## STD VI.

## MOVEMENTS OF THE BODY.

Q1. Which organ system help in the movement?

A1. The muscular and the skeletal systems help in the movement of our body.

Q2. What are the functions of the skeletal system?

A2. The functions of the skeletal system are-

*It gives shape to the body.

*It helps us to stand , helps us to maintain correct posture.

*It helps in the movement of the body.

*It protects the internal organs as lungs and heart.

*It provides surface for the attachement of the muscles.

Q3. How is it that a baby has more bones than an adult human?

A3. At the time of  birth, a baby has more bones (300 bones) , but within a year ,many of these bones fuse together and thus the number of the bones decreases to 206 .

Q4. What is a cartilage ?

A4. A Cartilage is a soft, rubber like tissue , which reduces friction between the bones.

*For eg, cartilage is present between the vertebrae which does not allow these to get eroded as they get rubbed against each other.

*With age, cartilages dry up and we began to have joint pain.

Q5. What are ligaments and tendons?

A5. *Ligaments are the tough , elastic bands that connect one bone to another bone .

*Tendons are the flexible, tough tissues that connect bones to the muscles.

Q6. Explain the importance of ribcage.

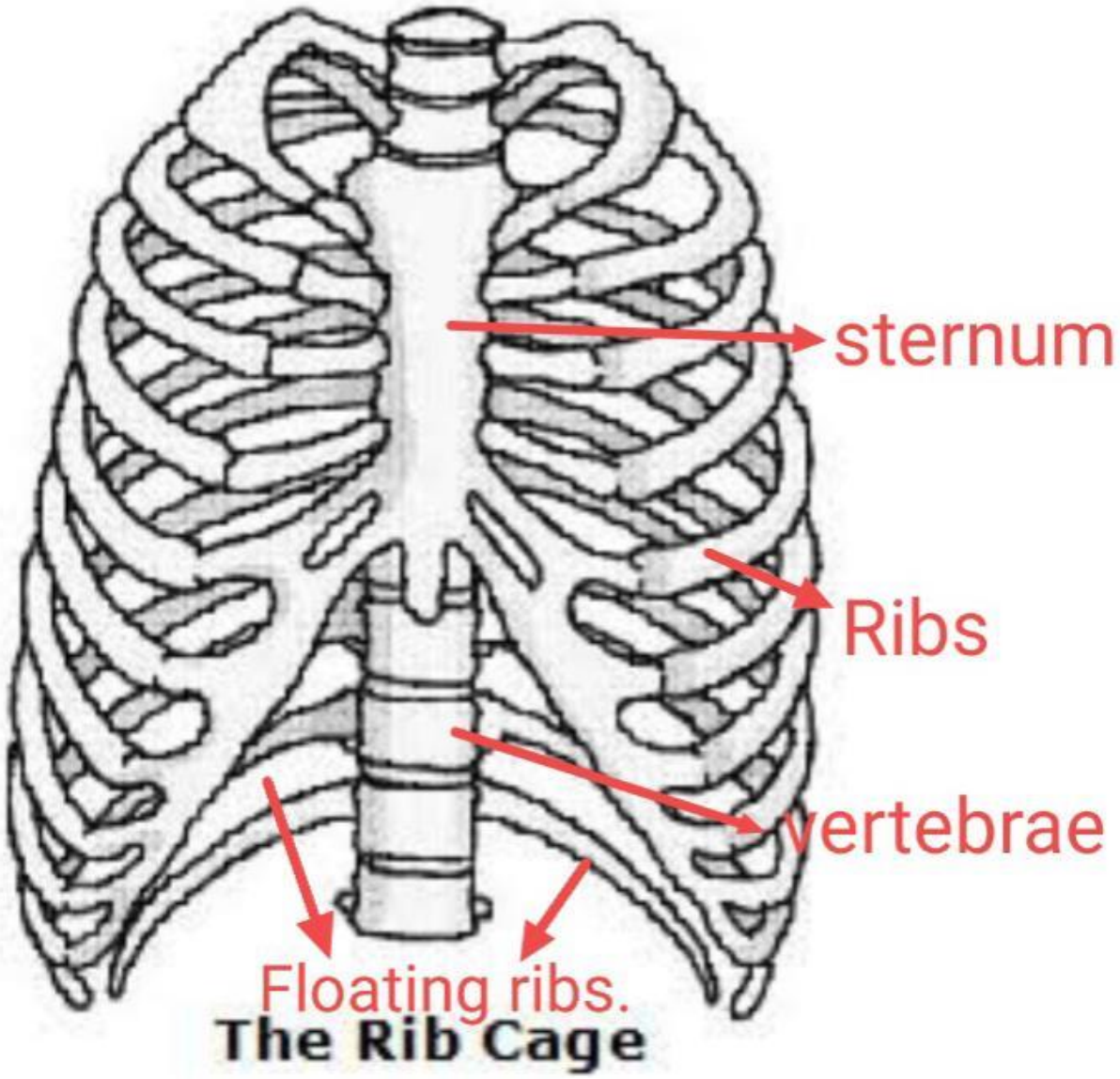
A6. The ribcage is a protective cover like structure formed around the chest.

