**Movement Science 2**

1. Which of the statements about degrees of freedom is true?
2. It refers to the number of independent movements allowed at a joint
3. The hip joint has three degrees of freedom
4. The degrees of freedom at a joint may correspond to the plains of the body
5. **All the above**
6. A patient with rotator cuff syndrome may experience the following signs. Which one is odd?
7. Frozen shoulder
8. Shoulder pain
9. Shoulder weakness
10. **Shoulder muscle wasting**
11. A physiotherapist asks a patient to hold a paper with a lateral pinch, which is known as froments sign, what is he testing for?
12. **Ulnar nerve injury**
13. Median nerve injury
14. Radial nerve injury
15. Circumflex nerve injury
16. Which strategies may your patient with C6 quadriplegia, use to compensate for muscle paralysis below the level of lesion?
17. Reverse action of the elbow flexors
18. Weight bearing strategies
19. **Muscle substitution**
20. Muscle compensation
21. Which of the following is not a scoliosis curve pattern
22. Right thoracic curve
23. **Right thoracolumbar curve**
24. Left lumbar curve
25. Left thoracic curve
26. Which of the following terminologies describes dimensions and weights of body segments?
27. Kinetics
28. Dynamics
29. Static
30. **Anthropometric**
31. When a person standing at rest with the feet approximately 20 cm apart changes his base of support to 5 cm, what happens to the centre of gravity of the entire body during this activity?
32. **It is raised**
33. It is halved
34. It is doubled
35. It is tripled
36. The normal function of fingers (2-5) involves prehension and a release phase while holding or manipulating an object. The initial activity in the release phase involves;
37. Relaxation of wrist flexors
38. Relaxation of long finger extensors
39. Forcefull contraction of finger flexors
40. **Relaxation of long finger flexors**
41. Which ligament is likely to be injured following excessive valgus force applied to the knee joint?
42. **Medial collateral**
43. Lateral collateral
44. Anterior cruciate
45. Oblique popliteal
46. Mr. Wafula, a sports man participates in discus throwing. At the time he releases the discus, two forces are involved. How are the two forces distributed?
    1. Centripetal force is more than centrifugal force
    2. **Centrifugal force is more than the centripetal force**
    3. Centrifugal and centripetal forces become zero
    4. None of the above
47. During one of his lessons, Mr. Njoroge gave an assignment to the students to make a gait analysis. Which one of the following may not be the students key factors relating to the nervous system and movement?
48. Nervous system controls movement
49. **Voluntary movement are designed utilizing previous experiences**
50. They use feedback signals towards the muscle
51. Feedback about movement and the body in relation to the environment
52. Mrs. AY sustained a supracondylar fracture of her left humerus and POP was applied for six weeks. After review and removal of the POP, she was referred for physiotherapy due to a fixed flexion deformity of the left elbow joint. Which one of the following would cause this abnormal limitation?
53. Pain
54. