Q1 How Cryotheraphy is effective in Pain & edma?.

* Cryotheraphy:-

Cryotheraphy is also Knows as Cold theraphy. It is a local or general use of low temperature in medical theraphy. Cryotheraphy is also used to treat variety of tissues lesions.

Effect on Pain & edma:-

It reduce flow of blood during injure when applied to an injured area. (reducing swelling) and act as a analgesic. It reduce muscle spasm & reducing tissue metabolism.

Pain:- on Cooling

↓

Activation of cold receptors (carry sensery signal to brain)

↓

Spinal cord

give sensation that some object touch to body → it activate nerve fibers.)

↓

↓

Posterior horn
it have larger diameter (more conduction) which activate the nerve fibers throug cooling.

→ There are two type of nerve fibers small diameter and large diameter.

edma:-

Swelling:-

When ice is applide on swelling Part it increase the blood flow and blood is transfer to tissues. ice reduce the tissue tempeture which decrease cell metabolism in the area around injury.

Mechanism of Agents:-

Modality	Desired Therapeutic effects	Drugs with Complementry synergistic Effects:	Drugs with antagonistic effects.	other Drug modality Interaction.
Cryotheraphy	→ To decrease Pain	NSAIDs	Peripheral vasodilators for acute local edma.	some form of cryotheraphy may Produce local vasoconstriction
cold / ice massage	→ To reduce edma	Anti-Inflamtory steroids (glucocoticoids		
Cold bath	- To reduce swelling			
Vapocoolant sprays.	- To decrease spasiticity.			
	→ To reduce contraction			

Modality.	Desired Therapeutic effect:	synegistic effects.	other drugs	Antagonistic Effects:
Systemic heat large whirlpool Hubbard ~~tank~~.	→ decrase muscle stifiness → joint stiffiness. These are apply to larger area of body part.	opioid → nonopioid.	→ hypetension (sever) when the patient is whirlpool	—

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What is the therapeutic application of systemic heat? What agents can effects it's desired therapeutic response?

Modality:-

systemic heat.

Desired therapeutic effects:-

The desired therapeutic effect is to decrease muscle stiffness and also joint stiffness in larger area of the body. When the patient is administer in systemic hot whirlpool can lead to sever hypertension as the patient is taking vasodilators e.g Alpha-1 antagonist and block the calcium channel blockers).

Q2
What is main function of menstrual cycle? Enumerate it's phases. write down each of the hormone name only that is dominant in each phase. explain termination ?

* Menstrual cycle:-
Menstrual cycle is a natural change that occur in femal in the reproductive system. which makes pregnancy possible. This cycle is required for the production of oocytes and for the preparation of the uters for pregnancy. The function of the cycle is to stimulate the ovaries to produce an ovum.

Phases of menstrual cycle:-
The following are the phases of menstrual cycle

- Follicular phase
- Ovulation Phase
- luteal phase
- Corpus luteum Regression and termination of the cycle.

Name of hormones:-

- Follicle-stimulating hormone and gonadotropin releasing hormone are dominant in Follicular phase.

② **Ovulation phase:**
- luteinizing hormone.
- follicle-stimulating hormone.
- Progestrone.

③ **luteal phase**
→ Progestrone.

