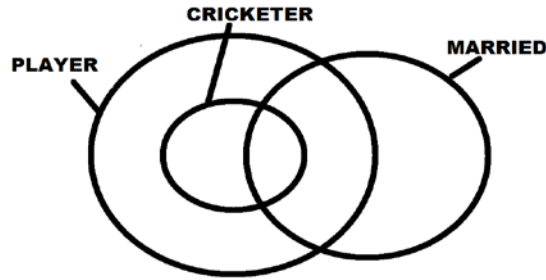


Logic: Some mothers are sisters and some sisters are mothers but mother and sister are in the group of females.

**TYPE-4:**

When one group is completely related to another group but are partly related to the third group

Example 4: Player: Cricketer: Married



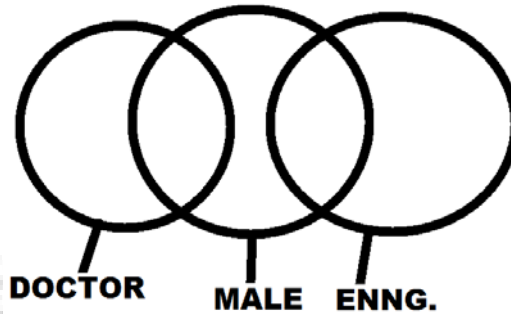
Logic: All cricketers are players. Some cricketers and some players of other games are married.

**TYPE-5:**

When first group is purely related to the second group and the second group is related to the third group but the first and the third group are not related to each other.

Example: Male: Doctor: Engineer

TYPE-7 Two groups are partly related to each other but the third group is completely related to each other.

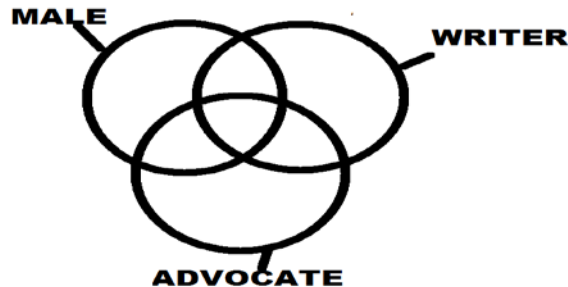


Logic: Some males are doctor and some males are engineer but none of the doctors are engineers.

**TYPE-6:**

All three groups are partly related to each other.

Example 6: Male: Advocate: Writer

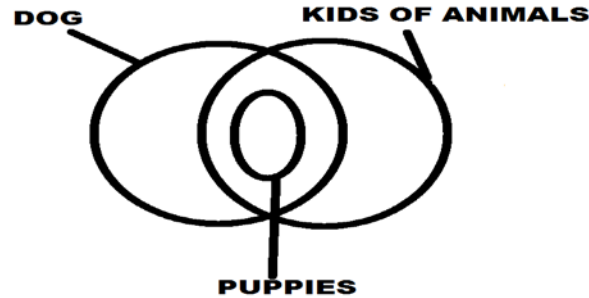


Logic : Some males are advocate, some males are writer, some advocates are writers and some males are both advocate and writer.

**TYPE-7:**

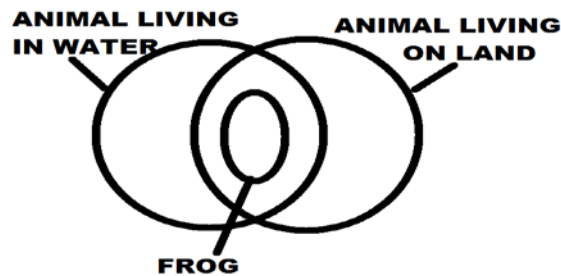
Two groups are partly related to each other but the third group is completely related to each other.

Example 7: dogs: Puppies: Kids of animals



Logic: All the puppies are included in dogs and all puppies are included in kids of animals.

Example 8: Animal living in water : Animal living on land : frog

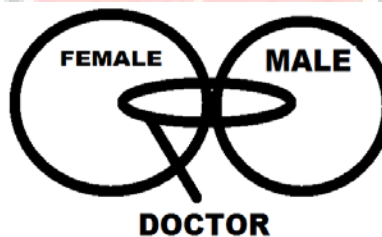


Logic: Frog is an animal that lives on both. Land and water. Some parts of water is on land and some parts of land is in water.

**TYPE-8:**

Two groups that are completely not related to each other but the third group is partly related to both the groups.

Example: 9: Female: Male: Doctor

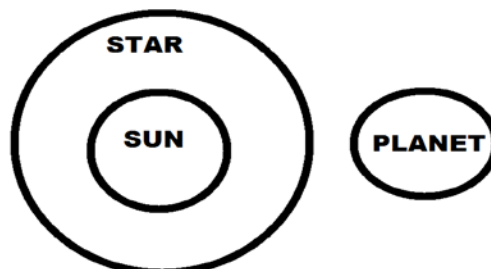


Logic: Doctors are both, male and female and male and females are two separate groups.

