

# COGNITIVE RADIO CLUB

*“Think of ourselves as gardeners, not fishermen. Fishermen know what gets the fish. But a gardener provides the environment and enables plants to grow. With CR team, we won’t try to just get the best students and win; instead, we get as many students as you can, and do whatever is possible to make them better at this club.”*

## Vision



To establish an intelligent CR-LAN and to provide emergency communication in event of disaster

## Mission



To train and experiment with Software Defined Radio for specific applications which enables quality communication

## Objective



To kindle students interest and expand their knowledge in the field of wireless communication

To organize technical activities in the field of electronics and radio communication

## Out Line of CR Club Essentials

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### What it is about?

- ✓ Learn and refine problem solving strategies
- ✓ Compete for both team and individual sport
- ✓ Participate in group tutoring opportunities



### Why it's worthwhile?

- ✓ Explore concepts not covered in syllabus
- ✓ Build a foundation for communication
- ✓ Solidify knowledge on CR
- ✓ Develop team cooperation



### Who can participate?

- ✓ Students of ECE
- ✓ Further events – Club members alone
- ✓ Creating a Team – ask coordinators



### When do club activities occur?

- ✓ Bi-Weekly Practices
- ✓ Practice season – August through October
- ✓ Competitive season – January through March



### Where can club activities be held?

- ✓ At ECE Lab blocks
- ✓ At ECE AV Hall
- ✓ Meetings – Dept. Library & Staff Rooms



## **About Cognitive Radio**

Cognitive Radio (CR) is an adaptive, intelligent radio and network technology that can automatically detect available channels in a wireless spectrum and change transmission parameters enabling more communications to run concurrently and also improve radio operating behavior. CR is a non-commercial radio communication service whose primary aims is public service, technical training, experimenting with radio electronics, and the leisure communication between private persons. CR operators are noted for providing communications in times of an emergency or disaster.

## **About CR club**

CR club is a fun and competitive activity that any ECE student can participate in. It is a great way for students to develop intuitive thinking skills and learn new types of communication. Students will not only learn new material, but will apply their previous knowledge to challenging problems. CR club is with full of creativity and opportunity to explore their intelligence that many students enjoy. Besides the academic benefits, CR club is also a great way to meet new people and develop teamwork skills.

### **Rules for joining the club:**

- 1. Students have to clear the CRNEET (Cognitive Radio Network Entrance Eligibility Test) conducted by club**
- 2. Students should not be a member in other clubs.**

## **CRNEET Syllabus:**

**Analog Communication System:** Modulation schemes – AM , FM

**Digital Communication System:** ASK, FSK, PSK, QPSK, GMSK ,  
GFSK and Encoding Techniques.

**Advanced Communication System:** 2G, 3G, 4G, WiFi, WiMax,  
TDMA, FDMA, CDMA,  
Bluetooth, Cellular concepts,  
Software Defined Radio  
(SDR), Cognitive Radio(CR).

## **References:**

### **Books:**

1. Communication Systems by Simon Haykin
2. Digital Communication by Simon Haykin
3. Wireless Communication by Andrew Molisch
4. Wireless Communication by Rappaport

