**Course Title: General Pathology (MLT 2nd Semester Sec A and B)**

**Final term assignment**

**TIME: 6HRS Marks:50**

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**SECTION:- B.**

**Note:**

* **Write in your own words, do not copy paste.**
* **Use only MS word to attempt questions.**

Attempt all questions.Each question carry equal marks.

Q1.What are the circulating cells in acute inflammation?Also write the characteristics of Acute inflammation.

Ans :- Inflammation :-

Inflammation is essentially a protective response intended to destroy invading microorganisms inactivate toxins and to achieve healing and repair.

Types:-

- A . Acute inflammation.

B . Chronic inflammation.

Acute inflammation:-

- Acute inflammation is the immediate and early response to injury. A critical function of this response is to deliver Leukocytes to the site of injury where they help clear invading infection agent, as well as degrade necrotic tissue. Acute inflammation is the first line of defence against injury.

Causes:-

. Mechanism truma.

For example crushing and cutting.

- Chemical injury.

For example corrosive acids and alkalis .

- Radiation therapy:-

For example heat ultraviolet light, and ionizing radiation.

- Injury due to microorganisms .

For example bacteria, virus , fungi and parasites.

- Injury due to an immunological mechanism.

CHARACTERISTICS of Acute inflammation:-

- Short duration.

- Lasting from of inflammatory exudate.

- predominantly neutrophil leukocytes accumulation.

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Q2. Write a note on infarction and its types and write a note on Mast cells.

Ans :- Infraction:-

The formation of a localized area of ischemic necrosis with in a tissue or organ due to impaired arterial supply or the venous drainage.

The Necrosis area is called infraction.

An extremely important cause of clinical illness.

Myocardiac infraction.

Cerebral infraction.

Causes:-

- Occulusion of arterial supply or venous drainage .Thrombosis embolism , athermanaous plaques , external compression.

- Functional spasm of arteriole .

- Traumatic repture of the artery.

Type:-

- White infracts ( anemic infracts)

- Red infracts ( hemorrhagic infracts)

- Septic infracts.

Mast cell:-

A mast cell ( also known as a mastocyte or a labrocyte) is a migrant cell of connective tissue that contains many granules rich in histamine and heparin. Specifically it is a type of granulocyte derived from the myeloid stem cell that is a part of the immune and neuroimmune system. Mast cells were discovered by Paul ehrlich in 1877. Although best known for their role in allergy and anaphylaxis, mast cells

play an important protective role as well being intimately involved in wound healing angiogenesis , immune tolerance, defense against pathogens and the blood brain barrier function.

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Q3. Which are the cells having proliferative capacity?Explain them,also write about the characteristics of Benign tumor?

Ans:-The earliest bone marrow precursor cell type, often called stem cells have a very large capacity for self renewal. This makes them a useful model system in which to test the hypothesis that normal Somatic cells have a limited proliferative capacity.

A benign tumor looks a lot like the tissues with normal cells from which it originated and has a slow growth rate

Benign tumor not invade sorrounding tissue and they do not metastasize

Thus CHARACTERISTICS include.

- slow growth.

- Resemblance to tissue of origin ( will differentiated)

- circumscription .

- lack of invasion.

- absence of metastastases.

Benign tumor usually arises in a solitary manner ( e g .lipoma of colon , meningioma of brain) but may be multiple ( e.g. lelomyomata of uterus, intradermal nevl of skin) .

Through being, they may cause problems through masd effect particularly in tight quarters ( pituitary adenoma in the sella turcica)

A hamartoma is a peculiar benign neoplasm which is a localized but haphazard growth of tissue normally found at a given the ( pulmonary hamartoma has jumbled cartilage bronchial epithelium and connective tissue.

A christoma is a benign tumor of tissue that is not normal to the site of origin ( e g. Salivary gland choristoma of the middle ear.

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Q4. What is hypovolumic shock?Explain along with its conditions.

Ans :- Hypovolemic shock :'

Hypovolemic shock is a life threatening condition that results when you lose more than 20 percent ( one - fifth) of your body blood or fluid supply

This severe fluid loss makes it impossible for the heart to pump a sufficient amount of blood to your body. Hypovolemic shock can lead to organ failure . This condition requires immediate emergency medical attention.

Hypovolemic shock is the most common type of shock , with very young children and older adults being the most susceptible.

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Q5.What is Edema?Explain its types also write about the classification of Thrombosis.

Ans :- Edima :-

Edema also known as fluid retention or swelling is the buildup of fluid in the body tissue. Most commonly the legs or arms are affected. Symptoms may include skin which feels tight, the area may feel heavy and affected joints may be hard to move. Other symptoms depend on the underlying cause.

Cause may include venous insufficiency, heart failure, kindney problems low protein, liver problems, deep vein thrombosis , infection, angioedema, cartain medications, and lymphedema . It may also occur due to prolonged sitting and standing and during menstruation or pregnancy. The condition is more concerning if it starts suddenly, or pain shortness of breath is present.

Thrombosis :-

Thrombosis from ancient Greek thrombosis clotting) is the formation of a blood clot inside a blood vessel, obstructing the flow of blood through the circulatory system. When a blood vessel ( a vein or an artery) is injured, the body uses platelets ( thrombocytes) and fibrin to form a blood clot to prevent blood loss. Even when a blood vessel is not injured, blood clots may from in the body under certain conditions. A clot or a piece of the clot that breaks free and begins to travel around the body is known as an embolus.

There are two types .

- Venous thrombosis is when the blood clot blocks a vein. Vein carry blood from the body back into the heart.

- Arterial thrombosis is when the blood clot blocks an artery. Arteries carry oxygen- rich blood away from the heart to the body.

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THE END.