

# **SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES**

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai  
Approved by Pharmacy Council of India, New Delhi. Coimbatore -641035

**COURSE NAME: HUMAN ANATOMY & PHYSIOLOGY  
(BP301 T)**

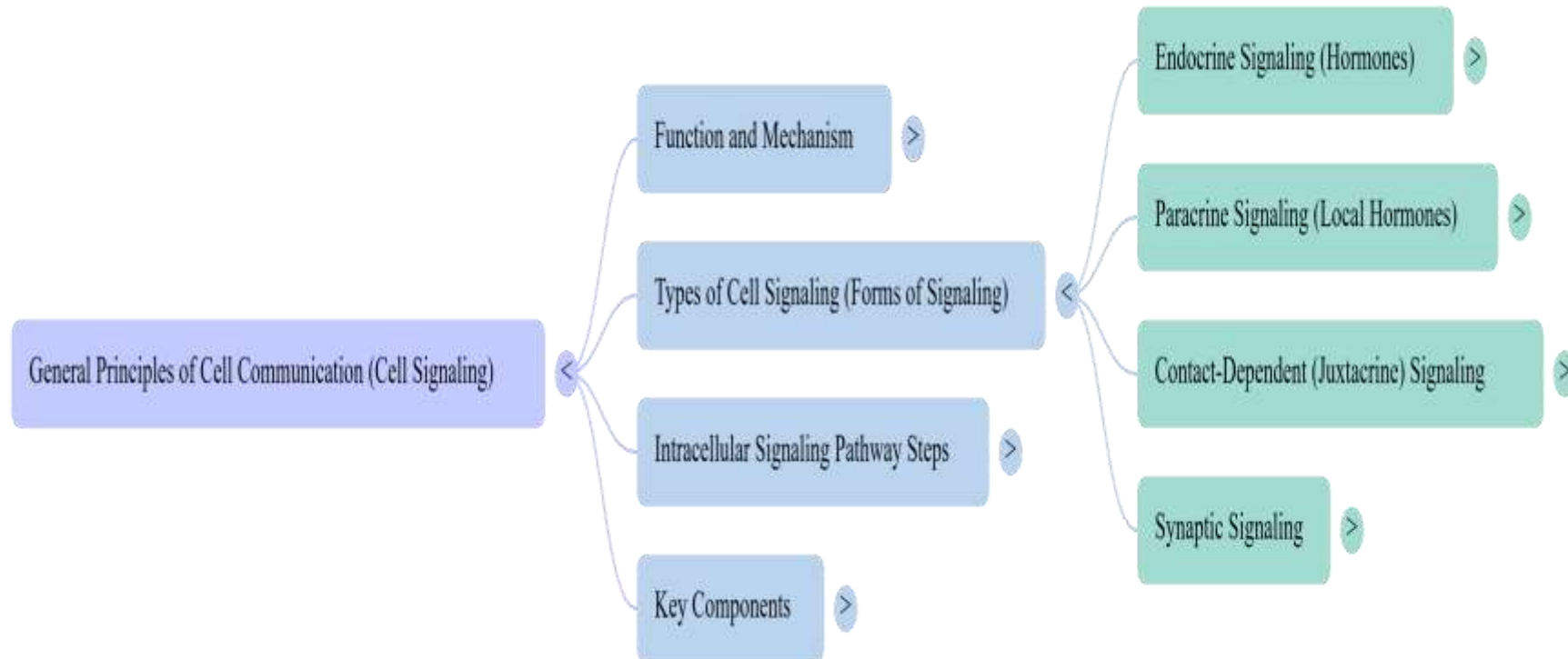
**YEAR : I SEM/I YEAR**

**TOPIC 9 : FORMS OF INTERCELLULAR SIGNALING**

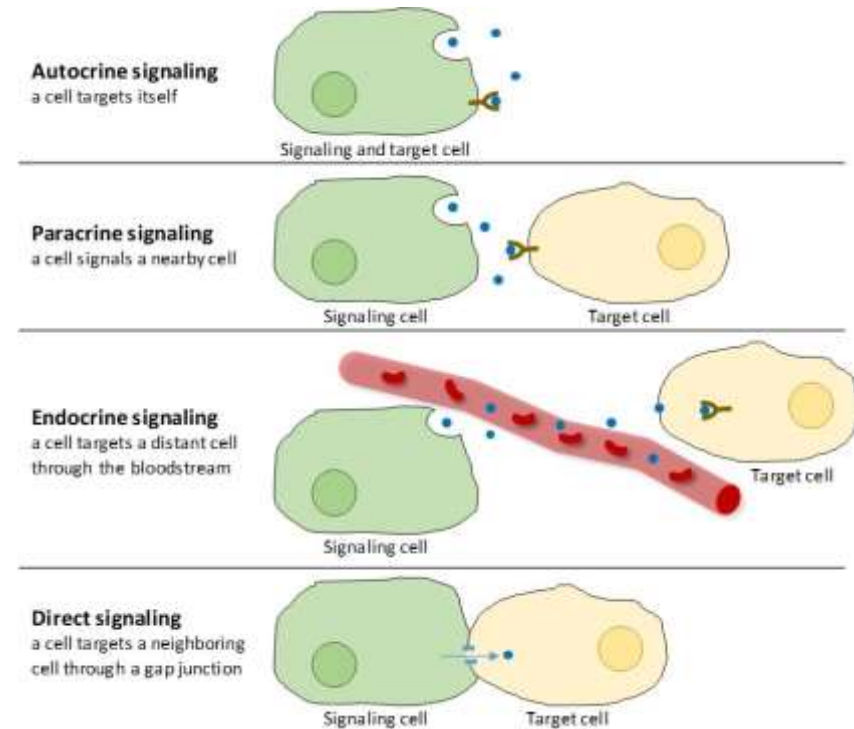
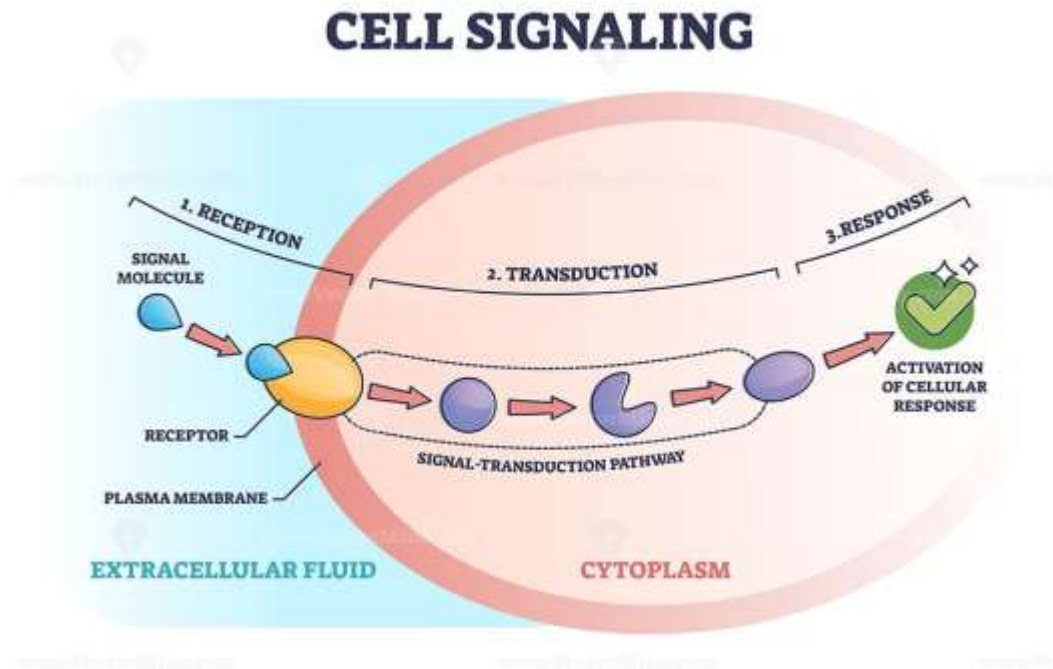
# DESIGN THINKING IN INTERCELLULAR SIGNALING

- 1.Empathize:** Deeply understand the learner's challenges, needs, and experiences in grasping intercellular signaling.
- 2.Define:** Reframe the problem based on insights, establishing clear context like the need for simplified signaling explanations.
- 3.Ideate:** Brainstorm diverse teaching methods, including diagrams and interactive models.
- 4.Prototype:** Simulate educational tools to enhance understanding of signaling forms.