*It consist of the breastbone or sternum running right through the centre of the chest.

*Joint to it are strong, curved and flexible bones called ribs.

*10 pairs of ribs are joined to the backbone and the sternum while two pairs of ribs are joined to the backbone but not to the sternum. These are called the floating ribs.

*The ribcage protects the internal ,vital organs like heart and lungs.




Q7. Which bones form the pectoral girdle and the pelvic girdle?

A7. Pectoral girdle

*The collar bones which are attached to the shoulder blade and breastbone , form the pectoral girdle.

*It has a hollow socket like structure , to which the head of the humerus is attached.

Pelvic girdle

*The hip bones joined to the vertebrae form the pelvic girdle.

*It also has a hollow socket on each side to which the head of the femur (heaviest bone of our body) is fitted.

Q8. Explain different types of joints found in our body by giving examples.

A8. Joints are the places where two or more bones meet.

There are two types of joints found in our body -

*Fixed joint or immovable joint.

-They don't allow any movement.

For eg. The joint formed by the bones in the cranium.

*Moveable joint

-They allow movement like the joint in the lower jaw.

The different types of moveable joints are-

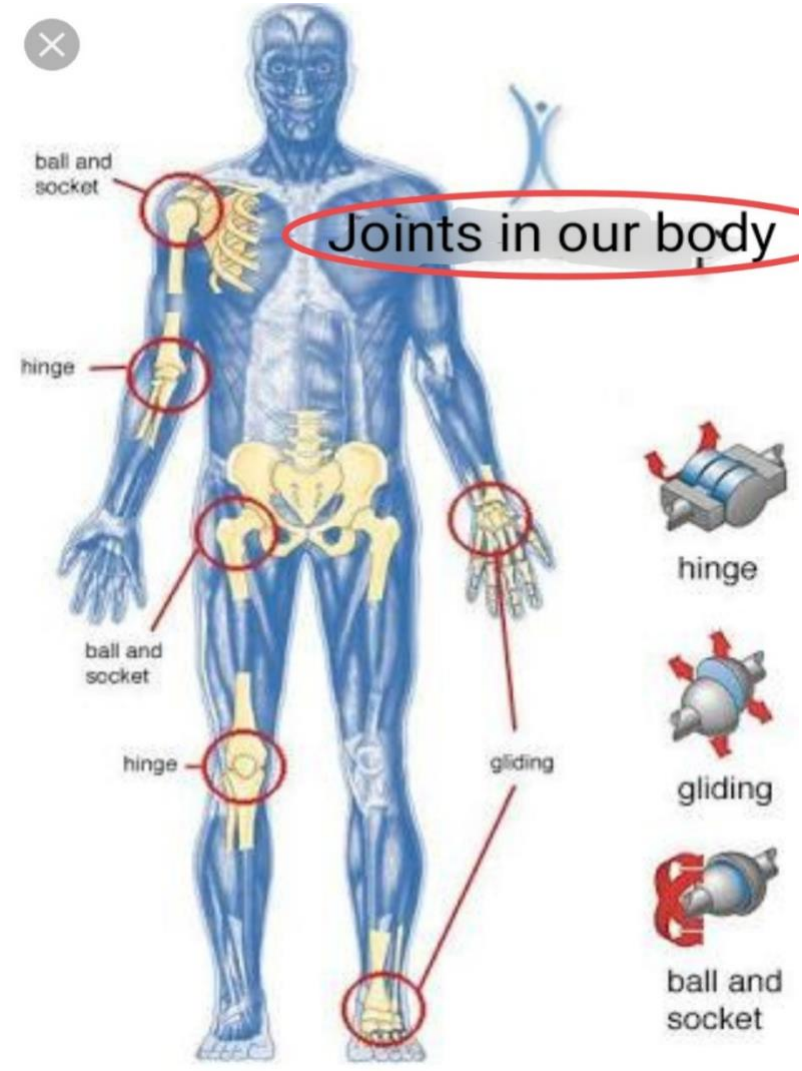
i) Ball and socket joint - The joint of the humerus and the pectoral girdle or the joint of the femur and pelvic girdle.

