

Vidya Bhawan Balika Vidyapith

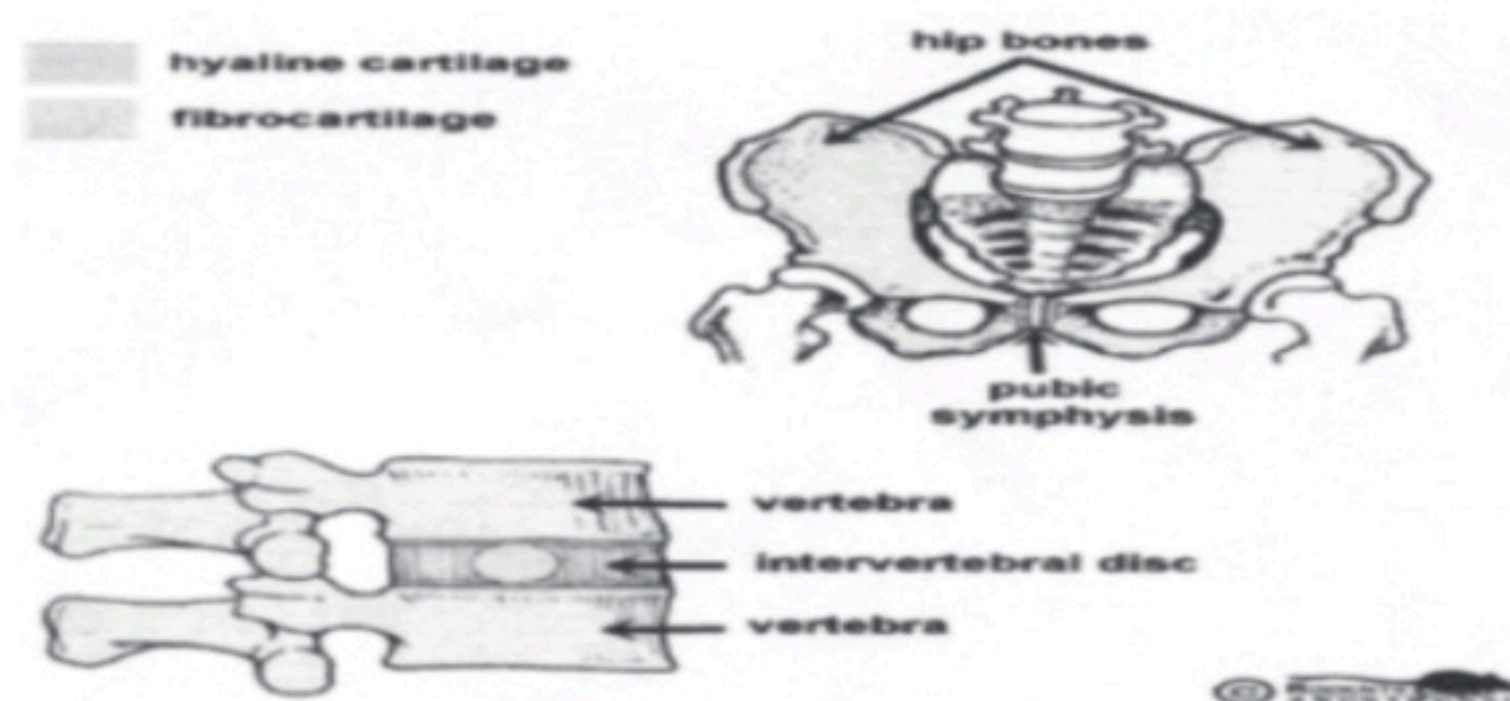
Lakhisarai

Sub. Physical edu. , Class 11th

BASED ON NCERT

ii. Slightly movable or cartilaginous joints.

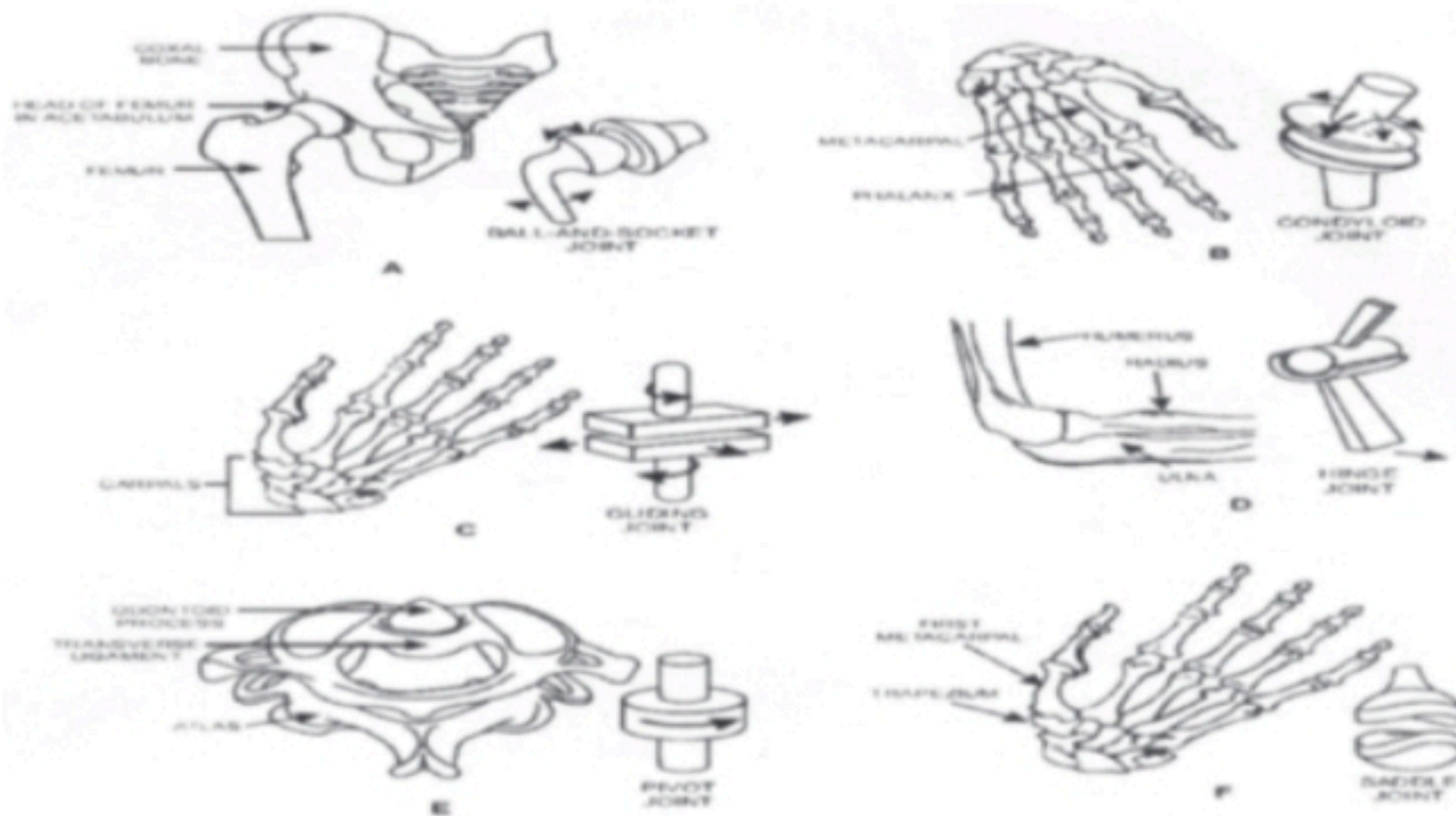
These joints provide very little movement. Example: backbone joints, pelvic joints.



iii. Freely movable or synovial joints.

These joints provide different movements. There are five main types of movable joints.