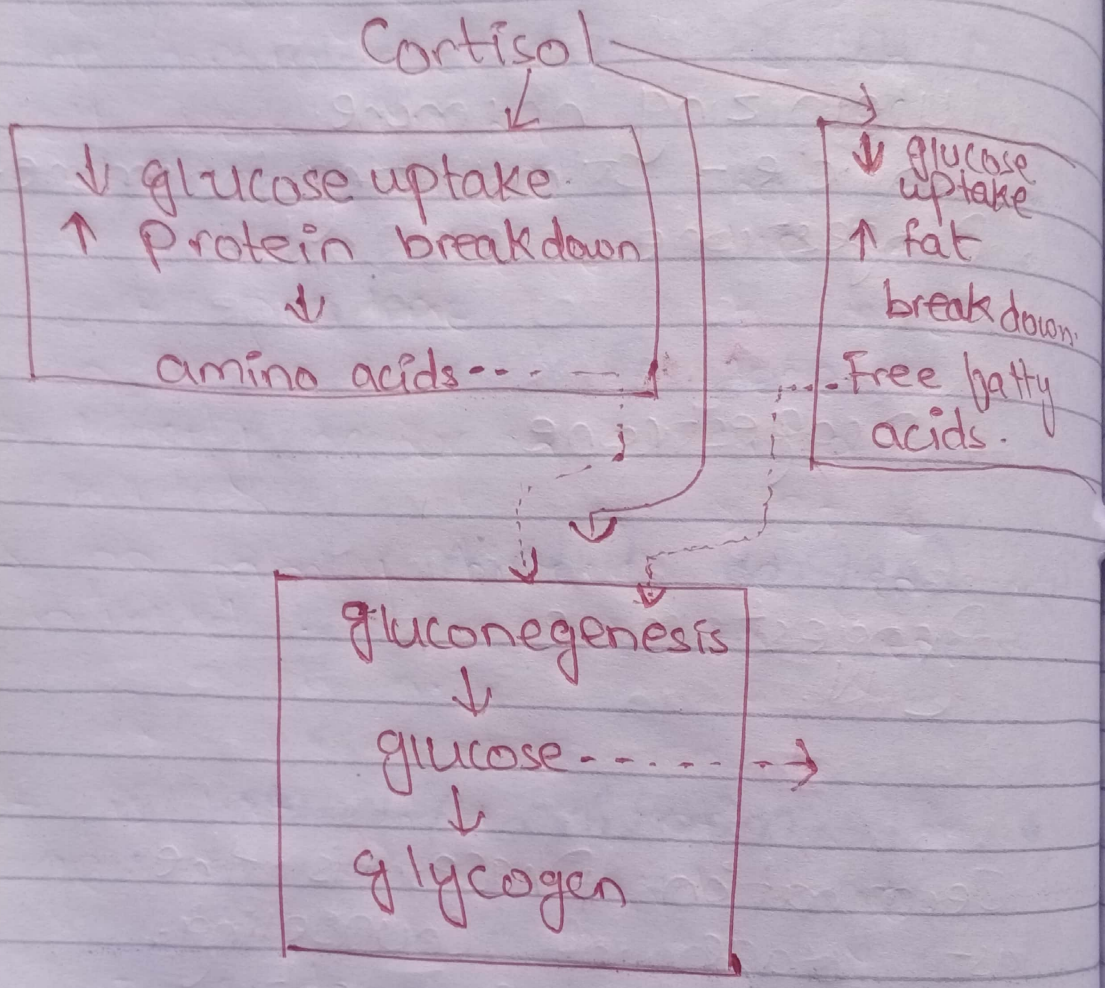
④ **Corpus luteum:**
Progesterone
L.H.

- **Termination phase:-**

Termination phase is the last stage of counseling. If the egg is not fertilized then implantation dose not occur. Corpus luteum begins to regress, because of lack of continued support for the corpus luteum from the pituitary gonadotropins (LH, FSH).

Q3 Eplain the effects of glucocorticoids on glucose, Protein, and lipid metabolism?

Effect :-



→ When cortisol is relase in the body it increase the break down of protien fats in the muscle.

- cortisol increase break down of lipid.
- Factly acid is relase from fat break down.
- Cortisol increase glucosynthises.

Mineralocorticoids:-

Aldosterone is involved in maintaing the body fluids.

when Angiotensin II increase in our body then Aldosterone also increase Angiotensin II is the part of renin-angiotensin system which maintain blood pressure. when in our body blood blood pressure is low this system activates. this produce Angiotensin II and this factors cause vasoconstriction. and will be rise in blood pressure.

Aldosterone cause sodium and water rehention thus maintaing adequate plasma volume.