It may provide a $360^{o}$ freedom of movement as in the case of Humerus in the Pectoral girdle.

ii) Gliding joint - There is only a small movement on these joints.

-The joint between the vertebrae of the backbone, the joint of the wrist and the joint of the ankles.

iii) <u>Hinge joint -</u> It gives the freedom of 180 degree movement. For eg. The joint of the elbow, joint of the knee



**Pivot joint - In this,a bony ring rotates on a stick like bone.

It is partly moveable and often allows 180 degree movement.For eg. The joint of the head on the top of the vertebral column.

Q9.Explain the bones of the arm with structure.

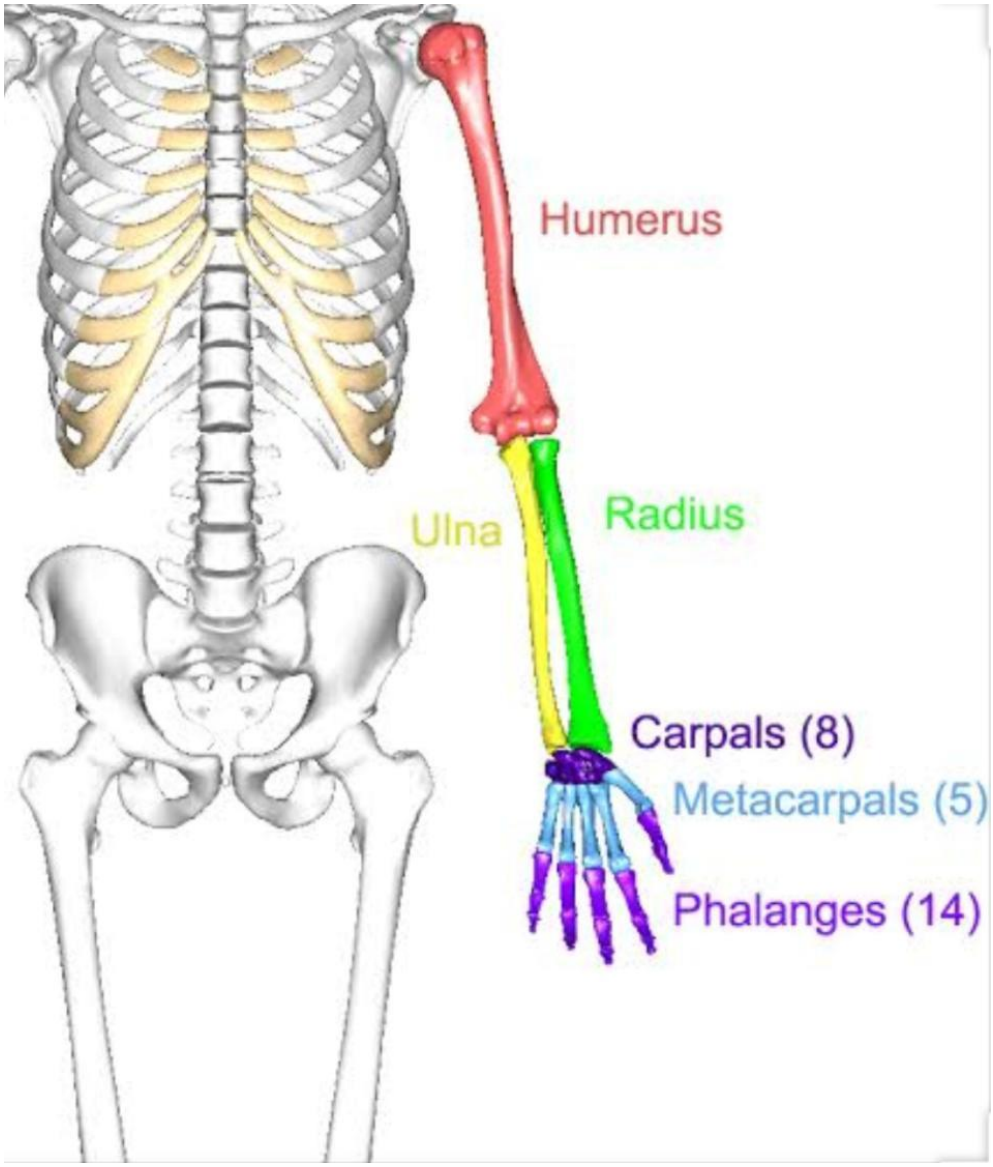
A9. *The arm consists of two parts upper arm and the forearm which are joined at the elbow through a hinge joint.

*The upper arm consists of a bone called Humerus . The head of the humerus fits into the hollow socket of the pectoral girdle through ball and socket joint.

*This gives the freedom  of 360 degree movement of our arm.

*The humerus is attached to the bones of the forearm , that are radius and ulna at the elbow through hinge joint.

*Radius and ulna lead to the wrist bones which are called carpals (8 in number) through gliding joint.



