LOCOMOTION AND MOVEMENT

IMPORTANT ONE LINERS

① → Amoeboid Movement = by pseudopodia
eg:- macrophages, leucocytes, cytoskeleton elements

② → Ciliary movement = by cilia
eg:- ciliary movement of trachea helps to remove dust particles.

③ → Muscular movement = by muscles
eg:- movement of limbs.

④ → Muscle is a specialized tissue of mesodermal origin.

⑤ → Skeletal muscles are voluntary muscles.

⑥ → Smooth and cardiac muscles are involuntary in nature

⑦ → Skeletal muscle is made of muscle bundle [fascicles] held together by collagenous connective tissue layer called [fascia].

⑧ → Each myofibril has alternate dark [A-band] and light striations [I-band].

⑨ → I-bands contain actin.

⑩ → A-bands contain actin and myosin.

⑪ → A-band bears a lighter middle region [H-band] formed of only myosin

⑫ → A thin dark line [M-line] runs through the centre of H-zone.

⑬ → I-band is bisected by a dense dark band called the Z-line.

⑭ → F-actin is a polymer of monomeric globular (G) actins.

⑮ → Actin contains 2 other proteins Tropomyosin and troponin.

⑯ → Each myosin filament is a polymer of many monomeric proteins called meromyosins.

(17) → Meromyosins have 2 parts :-
- Heavy meromyosins or HMM or crossarm [globular head + short arm]
- Light meromyosins or LMM (tail)

(18) → Myosin protein is more contractile than actin.

(19) → Contraction of the muscle according to the sliding filament theory takes place by the sliding of actin over the myosin.

(20) → Human skeletal system consists of a framework of 206 bones.

(21) → Axial Skeletal system = 80 bones
↳ Skull [29 bones]
↳ Vertebral column [26 vertebrae]
↳ Sternum [1 bone]
↳ Ribs [12 pairs].

(22) → Appendicular skeletal system = 126 bones
↳ Fore limbs [60 bones]
↳ Hind limbs [60 bones]
↳ Pectoral girdle [4 bone]
↳ Pelvic girdle. [2 bone]

(26) → Skull articulates with first vertebrae. [atlas] with the help of 2 occipital condyles [dicondylic skull].

(27) → True Ribs = 7 pairs

(28) → Vertebrochondral / False Ribs = 8th, 9th and 10th ribs

(29) → Floating Ribs = 11th and 12th pairs

(30) → Each rib has 2 articulation surfaces on its dorsal end and hence is called bicephalic

(51) → Pelvic girdle is formed of 2 coxal bones, each coxal bone is formed by the fusion of 3 bones :- ilium
ischium
pubis

(32) → Fibrous joints = in sutures, skull.

(33) → Cartiligenous joints = joints between adjacent vertebrae.

(34) → Synovial joints → Knee joint, pivot joint
(35) → Ball and socket joints → shoulder and hip joints
(36) → Hinge joint → Knee and elbow joint
(37) → Pivot joint → joints between atlas and axis
(38) → Gliding joint → joints between carpals
(39) → Saddle joint → joints between carpals and metacarpals of thumbs.
(40) → Inflammation of joints is called Arthritis.
(41) → Inflammation of joints due to accumulation of uric acid crystals is called GOUT.
(42) → Rapid spasm in muscle due to low Ca^{2+} in body fluid is called tetany.
(43) → Osteoporosis → Age related disorder characterized by decreased bone mass and increased ~~changes of~~ chances of fractures.
(44) → Decreased level of oestrogen is a common cause of osteoporosis.
(45) → Myasthenia Gravis → Autoimmune disorder; causes fatigue, weakening and paralysis of skeletal muscle.
(46) → Muscular dystrophy → progressive degeneration of skeletal muscles mostly due to genetic disorder.