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Q. 1 ANSWER

DIFFERENTIATE BETWEEN

1. POSITIVE AND NEGATIVE FEEDBACK MECHANISM

POSITIVE FEEDBACK:

- . Positive feedback acts to speed up the direction of change.**
- . Positive feedback is process in which the end products of an action cause more of that action to occur in a feedback loop.**
- . This amplifies the original action.**

**EXAMPLES: LACTATION, LABOUR AND CHILD BIRTH,
DIGESTION.**

BLOOD CLOTTING:

- > When a part of the body is injured, it releases chemicals to activate blood platelets.**
- > Platelets are responsible for stopping bleeding by forming clots.**
- > An activated platelets in turn activates more platelets which group together to form a blood clot.**

NEGATIVE FEEDBACK:

- . It is the most common feedback loop in the biological system.**
- . It is a type of regulation in biological system in which the end product of a process in turn reduce the stimulus of that same process.**
- . It occurs when the product of a pathway turns the biochemical pathway off.**

EXAMPLES: MORE CO₂ LEVEL , TEMPERATURE REGULATION.

. TEMPERATURE REGULATION

- . When the body temperature increases then automatically the receptors in the stem and hypothalamus sense the**

temperature change.

2. SMOOTH AND ROUGH ENDOPLASMIC RETICULUM

SMOOTH ENDOPLASMIC RETICULUM:

- . The smooth ER is a membranous organelle found in most eukaryotic cells.**
- . The smooth ER is distinguished from the other parts of the endoplasmic reticulum.**
- . No ribosomes attached.**
- . Important in cell function helps in the manufacture of fat molecules or lipids.**

ROUGH ENDOPLASMIC RETICULUM:

- . The rough ER is a part of the endomembrane system of the cell.**
- . This organelle is primarily concerned with the synthesis, folding and modification of proteins.**
- . It looks rough under a microscope because it has particles**

attached called ribosomes.

- . Protein formation (globular structure).
- . Crosslinked, folded, glycosylated.
- . It plays an important role in modulating the response of cell to stress and in quality control for correct protein folding.

3. LYSOSOMES AND PEROXISOMES

LYSOSOMES:

- > Membrane bounded cell organelle that contains digestive enzymes.
- > Lysosomes are involved with various cell process , breakdown excess or worn out cell parts.
- > They used to destroy invading virus and bacteria.
- > Intercellular digestion, removal of dead cells, role in metamorphosis, help in protein synthesis, help in fertilization, malfunctioning of lysosomes.
- > Break down of food that the cell can use to destroy older

cells.

PEROXISOMES:

- > Similar to lysosomes.**
- > Membrane bounded organelle occurring in the cytoplasm of eukaryotic cells.**
- > Peroxisomes play a key role in the oxidation of specific biomolecules.**
- > It also contribute to the biosynthesis of membrane lipids known as plasmoligens.**
- > Break down of fatty acids to be used for forming membranes and as fuel for respiration.**
- > Peroxisomes absorb nutrient that the cell has acquired.**

4. PEPSIN AND PEPSINOGEN

PEPSIN:

- . It is proteolytic enzyme and is the active form of pepsinogen.**
- . It is an endopeptidase that breaks down proteins into smaller amino acids.**
- . It is produced in the chief cells of the stomach lining and is one of the main digestive enzymes in the digestive system.**
- . It helps digest the protein in food.**
- . Produced from inactive precursor, pepsinogen, which is stored in the chief cells of the stomach.**
- . Pepsin is present in meat, egg, seeds or dairy products.**

PEPSINOGEN:

- . It is a proenzyme and is the inactive precursor of pepsin.**
- . A substance which is secreted by the stomach wall and converted into the enzyme pepsin by gastric acid.**
- . Secreted by the gastric chief cells as a proenzyme.**
- . Pepsinogen consists of a single polypeptide chain with a molecular weight of approximately 42,000 Da.**

5. PEPTIC ULCER AND DUODENAL ULCER

PEPTIC ULCER:

- > Occur on the inside of the stomach**
- > They are sores that develop in the lining of the stomach.**
- > They are present in lower esophagus or small intestine.**
- > Peptic ulcer usually formed as a result of inflammation caused by the bacteria H.pylori and from stomach acids.**
- > It is a common health problem.**
- > Stress and spicy foods do not cause your symptoms ulcers, they can make your symptoms worse.**

DUODENAL ULCER:

- > Occur on the inside of the upper portion of our small intestine (duodenum).**
- > They are sores that develop in the lining of duodenum.**

- > Pylori is the most common cause of gastric and duodenal ulcers.**
- > Stress and spicy food , coffe , alcohol can cause duodenal ulcer.**
- > Duodenal ulcer common cause is abdominal pain.**

Q.2 ANSWER

PORTAL TRIAD

A distinctive component of a hepotic lobule, found running along each of the lobule's corners, that consists of branches of the hepatic artery proper, hepatic portal vein and bile ducts, as well as other structures.

SIGNIFICANCE OF PORTAL TRIAD:

- > Binding fibrosis a type of fibrosis seen in several times types of liver injury describes fibrosis from the central vein to the**

portal triad.

> Adequate hepatic artery supplies oxygen.

> Hepatic portal vein blood rich in nutrients but low in oxygen.

Q.3 ANSWER

PROPERTIES OF CELL MEMBRANE STRUCTURE

The cell membrane is a physical and chemical barrier which separates the inside of the cell from the outside environment.

. Liquid bilayer of lipid with embedded proteins.

. Bilayer is formed by amphipathic molecules heads on the outside and hydrophobic lipid tail on the inside.

. Cell membrane are thin enclosures that form closed boundaries.

. It is made up of lipids, proteins and carbohydrates .

. It consists of a phospholipid bilayer.

. Cell membrane are held together by non covalent interactions.

- . Membrane are fluid like structures.**
- . Imperable to water soluble molcues but not to water.**
- . soft and flixible.**
- . Spontinously prone to forming self repairng pores.**