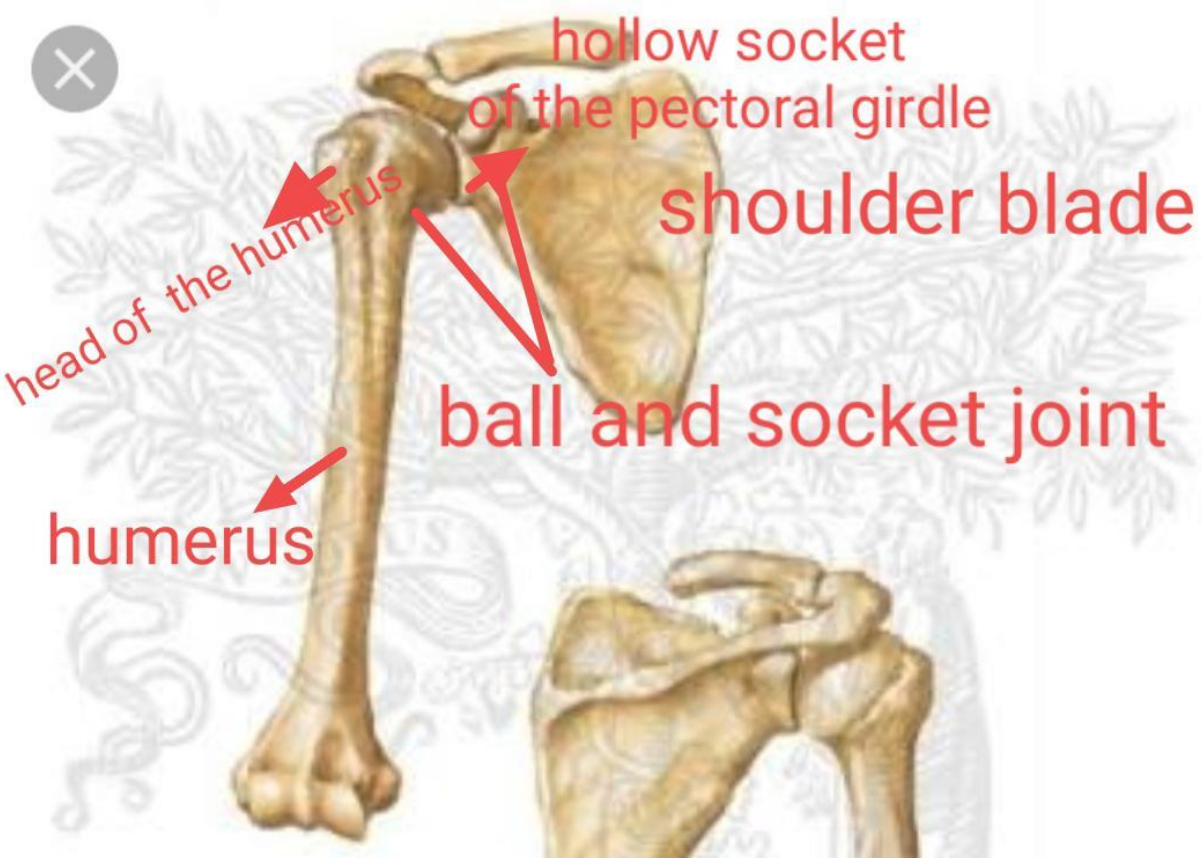
*The carpals then lead to the bones of the hand called metacarpals (5 in number) which further lead to the bones of the fingers called phalanges ( 14 in number).

Q10. Explain the structure of ball and socket joint with example.

A10. *In such a joint, the rounded head of one bone fits into the hollow socket of other.

*The joint often gives freedom of 360 degree movement .

*For eg. , The head of the humerus fixed into pectoral girdle.