Q4

Differentiate between type I & type II diabetes mellitus:

Type 1 diabetes	Type 2
→ In diabetes mellitus type I the immunologic cell work against beta cells due to which beta cell don't produce insulin.	→ In type 2 resist against insulin glcouse resist that harmone due to which it cause insulin depency and cause diabetes.
→ Mostly occour in children.	→ It is will be generation to generation.
→ no family history involed.	
Treatment	
It is at small age.	It is at old age.
Test is done during fasting means empty stomach	test is done during fasting empty stomach.
give insulin	We give drugs so that more insulin is produce (noninsulin antidiabetic drugs)

As per your opinion which of the insuline delivery is more effective & why?

→ Insulin pumps are more effective in controlling blood sugur as compared to insulin injection because it work the way human body diliver the insulin. Continuously (basal rate) This device also used to deliver variable amount of insulin befor having meal. It has the ability to accurately deliver micro doses (0.1) units of insulin.
→ It provide accuracy & greater flexibility in insulin delivery for patient requriment.

Q5 1B

Define Iontophoresis, explain the mechanistic approach behind:-

Deff:- IONTOPHORESIS:-

It is define as Ion- transfer (Ionto - Ion. Phoresis — transfer.

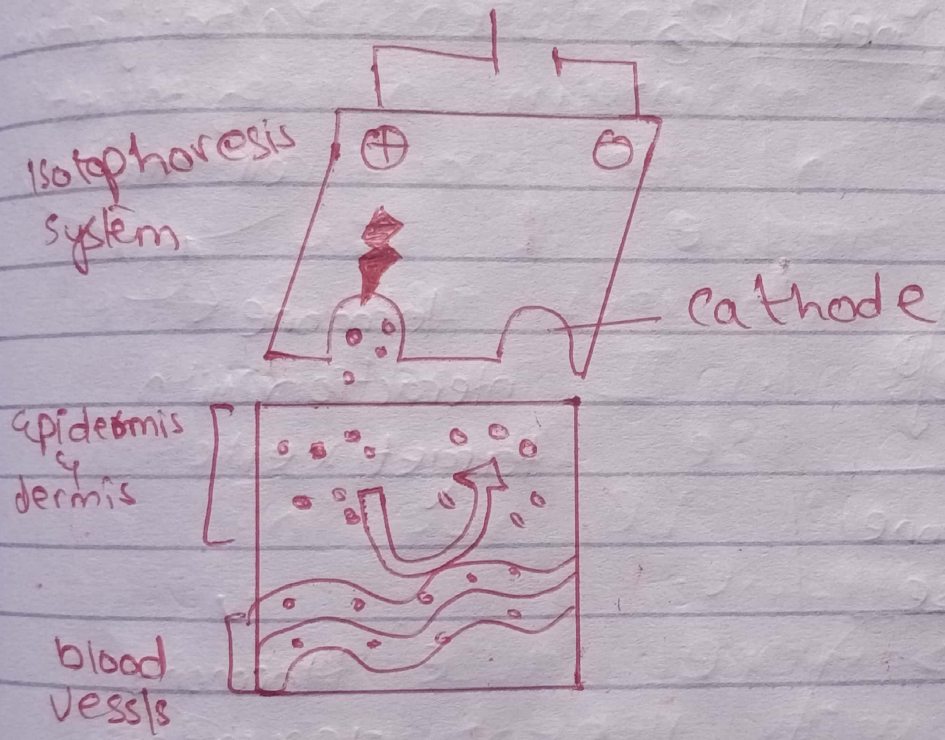
Introduction of ions into the body using direct electrical current.

In this we transfer drugs in the body through a technique of electrical stimulation. Ironize medicines are placed beneath the surface of electrodes and through electrodes these are transfer through skin.

Iontophoresis vs Phonophoresis:-

Iontophoresis are transport of ions to tissues by electrical current.

