This exam is closed book, closed notes. There are 5 sections/questions.

Grade:

#1 _______/ 20

#2 _______/ 20

#3 _______/ 26

#4 _______/ 14

#5 _______/ 20

Final Grade __________/ 100
1. Complete the crossword puzzle using the clues. Each answer is worth 2 pt. **Total 20 pts**

**Across**

3. Collateral ligament located on the outside of the knee joint (*lateral*)
6. Largest muscle in the hip joint (2 words) (*gluteus maximus*)
7. Fluid filled sac providing cushion between bones and muscles/tendons (*bursa*)
8. Fracture that is unstable and broken into 3 or more pieces (*comminuted*)
9. Condition where the ball and socket of the hip joint is deformed (*dysplasia*)
10. Hip fracture that occurs in the neck or head of the femur within the joint capsule (*intracapsular*)

**Down**

1. Cartilage covering the surface of the knee and hip joint (*hyaline*)
2. Condition where the lack of blood supply results in loss of bone (2 words) (*osteonecrosis*)
4. Age related wear and tear of joint (*osteoarthritis*)
5. Injury where bones of joint have been forced out of place (*dislocation*)
2. Label the components of the knee. **20 pts**
3. Analyze the following images.

(a) Name the muscles of the quadriceps that the letters A, B, C, and D are pointing to.  \textbf{8 pts}

(b) What injury is depicted in this x-ray? What are the causes and treatment? \textbf{6 pts}

\textit{This picture shows a proximal tibial fracture. Causes would be a trauma such as an impact that causes compression of the cancellous bone (landing on one’s leg with tremendous force after a fall/jump). Treatment can include casting, but mostly internal fixation is used to repair this type of fracture.}
(c) What injury is depicted in this MRI? What are the causes and treatment? 6 pts

*This MRI shows an ACL tear. The cause of this tear is usually extreme twisting of the knee or a direct hit to the outside of the knee. The treatments can include PT and bracing, but often times surgery is suggested to help maintain stability in the knee. This surgery involves an autograft (patellar tendon or hamstring tendon) or an allograft (Achilles tendon or tibialis tendon).*

(d) Name the type of tear to the meniscus depicted by A, B, and C? 6 pts

- **A:** Longitudinal tear
- **B:** Flap tear
- **C:** Radial tear
Name:___________________________________

4. Label the ligaments and structures of the hip depicted in the figures. **14 points**
5. (a) Name the adductor muscles at A, B, C, and D. 8 pts

A: Adductor Brevis  
B: Adductor Longus  
C: Adductor Magnus  
D: Gracillis

(b) What injury is depicted in this X-ray? What are possible causes and what is a treatment option? 6 pts

This x-ray depicts an intertrochanteric fracture. The cause of this is typical a fall on the hip with osteoporosis also affecting the bone quality. The treatment for this is usually a compression hip screw, an intramedullary nail, or total hip arthroplasty.
What injury is depicted in this X-ray? What are possible causes and what are treatment options? 6 pts

The injury depicted in the xray is a hip dislocation. The is typically a bad fall or an impact like in a car accident. The treatment is usually closed reduction where the hip is rotated such that the femoral head “pops” back into the acetabulum. An open reduction can be done, which is involves surgery to put the femoral head back in place and repair possible soft tissue damage. Complications with a hip dislocation are possible labrum tears and damage to the ligamentum teres which can lead to osteonecrosis.