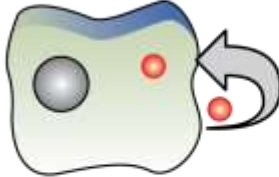
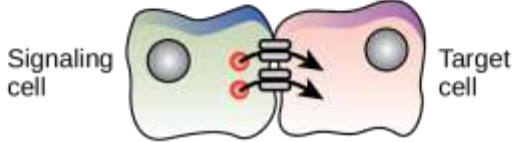
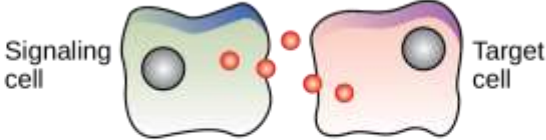

# MIND MAP



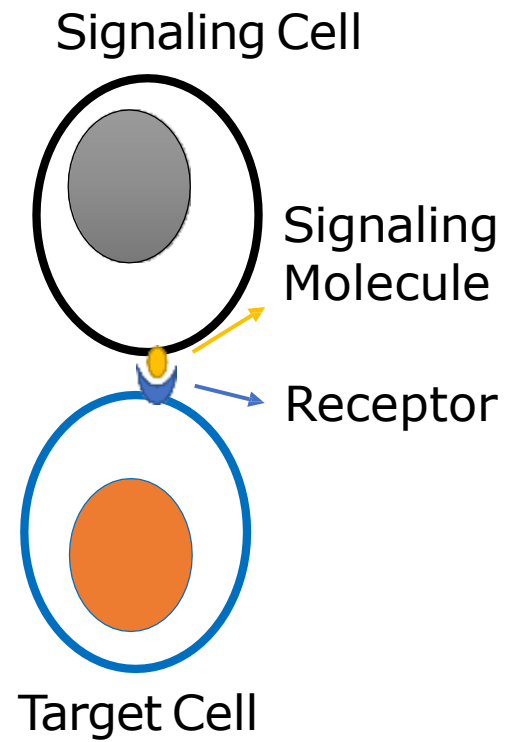
# CELL SIGNALING



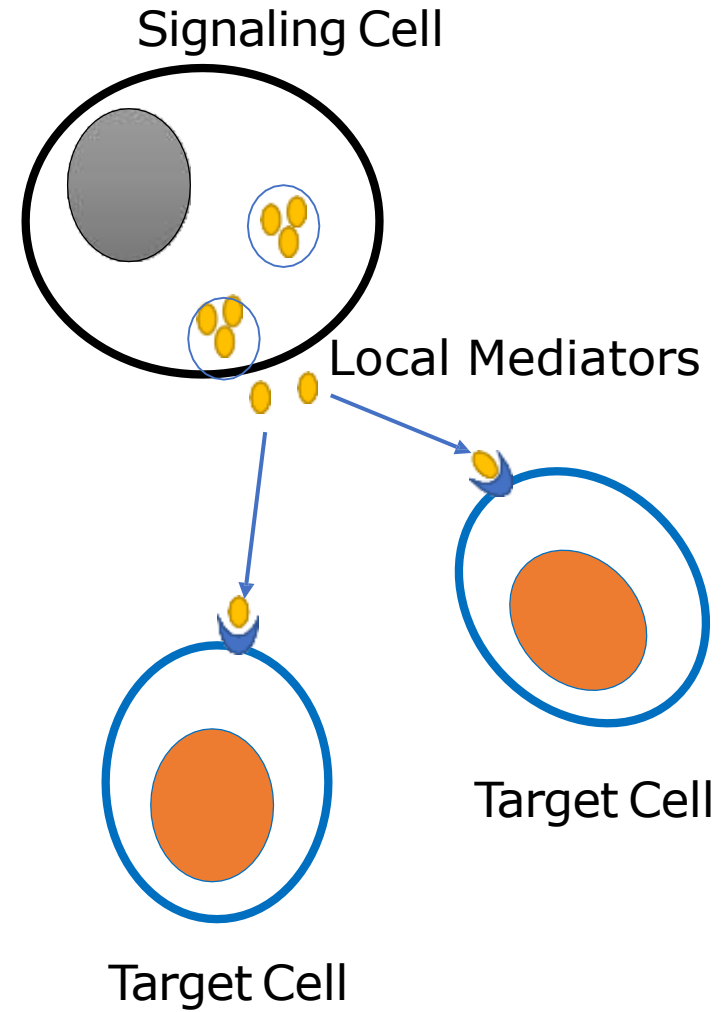
# CELL SIGNALING

Forms of Chemical Signaling	
Autocrine	A cell targets itself.
	
Signaling across gap junctions	A cell targets a cell connected by gap junctions.
	
