**BSC 2085L**

**“Need to Know” Sheet**

**Unit 2**

***MEMORIZE*** the topics below.

**QUIZ 2 MATERIAL – Skeletal System, Cartilage, Bone Classification & Markings**

**Skeletal System:**

Section 6.1 (p. 214-218)

* Know multiple functions of the skeletal system

Section 7.1 (p. 256-257) (Figure 7.2)

* Recognize bones as belonging to the axial skeleton or the appendicular skeleton. Be able to identify all structures depicted on Figure 7.2 (p. 257)

**Cartilage, Bone Classification & Markings:**

Section 4.3 (p. 157)

* Identify the locations where the following types of cartilage occur
  + hyaline cartilage
  + fibrocartilage
  + elastic cartilage

Section 6.2 (p. 218-220) (Figure 6.6, Table 6.1)

* Describe the following types of bones and recognize examples of each in the human body
  + long
  + short
  + flat
  + irregular
  + sesamoid

Section 6.3 (p. 220-223)

* Know the definitions (descriptions) of the bone markings listed in Table 6.2

**PRACTICAL 2 MATERIAL (the remainder of this document)**

**Bone Structure:**

Section 6.3 (p. 220-223)

* Identify the long bone structures from a picture, model, diagram or figure as illustrated in Figure 6.7
* Identify all the structures of compact and spongy bone illustrated in Figures 6.12 & 6.13 from a picture, model, diagram or figure

**Skull:**

Section 7.2 (p. 258-276)

* Identify the following bones and their associated bone markings from a picture, model, diagram or figure.
* ***The names of paired bones must include whether it is left or right to receive full credit.***

|  |  |
| --- | --- |
| **Bones** | **Bone Markings** |
| frontal bone | * frontal sinus |
| parietal bones (L & R) |  |
| temporal bones (L & R) | * external acoustic meatus * styloid process * zygomatic process * zygomatic arch * mandibular fossa * mastoid process |
| occipital bone | * foramen magnum * occipital condyles |
| sphenoid bone | * optic canal (optic foramen) * greater wings * lesser wings * sella turcica * sphenoid sinus |
| ethmoid bone | * crista galli * cribriform plate * ethmoid sinus |
| mandible | * mandibular condyle * mental foramen * mandibular foramen |
| maxilla | * palatine process * maxillary sinus |
| palatine bones (L & R) |  |
| zygomatic bones (L & R) |  |
| lacrimal bones (L & R) |  |
| nasal bones (L & R) |  |
| vomer |  |
| inferior nasal conchae (L & R) |  |
| hyoid bone |  |

**Vertebral Column:**

Section 7.3 (p. 276-286)

* Know the 5 regions of the vertebral column and the number of vertebrae in each group (Figure 7.20):
  + cervical (7 vertebrae: C1-C7)
  + thoracic (12 vertebrae: T1-T12)
  + lumbar (5 vertebrae: L1-L5)
  + sacrum (5 fused vertebrae)
  + coccyx (4 fused vertebrae)
* Know the 4 normal spinal curves of the vertebral column (Figure 7.20)
  + accommodation curves (primary curves = present at birth)
    - thoracic curve
    - sacral (sacrococcygeal) curve
  + compensation curves (secondary curves = developed after birth)
    - cervical curve
    - lumbar curve
* Identify the following features typical of all vertebrae from a picture, model, diagram or figure (Figures 7.23 & 7.24)
  + vertebral body
  + vertebral foramen
  + spinous process
  + transverse processes
  + intervertebral foramen
  + vertebral arch
    - pedicle
    - lamina
  + superior articular process
  + inferior articular process
  + superior articular facet
  + inferior articular facet
  + intervertebral disc
* Know the distinctive characteristics (such as transverse foramens, costal facets, etc.) that distinguish groups of vertebrae as cervical, thoracic and lumbar. Be able to identify any vertebra to its group (Figures 7.25, 7.26, 7.27 & 7.28)
* Identify the ***atlas*** (C1), ***axis*** (C2), ***sacrum*** and ***coccyx*** individually by name from a picture, model, diagram or figure and be able to identify the dens on the axis (Figures 7.25 & 7.29)