**TYPE-9:**

One group is completely related to another group but the third group is completely not related to both the groups.

Example 10 Sun : Star : Planet

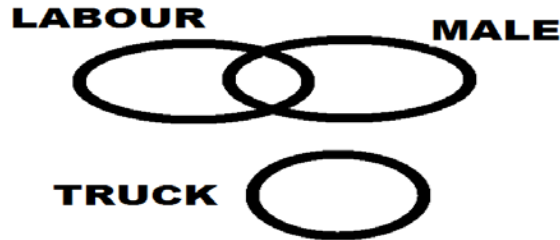


Logic Sin is a star but planet is different

**TYPE-10 :**

Two groups are partly related to each other but the third group is completely different from both the groups.

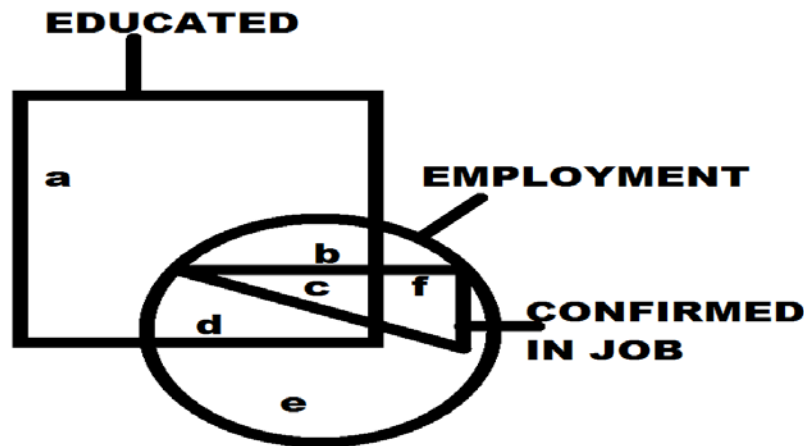
Example: 11: Male: Labour: Truck



Logic: some males are labour but truck is differ.

**SOME OTHER TYPE EXAMPLES:-**

Q1. Study the figure and find the region represent persons who are educated and employed but not confirmed.



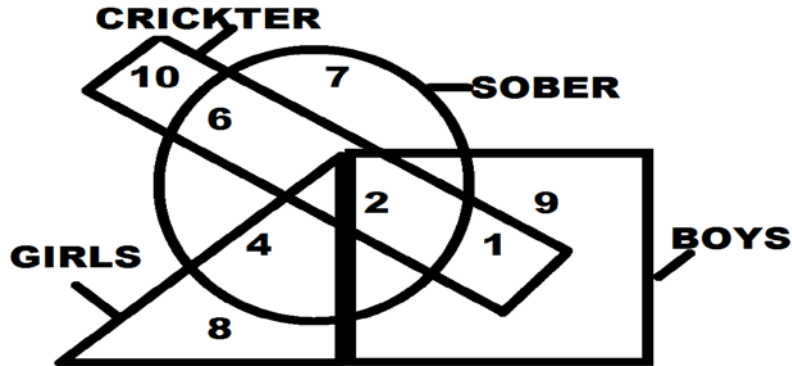
- a). a ,c
- b). a ,b, c
- c). b ,d
- d). a, d, c

**SOLUTION:- (c)**

The required region should be outside the triangle but common to the square and circle. Such region is b , d.

Q2. In the following figure the boys who are cricketer and sober are indicated by which number?

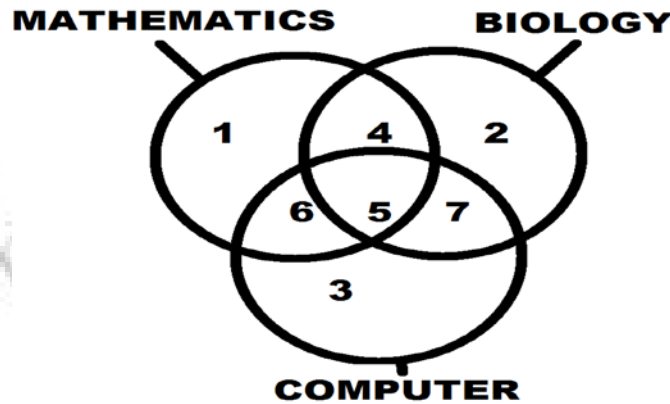
- a.6
- b.5
- c.4
- d.2



**SOLUTION:-** The required region should be common to the square, circle and rectangle but outside the triangle, which is the region represented by the number 2. (d)

Q3. Identify the region that represents students studying Biology and Computer not Mathematics?

- a.5                      b.7                      c.1                      d.3



**SOLUTION:-** The region that represents students who study Biology and Computer but not Mathematics is 7. (b)



India's trusted Educational Blog

Subscribe to our **YouTube Channel**



Video lectures for all subjects

Current Affairs bulletin

Exam Notification & Analysis

Pre Exam Training

G.K Sessions

Debates & discussions

Success Stories

Live Interview Sessions

Group discussions