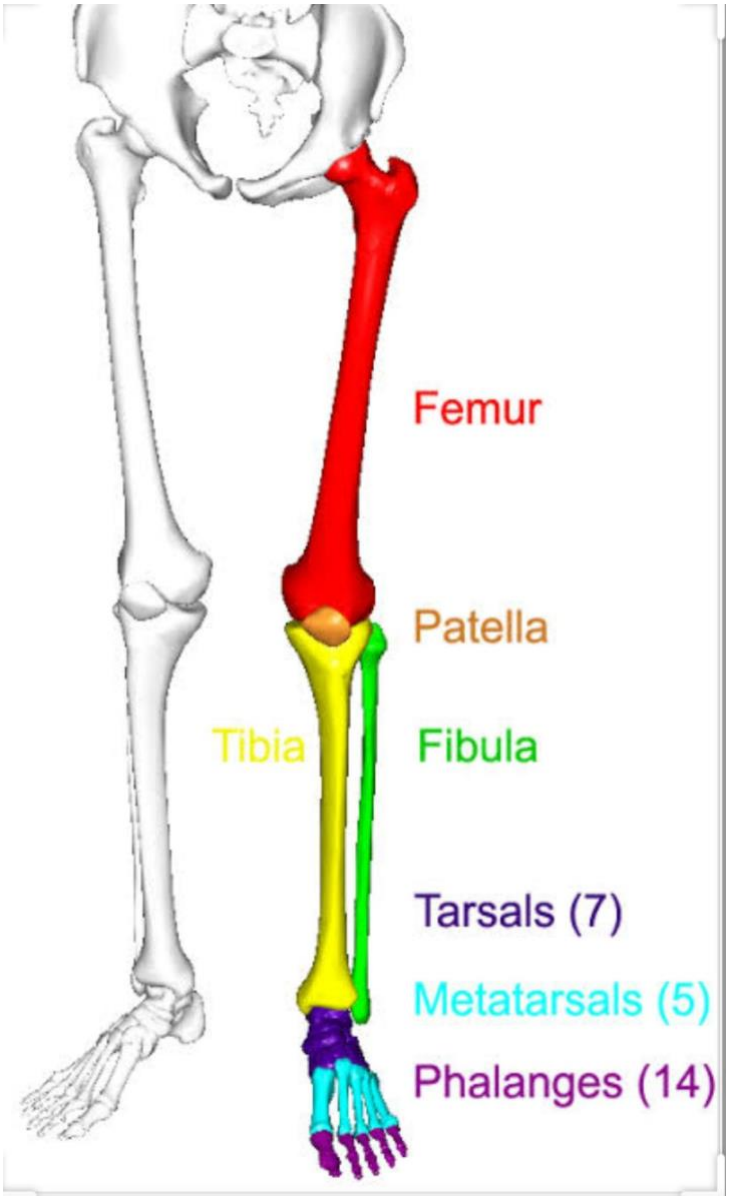

Q11. Explain the bones of the leg.

A11. *The leg consists of a long , heavy bone called femur, which runs through the thigh ending up at the knee. The head of the femur fits into the hollow cavity of the pelvic girdle.

*The knee is covered by a protective cover , the knee cap or patella.

*Further, we have two bones  that are joint to the knee from one side and end up to the ankle. They are , tibia (large one) and fibula (small one).

