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

**Final term assignment**

**TIME: 6HRS Marks:50**

**Name: …Asim Muhammad …**

**Class ID:…16533………………**

**Section:… A………………**

**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: The main immune cells involved in acute inflammation are neutrophils. The stasis of circulation allows neutrophils to line up along the endothelium near the site of injury, known as imagination. Next, they roll along the endothelium, sticking intermittently.

**characteristics of Acute inflammation**

**Acute inflammation**begins within seconds to minutes following injury to tissues. It is characterised by four key features (*Latin terms in brackets*):

* **Redness**  secondary to vasodilatation and increased blood flow
* **Heat** increase in temperature, also due to increased blood flow
* **Swelling** results from increased vessel permeability, allowing fluid loss into the interstitial space
* **Pain**  caused by stimulation of the local nerve endings, from mechanical and chemical mediators

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

Myocardial infarction (MI), commonly known as a heart attack, is defined pathologically as the irreversible death of myocardial cells caused by ischemia. Clinically, MI is a syndrome that can be recognized by a set of symptoms, chest pain being the hallmark of these symptoms in most cases, supported by biochemical laboratory changes, electrocardiographic (ECG) changes, or findings on imaging modalities able to detect myocardial injury and necrosis.

**Mast cells** are important cells of the immune system and are of the hematopoietic lineage. Mast cells are originated from pluripotent progenitor cells of the bone marrow, and mature under the influence of the c-kit ligand and stem cell factor in the presence of other distinct growth factors provided by the microenvironment of the tissue where they are destined to reside.

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

Ans: IN recent discussions1,2 of the proliferative capacity of leukemic cells in acute leukemia, these cells have been treated as a uniform population with regard to their generation cycle. The reported findings of these studies that only a small percentage of the leukemic cells incorporated labelled thymidine after short-term exposure have been taken to suggest a long generation time for these cells and therefore a low proliferative capacity. In the interpretation of these results, however, it is important to know if the leukemic cell population is indeed relatively uniform with regard to cell division. For this purpose a comparison was made between the rate of incorporation of labeled thymidine by leukæmic cells

characteristics of Benign tumor

The tumors of the mouse described in this chapter have been selected primarily on the basis of frequency of occurrence among the available inbred strains and the amount of research interest shown in them, Many less frequent types repeatedly appear as incidental findings in tabulations of tumors of untreated mice of inbred strains. Some rare types that have occurred spontaneously in mice at The Jackson Laboratory have been included for completeness. Selected tumors that rarely occur spontaneously but are readily induced have been included, particularly tumors that can be induced by hormonal imbalance. Emphasis has been given to the induced tumors of types important in human pathology, More references have been cited for the less well known tumors than for the common types which have been extensively reviewed

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

Ans: Patients with hypovolemic shock have severe hypovolemia with decreased peripheral perfusion. If left untreated, these patients can develop ischemic injury of vital organs, leading to multi-system organ failure. The first factor to be considered is whether the hypovolemic shock has resulted from hemorrhage or fluid losses, as this will dictate treatment.

**Hypovolemic Shock Conditions:**

How hypovolemic shock shows up can depend on a number of things, including:

* Your age
* Your past medical care and overall health
* The cause of the shock or the source of the injury
* How quickly you lost the blood or fluids
* How much your blood volume has dropped

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

Ans: "[Edema](http://www.webmd.com/heart-disease/heart-failure/edema-overview)"is the medical term for swelling. Body parts swell from injury or [inflammation](http://www.webmd.com/arthritis/about-inflammation). It can affect a small area or the entire body.

Types and classification:

**Peripheral edema.** This usually affects the legs, [feet](http://www.webmd.com/pain-management/picture-of-the-feet), and [ankles](http://www.webmd.com/fitness-exercise/picture-of-the-ankle), but it can also happen in the arms. It could be a sign of problems with your circulatory system, [lymph nodes](http://www.webmd.com/a-to-z-guides/tc/swollen-lymph-nodes-topic-overview), or [kidneys](http://www.webmd.com/kidney-stones/picture-of-the-kidneys).

**Pedal edema.** This happens when fluid gathers in your feet and lower legs. It’s more common if you’re older or pregnant. It can make it harder to move around in part because you may not have as much feeling in your feet.

[**Lymphedema**](http://www.webmd.com/breast-cancer/side-effects-lymphedema)**.** This swelling in the arms and legs is most often caused by damage to your lymph nodes, tissues that help filter germs and waste from your body. The damage may be the result of [cancer](http://www.webmd.com/cancer/) treatments like surgery and [radiation](http://www.webmd.com/cancer/what-to-expect-from-radiation-therapy). The [cancer](http://www.webmd.com/cancer/ss/does-this-cause-cancer) itself can also block lymph nodes and lead to fluid buildup.

[**Pulmonary edema**](http://www.webmd.com/lung/the-facts-about-pulmonary-edema)**.** When fluid collects in the air sacs in your [lungs](http://www.webmd.com/lung/picture-of-the-lungs), you have pulmonary edema. That makes it hard for you to [breathe](http://www.webmd.com/lung/how-we-breathe), and it’s worse when you lie down. You may have a fast heartbeat, feel suffocated, and [cough](http://www.webmd.com/first-aid/coughs) up a foamy spittle, sometimes with [blood](http://www.webmd.com/heart/anatomy-picture-of-blood). If it happens suddenly, call 911.

**Cerebral edema.** This is a very serious condition in which fluid builds up in the [brain](http://www.webmd.com/brain/picture-of-the-brain). It can happen if you hit your head hard, if a [blood](http://www.webmd.com/a-to-z-guides/rm-quiz-blood-basics) vessel gets blocked or bursts, or you have a tumor or [allergic reaction](http://www.webmd.com/allergies/allergic-reaction-causes).

**Macular edema.**This happens when fluid builds up in a part of your [eye](http://www.webmd.com/eye-health/picture-of-the-eyes) called the [macula](http://www.webmd.com/eye-health/macular-degeneration/age-related-macular-degeneration-overview), which is in the center of the retina, the light-sensitive tissue at the back of the [eye](http://www.webmd.com/eye-health/ss/slideshow-eye-conditions-overview). It happens when damaged blood vessels in the retina leak fluid into the area.