Paracrine	A cell targets a nearby cell.
	
Endocrine	A cell targets a distant cell through the bloodstream.
	

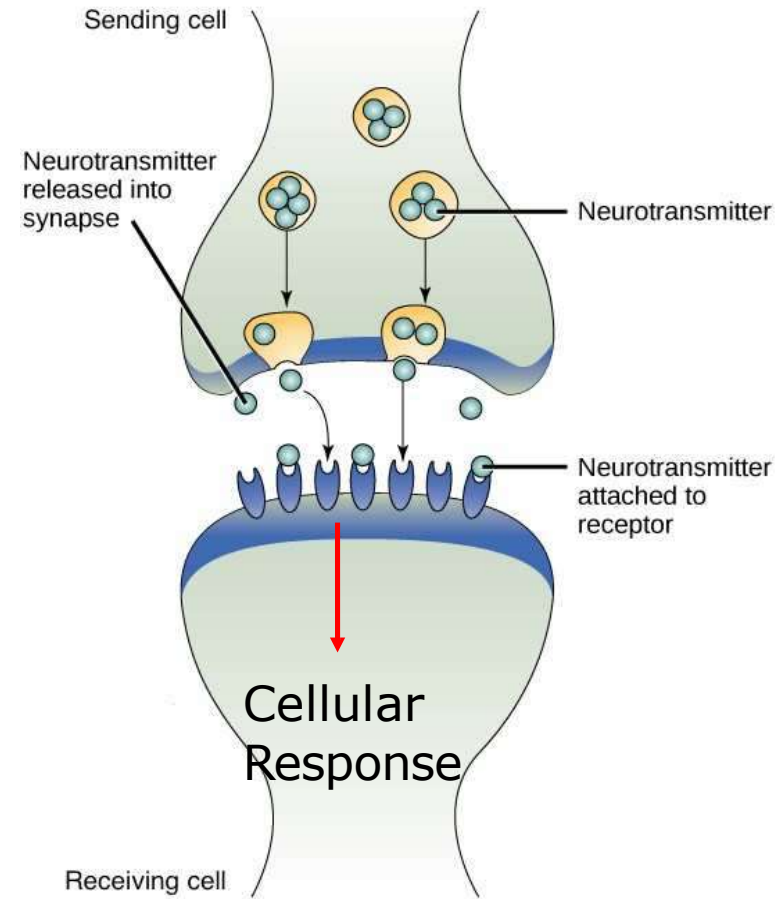
## A) CONTACT DEPENDENT



## B) PARACRINE SIGNALING

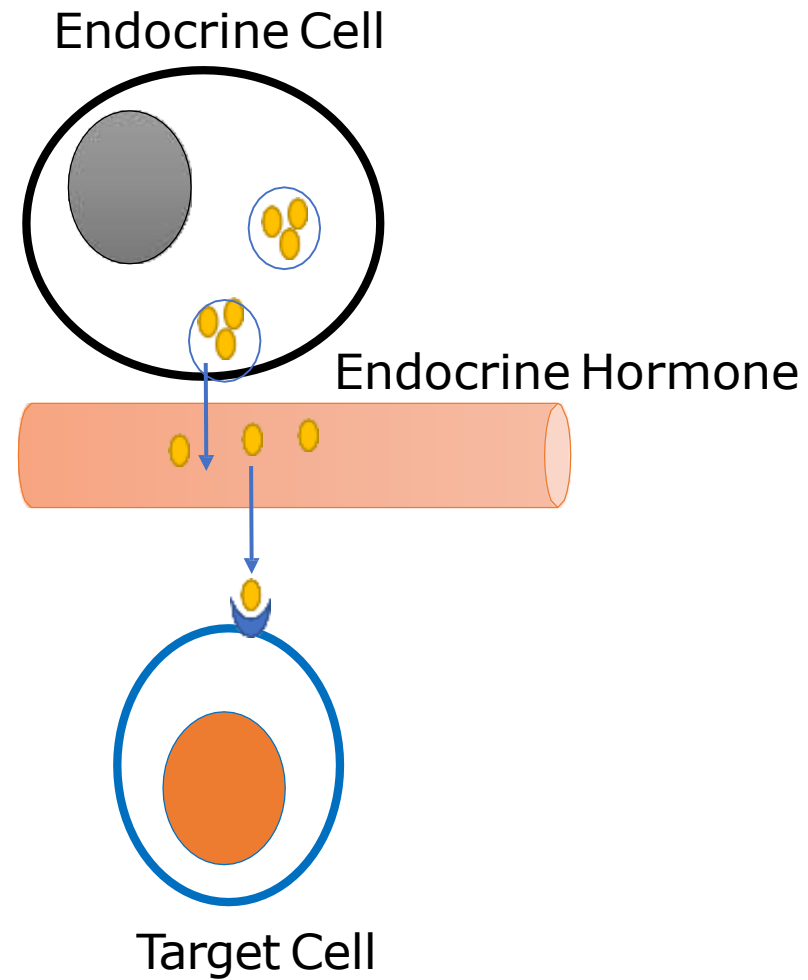


## C) SYNAPTIC SIGNALING





## D) ENDOCRINE SIGNALING



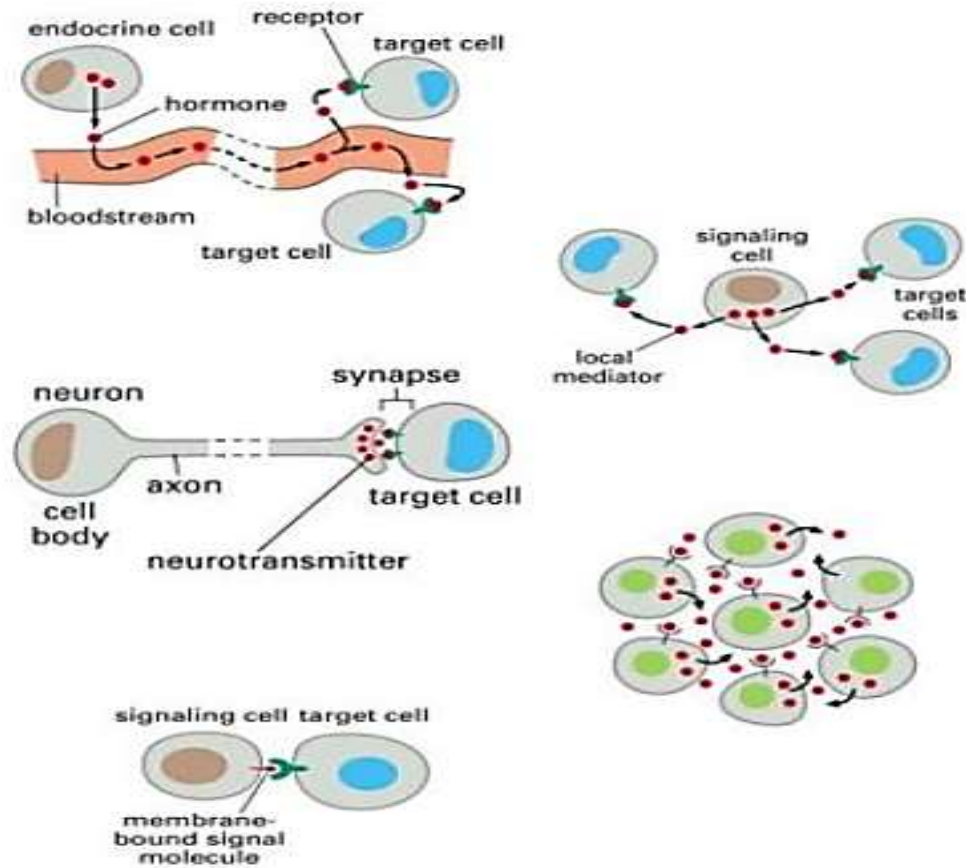
## SUMMARY

The various types of **intercellular signaling pathways**, which describe how cells communicate. It introduces five specific mechanisms:

- **contact-dependent signaling**, which requires direct cell contact and is vital for the immune system and development;
- **paracrine signaling**, which involves chemical messengers diffusing over short distances to neighboring cells;
- **synaptic signaling**, a specialized form of paracrine communication utilizing synapses between nerve cells.
- **endocrine signaling**, where hormones travel through the body to reach distant target cells for slow, long-lasting effects,

# CLASS ASSESSMENT

FIND THE TYPE OF CELL SIGNALLING?



## REFERENCE

- ✓ Essentials of Medical Physiology, K. Sembulingam & P. Sembulingam (Jaypee Brothers Medical Publishers)
- ✓ A Textbook of Human Anatomy and Physiology-I, SIA Publishers
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- ✓ Ross and Wilson anatomy and physiology in health and illness, Anne Waugh & Allison Grant.
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