Human Anatomy and Physiology- I

BIOL2401- **Lab Practical 1** Terminology

**Lab 1: Lab Safety**

**Lab 2: Terminology** **Body Cavities**

|  |  |  |
| --- | --- | --- |
| Dorsal cavity | Ventral cavity |  |
| cranial cavity | thoracic cavity |  |
| nasal cavity | pleural cavity |  |
| Oral cavity | mediastinum + |  |
| Orbital/optic cavity | pericardial cavity |  |
| vertebral cavity | diaphragm + |  |
|  | abdominopelvic cavity  abdominal cavity  pelvic cavity |  |
| + not a cavity or membrane |  |  |
|  |  |  |

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| **Abdominopelvic regions:** | |  |  |  |  |
| **Quadrants** |  |  | **Regions** |  |  |
| right upper | left upper |  | right hypochondriac | epigastric | left hypochondriac |
| right lower | left lower |  | right lumbar | umbilical | left lumbar |
|  |  |  | right iliac | hypogastric | left iliac |

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| **Body planes and sections** | sagittal (median) plane | cross section |
| frontal (coronal) plane | midsagittal plane | longitudinal section |
| transverse (horizontal) | parasagittal plane | oblique section |

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| **Surface Anatomy:** | | cubital | lumbar | palmar | sacral |
| abdominal | carpal | digital | mammary | patellar | sternal |
| acromial | celiac | dorsum (dorsal) | mental | pectoral | sural\* |
| antebrachial | cephalic | femoral | nasal | pedal | tarsal |
| antecubital | cervical | frontal | occipital | pelvic | umbilical |
| axillary | costal | genital | oral | perineal | vertebral |
| brachial | coxal | gluteal | orbital/optic/ocular | plantar |  |
| buccal | crural | inguinal | otic | popliteal |  |

**Lab 3: Chemistry**

**Know the following terminologies Know the pH of the following body fluids**

Ions Blood pH 7.35-7.45

Electrolytes Gastric Juice pH 1.5-3

pH Vaginal Secretions pH 3.5-4.5

Acid

Base

Buffer

|  |  |  |
| --- | --- | --- |
| Lab 4: The Compound Microscope | |  |
| **parts:** | |  |
| arm | eyepiece (ocular lens) | objective lenses (scan, low, high) |
| base | fine adjustment knob | stage |
| body | mechanical stage | substage disc |
| coarse adjustment knob | nosepiece | substage lamp |
| **microscope use:** |  |  |
| total magnification + |  | microscopic slide |
| resolution\* |  | cover slip |

+ be able to calculate the magnification of the image seen through the eyepiece on any power.

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| Lab 5: Cell Structure | | |  |  |
| cell membrane |  | flagella |  | nucleus |
| centrosome / centriole |  | Golgi apparatus |  | nuclear envelope |
| cilia |  | lysosome |  | DNA |
| cytoplasm |  | mitochondria |  | chromatin / chromosome |
| endoplasmic reticulum |  |  |  | nucleolus |
| rough |  |  |  | peroxisome |
| smooth |  |  |  | ribosome |

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| Lab 6: Movements through Cell Membranes | |
| diffusion | osmosis | |
| filtration | isotonic | |
| Benedicts (for glucose) | hypertonic | |
| iodine test (for starch) | crenation | |
|  | hypotonic | |
|  | lysis | |

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| **Lab 7: The Cell Cycle** | | | | |
| Interphase |  | Mitosis |  | Cytokinesis |
|  |  | prophase |  |  |
|  |  | metaphase |  | chromatid |
|  |  | anaphase |  | centromere |
|  |  | telophase |  | spindle apparatus |
|  |  |  |  | 1 parent cell 2 daughter cells |

|  |  |  |
| --- | --- | --- |
| Lab 8: Epithelial Tissues | |  |
| **Be able to identify the following tissue types, their location in the body and function.** | | |
| simple squamous | simple columnar | stratified squamous |
| simple cuboidal | pseudostratified columnar | transitional |
|  | | |

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| --- | --- | --- |
| Lab 9: Connective Tissues | |  |
| fibroblasts |  |  |
| collagen | elastic | reticular |
|  | | |
| **Be able to identify the following types of tissues and cell types** | | |
| loose (areolar) |  | bone (osseous) |
| adipose | hyaline cartilage | osteocyte |
| reticular | chondrocyte | blood (vascular) |
| dense regular |  | RBC |
|  |  | WBC |
|  |  | platelet |

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| Lab 10: Muscular and Nervous Tissues | | |  |
| **Be able to identify, locate, and state the function of the following**  **muscle tissues** | | | |
| skeletal | cardiac | smooth |  |
|  |  |  |  |
| **nervous tissues** | | | |
| neurons |  | neuroglia |  |

**Lab 11: Major Organs – Human Torso models; Rat Dissection**

**Identify the following organs**

Heart

Brain Spinal Cord

Esophagus Stomach Small Intestine Large Intestine

Larynx Trachea Lungs

Testis Ovary Adrenal Glands Thyroid Glands

Spleen Thymus

Kidneys Urinary Bladder