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**FACULTY ALLIED HEALTH AND SCIENCE**

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PAPER biosafety & risk management

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**Q1: Define standard health precautions. How exposures occur to blood borne pathogens?**

**Definition:**

Standard health precaution to control the rule of laboratory to protect the health workers from the expose and separation of by blood and other body fluids.

Ex. protect the infection materials, body fluids, blood, you can do work on any pathogens (bacteria, viruses).

**There are some elements of standard precaution:**

* Hands hygiene
* Use of gloves, gown, mask, eye protection or face mask
* Safe use of sharps
* Safe waste management
* Proper cleaning and disinfection on surface
* Safe work practices.

**How exposures occur to blood borne pathogens:**

* Needle stick injuries

You can use the needle stick for the collection of blood so you can injured through needle stick now you can expose the pathogens.

* Damaged or cut skin including bites

Your skin can expose through the sharp cuts including knife, mosquito bite and any other animal bite so you can expose to pathogens

* Sharing needle, syringes,& tooth brushes

You can share the needle, syringes & tooth brushes so another pathogens can transfer to you so you can expose to another person pathogens.

* Tattoo

Without sterilized tattoo making equipment so you can expose the pathogens.

* Mother baby birth

During the baby birth time the mother immune system are week so mother are extremely expose to pathogens.

**Q2: Describe a standard laboratory design according to your point of view?**

In my point of view first of your lab design provide the comfortable and safe area.

* You can decease the all type of hazards
* You can make the staff changing room. They can charge the personal protective equipment.
* Your furniture design are comfortable including movable benches, chairs, tables etc.
* Your ventilator system are safe due to the exposure pf pathogens including ( windows, lights ) etc.
* Safely storage place of chemicals so you can understand that which are store in which place of lab.
* You can used sink for the hand washing to remove to pathogens and toxic chemicals.
* You can provide the electricity board in every benches and safe to electric shocks.
* You can used different type of dustbins for the different types of waste materials.
* You can put safely precaution charts on labs walls.
* Lab doors are automatically open and close due to the pathogens exposure. Doors design are large because the large equipment comfortably enter to the lab.

**Q3: What do you mean by biosafety? What are the principles and purpose of biosafety in a clinical health setup?**

**Biosafety:**

Biosafety is the prevention of large scale loss of biological integrity focusing both on ecology and human health. Bio safety is used to protect from harmful incidents.

Biosafety is the decreasing of risk and to control the biological risk though the health workers.

**Principles:**

* Containment

Purpose of containments to decrease the hazardous agents of lab worker , other peoples and environment.

* Safety equipment

Included enclose containers, chemical agents, biological agents, lab equipment, these things are proper inspected and maintained.

* Facility design

Facility provide the barrier to protect lab workers inside and outside of lab. It is protect the peoples and animals.

* Safe method

To provide the safe method to the health workers due to hazards.

* To managed the infection materials to get maintained and handles so they do not caused the infection.

**Purpose:**

Purpose of biosafety to decease the hazards materials so they do no can be infect the health workers other people or environment.

**Q4: Briefly discuss BSL 4(biosafety level 4) in your own words?**

**BSL 4:**

This level is very sensitive and dangerous level because you can work exotic agents, aerosol pathogens. Some points are include:

* High risk agent
* Aerosol transmitted
* High potential cause disease
* Death cause agents

**Safe precaution in BSL 4:**

* Worker are enter the lab they are changed the complete cloth and they can used the positive pressure personnel suite.
* Labs and make the spread areas.
* Labs under the isolation zone.
* Virus are spread through the air you can filtered the air supply.
* Worker are exit the lab they can be disinfect his self through shower.
* UV light in each room are must available
* used Self closing door
* You can proper used personal protective equipment
* Biohazard sign must in the entrance gate
* Multiple showers must use in the lab exit and enter site
* proper dispose.

**Q5: A. Define bioethics.**

**B. Principles of bioethics.**

**Bioethics:**

Bio means life and ethic means custom. Ethics is the branch of philosophy that studies the rightness or wrongness of human actions.

So bio ethics is the application of the principle of ethics to the field of medicine and healthcare. And it is development in the life science such as biotechnology and medicine.

**Principles of bioethics**

There are four basic principles:

* **Autonomy**

Patient autonomy refers to the patient’s right to make decisions for themselves according to their own system of morals and beliefs.

* **Beneficence**

Beneficence is a value in which the provider takes actions or recommends courses that are in the patient’s best interest.

* **Nonmaleficence**

It is the closely related to beneficence. it is abstaining from any action that may bring harm to the patient.

* **Distributive justice:**

Distributive justice is the proper allocation of resources in a manner that is fair and just.