*Tibia and Fibula ,then join to form ankle bone called tarsals ( 7 in number), which further



leads to the foot bones called metatarsals (5 in number).

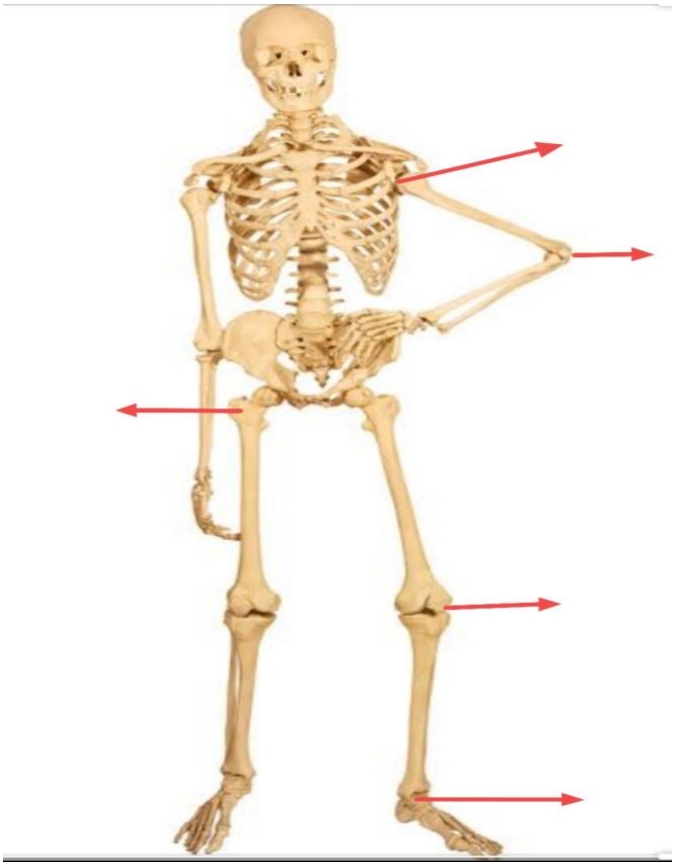
*These metatarsals lead to the toe bones called phalanges (14 in number).

DO IT YOURSELF.

Q1. Name the largest and heaviest bone of our body.

Q2. Which structure protects your spinal cord.

Q3. Label the given diagram regarding the name of the joints.



Q4. A spinner spins a ball. Which joint allows this movement?