ii. Osmoregulation in marine animals

Usually marine animals have hypotonic conditions (low salt) inside the body but some marine animals develop hypertonic (high salt) or isotonic (same salt condition) by metabolism.

Bony Fish	Cartilaginous fish	Osmoconformer
Have low salt inside the body	Have high salt by storing urea inside	Have equal amount of salt.
Actively get sea water and have salt glands to increase the salt and desalination	Eat food which contain nitrogenous compound i.e. meat	These animals do not require any activity to adjust their internal osmotic condition. i.e. unicellular.
Produce concentrated urine		

iii. Osmoregulation in terrestrial condition

Terrestrial conditions are harsh for living organism because the direct contact of heat to body causes loss of water which leads to dehydration, major problem for terrestrial life. Only arthropods, some molluscs reptiles, birds and Their bodies are covered by exoskeletore Stock skin, which prevent loss of water. mammals can survive in this habitat because:

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- They conserve water by teal sorption in sidne and rectum.
- Some of them has produce water from fats catabolism with the help of peroceanes i.e. cano, and
- Continuously drinking of water or using liquid food.

Excretion:

During metabolism living organisms catabolize protein and other nitrogen containing compounds which produce some toxic nitrogenous compound. These toxic compounds are mainly NH₃ or urea or uric acid generally called nitrogenous waste. If these compound retain in the body and accumulate, they can damage the cells or organs therefore they must be removed from the body. The removal of these nitrogenous metabolic wastes is called excretion.

On the other hand plants metabolism is different from animal. Plants are autotrophs; initially they produce carbohydrates as primary products. Carbohydrate is catabolized to produce CO₂ and H₂O. The CO₂ reutilized in photosynthesis and H₂O is not a toxic compound. As autotrophs they synthesize variety of compounds, so the waste products of one reaction are utilized in other metabolic reactions as reactant and consumed.

HOMEOSTASIS

A urinary bladder: The urinary bladder is a thin walled muscular bag situated towards the bottom of abdominal cavity in front of the rectum which stores urine.

A urethra: The urethra is a tube which comes out from the urinary bladder, runs down and opens outside the body through urinary opening. It passes urine from bladder to outside the body.



between peritonicum and kidnes called peritoneal fluid which reduces the friction. A longitudinal series of kidney shows three main parts: the cortex, the medulla and the pelvis.

Cortex is the outer dark brown portion. It is covered and protected by a fibrous capsule. The medulla is the inner lighter portion of the kidney. It contains the conical projection called renal pyramids; the human Kidneys contain 12-16 pyramids. The medulla contains nephrons. Nephrons are the basic functional units of the kidney. These are tiny kidney tubules where osmoregulation occurs to produce urine. The kidneys are connected to the ureter at pelvis. Pelvis is a funnel like space. It is the enlarged portion of ureter inside the kidney.