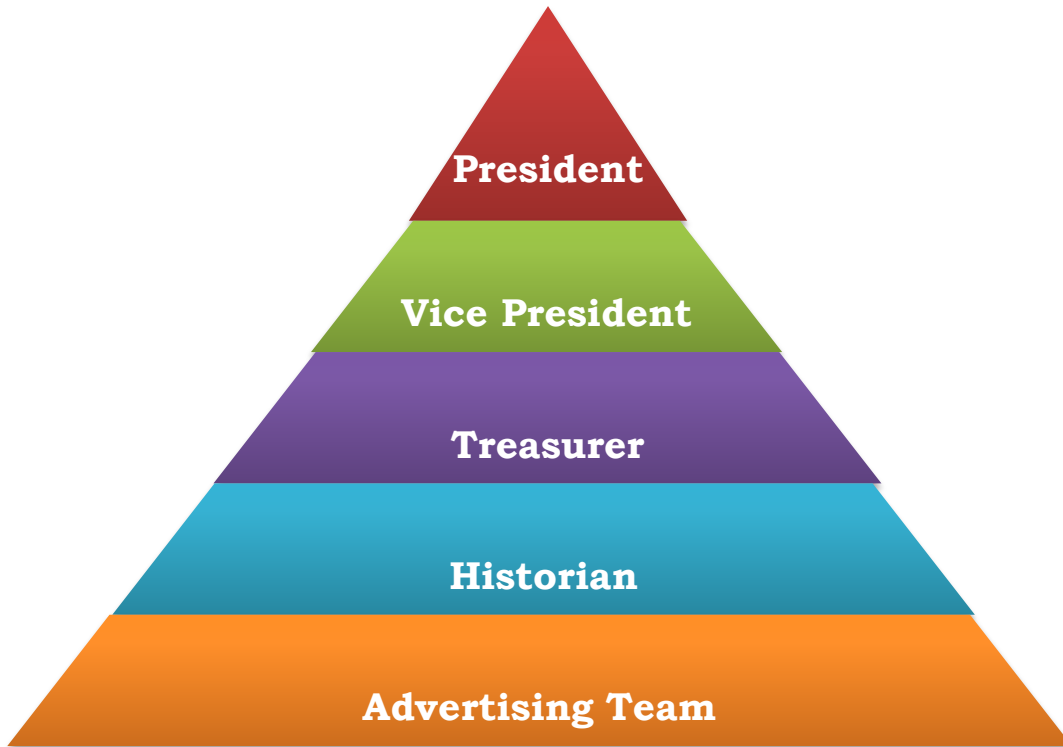
### **Websites:**

Refer web links related to introduction of Software Defined Radio (SDR) and Cognitive Radio (CR).

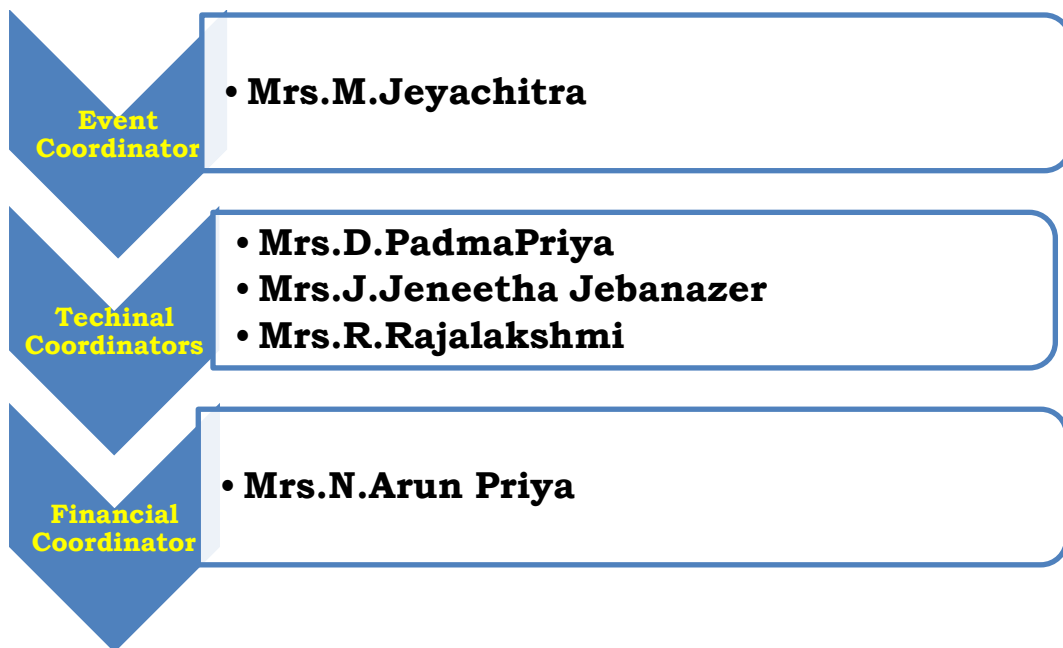
## **Events:**

1. Preliminary Test – 27/07/2017 (From 3:15pm to 4:30 pm)
2. Inauguration – 1<sup>st</sup> week of August
3. Guest Lecture – 1<sup>st</sup> week of September
4. Quiz – 3<sup>rd</sup> week of September

## CR CLUB OFFICIALS



## CR CLUB COORDINATORS



Please contact our coordinators if you have any questions, suggestions, or other feedback.

**“When all Else Fails, CR Works”**

**But wait..... There is more!!**