**Invertebrate Chordates** (p. 700 – 702)

**I. The Chordate Skeleton**

**1. Define the term chordates.**

Chordates –

**2. The chordate endoskeleton is completely internal.**

Circle One : True False

**3. List the four key characteristics of a chordate.** *(These are anatomical features.)*

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Match each chordate anatomical term with the correct definitions.**

1. \_\_\_\_\_\_\_\_ Notochord A. Paired structures in the throat region.

2. \_\_\_\_\_\_\_\_ Dorsal Nerve Cord B. Long supporting rod located below nerve cord.

3. \_\_\_\_\_\_\_\_ Pharyngeal Pouches C. Contains bone and muscle.

4. \_\_\_\_\_\_\_\_ Postanal Tail D. Hollow; Connects nerves to organs & muscles.

**5. What do pharyngeal pouches develop into for the following chordates?**

Aquatic Chordates : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Terrestrial Chordates : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. What chordate structure becomes the spinal cord in vertebrates?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7. All chordates have a notochord, nerve cord, pharyngeal pouches, and a tail at some time**

**in their life.**

Circle One : True False

**II. Invertebrate Chordates**

**1. Identify the three subphyla of the phylum Chordata.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - tunicates

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - lancelets

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - fishes, amphibians, reptiles, birds, mammals

**2. Define the term invertebrate chordates.**

Invertebrate Chordates –

**III. Tunicates**

**1. Identify differences between larval and adult tunicates.**

Larvae *(Circle all that apply.)*

Locomotion : Free-swimming Sessile

Chordate Parts : Notochord Dorsal Nerve Cord

Pharyngeal Pouches Postanal Tail

Adult *(Circle all that apply.)*

Locomotion : Free-swimming Sessile

Chordate Parts : Notochord Dorsal Nerve Cord

Pharyngeal Pouches Postanal Tail

**2. Both larval and adult tunicates are filter feeders.** *(Not in the book.)*

Circle One : True False

**3. Describe the type of reproduction exhibited by tunicates.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IV. Lancelets**

**1. Lancelets are a primitive form of fish.**

Circle One : True False

**2. Circle the letter of the sentence that is false concerning lancelets.**

a. Lancelets are scaleless chordates only a few centimeters long.

b. Muscles of lancelets are segmented, repeated V-shaped bundles.

c. Lancelets live in deep ocean water.

d. Lancelets bury most of their bodies in sediment as they filter protists out of water.