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 |

|  |  |
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| 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