**Thoracic Cage:**

Section 7.4 (p. 289-291) (Figure 7.32)

* Identify the sternum and its 3 parts from a picture, model, diagram or figure:
  + manubrium
  + body
  + xiphoid process
* On an articulated skeleton, identify the groups of true ribs, false ribs and floating ribs based on their manner of attachment to the sternum (p. 291)
* Be able to recognize a disarticulated rib as a left or right rib

**Pectoral Girdle and Upper Limb:**

Section 8.1 & 8.2 (p. 308-319)

* Identify the following bones and their associated bone markings from a picture, model, diagram or figure.
* ***The names of paired bones must include whether it is left or right to receive full credit.***

|  |  |
| --- | --- |
| **Bone** | **Bone Marking** |
| scapula (L & R) | * spine * acromion * coracoid process * glenoid cavity (glenoid fossa) |
| clavicle (L & R) | * acromial end * sternal end |
| humerus (L & R) | * head * capitulum * radial fossa * trochlea * coronoid fossa * olecranon fossa * medial epicondyle * lateral epicondyle |
| ulna (L & R) | * olecranon process * coronoid process * trochlear notch * radial notch * styloid process |
| radius (L & R) | * head * radial tuberosity * styloid process * ulnar notch |
| scaphoid (L & R) | SUSAN (lateral/thumb, proximal) |
| lunate (L & R) | LEFT |
| triquetrum (L & R) | THE (tri = third in proximal row) |
| pisiform (L & R) | PARTY (medial/pinky, proximal) |
| trapezium (L & R) | TO (lateral/thumb, distal row) |
| trapezoid (L & R) | TAKE |
| capitate (L & R) | CATHY |
| hamate (L & R) | HOME (medial/pinky, distal row) |
| metacarpals (palm), numbered 1-5 (L & R) | 1 = lateral/thumb; 5 = medial/pinky |
| phalanges (fingers), singular = phalanx, numbered 1-5 & proximal, middle, distal (L & R) | 1 = lateral/thumb; 5 = medial/pinky  thumb has only proximal/distal (no middle);  *example of correct name for a phalanx = right second middle phalanx* |

**Pelvic Girdle, Pelvis & Lower Limb:**

Section 8.3 & 8.4 (p. 322-336)

* The pelvic girdle consists of the L+R coxal bones, sacrum & coccyx
* Know the differences between the male and female pelvis (pubic arch, subpubic angle) and be able to recognize a female vs. male pelvis (articulated) from a picture, model, diagram or figure.
* Identify the following items on the articulated pelvic girdles/skeletons:
  + pubic symphysis
  + sacroiliac joint
  + intervertebral discs
* Identify the following bones and their associated bone markings from a picture, model, diagram or figure.
* ***The names of paired bones must include whether it is left or right to receive full credit.***

|  |  |
| --- | --- |
| **Bone** | **Bone Marking** |
| coxal bone (L & R) | * ilium portion * ischium portion * pubis portion * acetabulum * obturator foramen * iliac crest * ischial tuberosity * ischial spine |
| femur (L & R) | * head * neck * greater trochanter * lesser trochanter * medial condyle * lateral condyle * patellar surface |
| patella (L & R) |  |
| tibia (L & R) | * tibial tuberosity * anterior border (anterior margin) * medial malleolus * medial condyle * lateral condyle |
| fibula (L & R) | * anterior crest * lateral malleolus |
| talus (L & R) (**T**allest **T**arsal on **T**op of the foot that ar**T**iculates with the **T**ibia) | |
| calcaneus (L & R) (**C**alluses at the heel) | |
| navicular (L & R) (**N**avy “floats” on the 4 seas (C’s)) | |
| 1st (medial) cuneiform | (the 4 **C**’s – distal row) |
| 2nd (intermediate) cuneiform (L & R) |
| 3rd (lateral) cuneiform (L & R) |
| cuboid (L & R) |
| metatarsals, numbered 1-5 (L & R) 1 = medial (contacts big toe, 5 = lateral (contacts pinky toe) | |