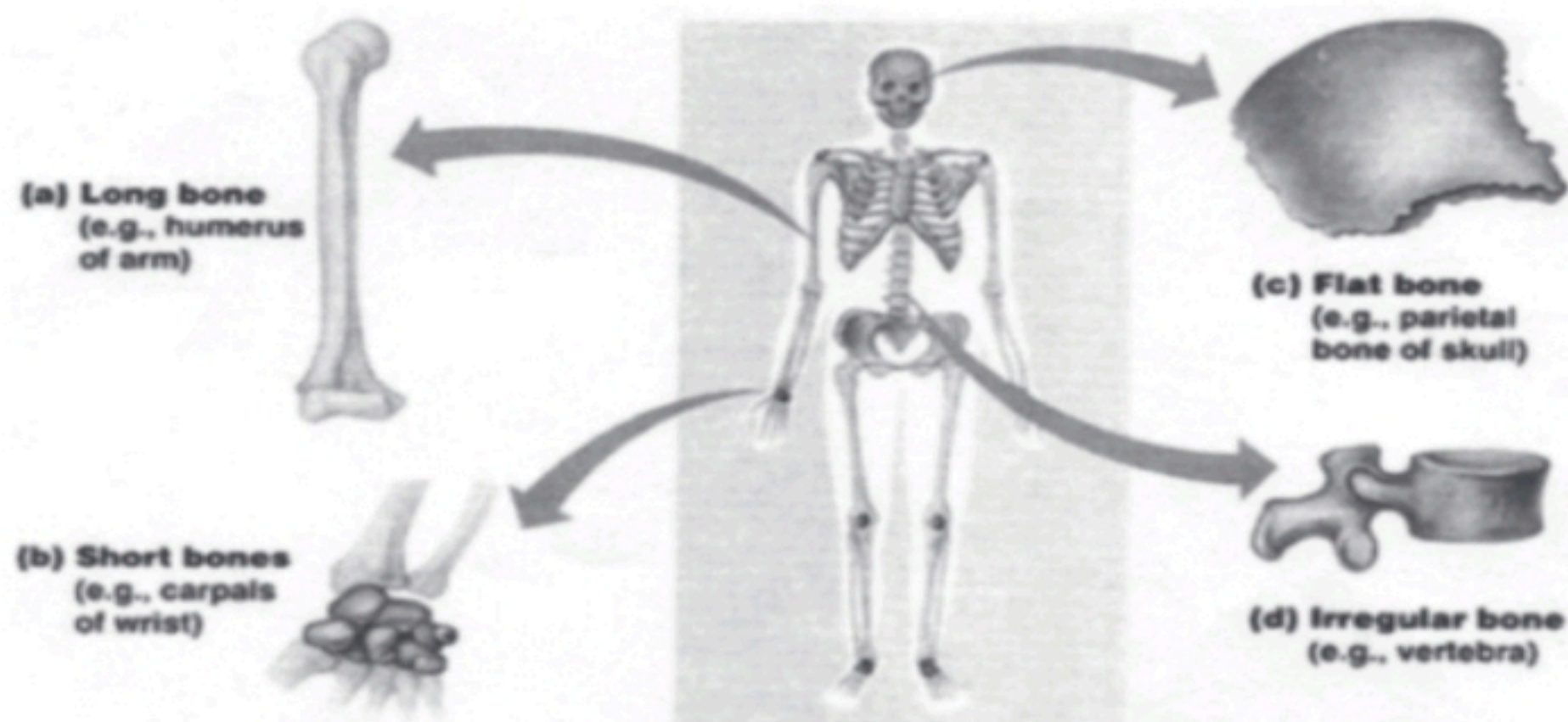
- a. **Hinge joint.** These joints allow a forward and backward movement. Example: knee joints, elbow joints.
- b. **Pivot joint.** These joints give a rotation movement. Such as the movement of neck.
- c. **Ball and socket joint.** In these joints one bone has ball like shape and other has a socket like shape. They are fit together to make a free movable joint. Example shoulder joint and hip joint.
- d. **Saddle joint.** It is a joint where one of the bones forming the joint is shaped like a saddle with the other bone resting on it like a rider on a horse. Example: wrist joint.
- e. **Gliding joint.** It is a joint in which articulation of contiguous bones allows only gliding movements, as in the wrist and the ankle.



5. Write in detail about classification of bones.

Ans. CLASSIFICATION OF BONES

- 1. Long bones:** They are long and wide. They act as lever. They are found in legs and arms. Example: humerus, femur, tibia and fibula.
- 2. Short bones:** They are short in size and cube shaped. They are found in wrist and phalanges. Example: metatarsal and carpal.
- 3. Flat bones:** These bones are flat and thin. They are composed of a central layer of sponge bone fixed between two outer layers of compact bone. Example: ribs and shoulder.
- 4. Sesamoid bones:** These bones are seed like shaped and developed in the tendons where there is more friction. Example: palms of hands, sole of feet and knee caps.
- 5. Irregular bones:** These bones have complex shaped as compared to other types. The bones of spinal column and skull are examples of these bones.
- 6. Sutural bones:** They are situated in sutural joints in the skull.



6. Elucidate the importance of anatomy and physiology in the field of sports.

Ans. Study of anatomy and physiology plays very important role in the field of sports because of following reasons.

- Helps in physical fitness:** Strong and fit body is an inevitable asset in the field of sports. Study of anatomy and physiology helps a sport person to understand the structure and function of different parts of human body and to acquire a fit and healthy body.
- Provides knowledge about body structure:** on the basis of knowledge of body structure, a sport person knows about the strength and weakness of his body and accordingly they can develop forte in the field of game which is suitable for the sport person as per their body structure.
- Helps in selection of games:** on the basis of knowledge of body structure, the coach and player can choose an appropriate sport/ game which is suitable for a particular sport. Like tall students can be selected for basketball and volleyball. And short and stout students can be selected for weight lifting.