**Mid termassignment**

**Pathology and microbiology (DPT 4th)**

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**Q1**:Write down any viral or bacterial disease in detail

**Q2**: What is cancer? How cancer is diagnosed? What is the role of genetics in cancer? Also explain TNM diagnostic test for cancer

**Q3**: Explain structure of bacterial cell. How antibiotics kill bacteria? What is the mode of action of antibiotics?

ANS1: VIRAL DISEASES:

* VD is caused by bacteria, viral infection and its diseases are spread.
* It is microorganism.
* Viral diseases spread the 1 person and surrounding the area and other person effect.

 RESPIRATORY VIRAL DISEASES:

* This diseases caused by a virus. Virus involved is the influenza viruses’ .its infection (VRIS) includes colds, flu. Its affect the lungs, airway infections.
* RVD cause coughing, sore throats and fever.

SYMPTOMS OF RVD:

* Sneezing.
* Illness.
* Its RVD easily spreading. You have viral illness so you coughing so germs are spread in the air where so another person presents so that virus or germs affect the other person so that person inhale oxygen through air there air in present virus that cause and develop the viral diseases.

TREATMENT:

* Doctor prevents antiviral drugs.
* Including nasal decongestants.

PREVENTION:

* Washing your hands and covered the mouth when he and she cough.

BACTERIAL DISEASES:

Is the caused by bacteria. Bacteria can affect the any part of the body. It’s a microorganism. Harmful bacteria can damage the body.

BACTERIAL PNEUMONIA DISEASES:

* It is the infection of the lungs and causing by bacteria .your body immune system is weak so then bacteria can grow down at the lungs. And your lungs effects and their build up fluid and is caused by pneumonia.

# Which people immunity (defense) weak so its increase the bacterial pneumonia symptoms, fever and fast heart rate.

DIAGNOSIS:

* Check fluid in your lungs.
* Cheats x-ray.
* Blood test.

TREATMENT:

* Prescribe antibiotic medicine.
* Stop smoking and do not smoke.

ANS2: Crab is a Greek word “crab”

* Cancer is abnormal growth of the cells and not stopped and control.
* Cancer cell disturbed the normal cell function activity.
* Cancer cells form a mass of tissue called a tumor.
* Its treatments radiation of the therapy.
* Leukemia cancer is not form tumors.
* Cancer ability to the spread throughout in the body.
* Cancer causes the death.

DIAGNOSIS OF THE CANCER:

* Computerize tomography (CT) scan.
* MRI.
* Position emission tomography (PET) scan.
* Ultrasound and x-ray.
* Biopsy its help a diagnosis of a blood cancer.
* Blood test: It’s found normal and abnormal cells.

THE ROLE OF GENETICS IN CANCER:

Genetic is the changing of the cancer. Cancer is the disorder of the genetic. Cancer its change the genes and sequences of the DNA that control the cell function it is the role of the genetics in cancer. DNA sequence disturbed so cause the cancer because its dysfunction of the cell it is occur the genetics in cancer.

TNM DIAGNOSTEIC TEST FOR CANCER:

 Doctor is used diagnostic test to a cancer TNM stage system.

* T: how is the large size of the primary tumor and where is located the tumor (T).
* N: (node) a number 0 to 3 stands of the lymph node. Where the cancer start is called regional lymph nodes. Location of thelymphnodes with cancer determines the “N”.
* M: (metastasis) “M” shows the spread of the cancer on the other part of the body, called distant metastasis and has not spread the cancer, it is show M0 and cancer has spread, its shows the M.
* Doctor asked the answer of the question to the patient related of the tumor and after diagnostic tests, imaging scans, examination and surgery to cutout a sample of the tumor.

ACCORDING TO GRADING:

* Check for the tumor (a biopsy) looking the microscope, where seen the cells, cancer grade be low.
* Low grading mean growth of the cells are slowly compare to normal cells and less to spread fast.
* Middle grade is a middle grade.
* High grade cancer cells production to be quickly and poorly abnormal and spreading more than highly.

ANS3: STRUCTURE OF THE CELL BACTERIA:

* Bacteria are the prokaryotes. They have many shapes and size. And some bacteria benefits that are essential to good the health.

 The following structure describes:

CELL WALL:

* Cell wall is made up of peptidoglcan (polysacride).
* Cell wall provides the shape of the cell and around the cytoplasm membrane. Protect the cell environment.
* Cell wall bounded the cell membrane is not cover the cell wall.
* Peptidoglycan gives structural supports and provides the shape of cell.
* The peptidoglycan layer much thicker in gram-positive then into the gram-negative bacteria.

CYTOPLASM:

* HAS 2 AREAS.
* Amorphous matrix that contain plasmids, ribosome’s.
* Inner area, nucleus area composed of the DNA.

CYTOPLASMIC MEMBRANE:

* It is the layer of phosphorus and proteins that are known as the cytoplasm membrane.
* Its important functions: energy generate to the oxidative phosphorylation and secretion of the enzyme.

FLAGELLA:

* It is a long hair like structure that locomotion of the those bacteria that have them.
* Flagella move to taken nutrients.

NUCLEOID:

* Nucleoid is not contains nuclear membrane.
* Nucleoid located is the cytoplasm and where DNA chromosomes are present.

RIBOSOMES:

* Ribosome is synthesis of protein in eukaryotic cells.
* Bacterial ribosome and eukaryotic ribosome that antibiotics function will blocked of ribosome.

ANTIBIOTICS KILL BACTERIA:

Antibiotics attack the bacterial infection and killing (destroyed) the bacteria sl0wely and stopped the growth. They attack the wall or covering the around of bacteria and decrease the production of the bacteria. Inhibit the protein production of the bacteria.

Many classes of antibiotics are including;

* Tablets.
* Syrup.

MODE OF ACTION OF ANTIBIOTICS:

* Antibiotics have many different modes of action. Antibiotics activity to bind the elements present in the processes of DNA and RNA synthesis ,which cellular normal bacterial compromise and survives it.Examples:metronidazole
* Some drugs attack the cell wall can killing or blocked the bacterial organisms.

MODE OF ACTION FOR PENICILLIN:

Penicillin killing bacteria and inhibit the transpeptidase is the broken the final step in the cell wall biosynthesis, and crossing the linking of peptidoglycan.