



**SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY(A)  
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**JIGSAW**

Subject: COA

Class: III-I

Topic: Carrier Sense Multiple Access

The **Jigsaw teaching method** is a cooperative learning strategy that helps students engage actively by breaking a topic into smaller pieces and having them teach each other. Here's how you can implement the **Jigsaw Method** to teach the **Carrier Sense Multiple Access (CSMA)** in Computer Network:

**Step 1: Divide the Topic into Subtopics**

The **CSMA** : Is a network protocol used in wired and wireless networks to manage how multiple devices share a communication channel, preventing collisions.

Break this concept into **four subtopics**:

- **Types of CSMA** – 1-persistent, non-persistent, p-persistent
- **CSMA vs Other Access Methods** – TDMA, FDMA, CDMA
- **CSMA with Collision Detection (CSMA/CD)**
- **CSMA with Collision Avoidance (CSMA/CA)**
- **Advantages & Limitations of CSMA**

**Step 2: Create Expert Groups**

- Students from different groups working on the same subtopic form an "**Expert Group**" to master it
- Students are grouped based on subtopics (e.g., all students learning CSMA/CD form one expert group).
- Each group studies their subtopic using books, notes, or teacher support.

**Step 3: Expert Discussions**

- Group members discuss and understand their assigned subtopic deeply.

- They prepare to **teach others** using:
  - Diagrams
  - Real-life examples (e.g., Wi-Fi for CSMA/CA, Ethernet for CSMA/CD)
  - Key points summary

#### **Step 4: Jigsaw Sharing in Home Groups**

- Students return to their **original groups (Jigsaw Groups)** where each member has learned a different subtopic.
- Each student **teaches their subtopic** to the rest of their group members.
- The group as a whole reconstructs the full understanding of the **Carrier Sense Multiple Access (CSMA)** .

#### **Step 5: Benefits of Teaching CSMA via GIGSAW**

- Encourages peer learning and responsibility
- Breaks a complex topic into simple parts
- Increases engagement with practical examples
- Fosters communication and critical thinking

**Faculty**