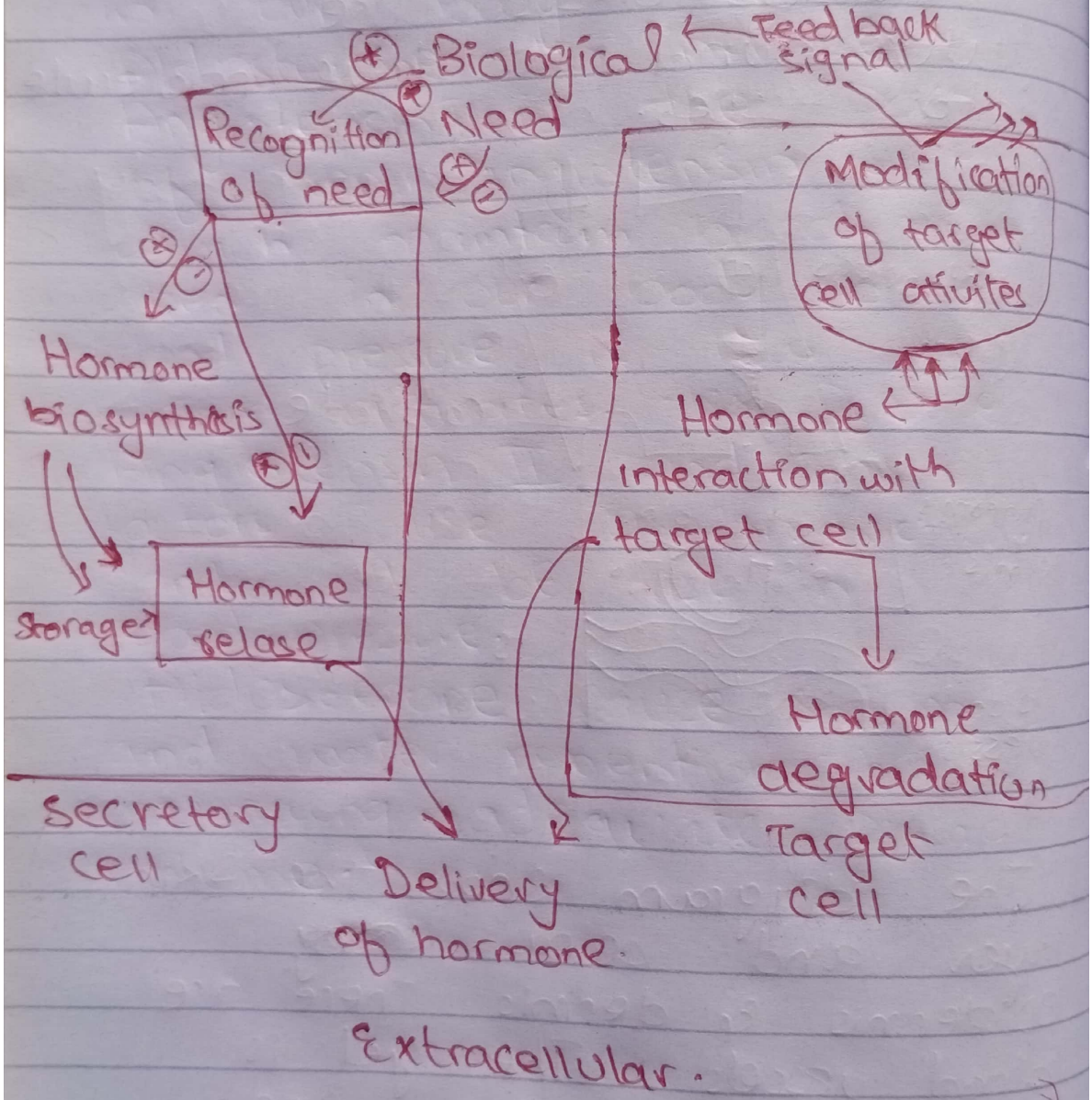
Phonophoresis use ultrasound to drive molecule into tissues.



The diagram show the skin layer and below epidermis & dermis there are blood vessels. The gel is applied on the skin. one is postive charge & negative charge. The postive ion towards the negative ions and are absorb through skin.

Explain general mechinasim of hormone release and inhibition?-

Mechinasm:-



when their is need of bidogical need in our body Then recognition of need is done After that synthesis of hormone is done or direct

release of that hormone. Pluse show stimulation & — show inhibition. The horme from secretory cell move to extracellular ~~blood~~ fluid & through blood to targeted cell. Hormone interact with target cell and degrad or inhibit This cycle gose on in our body.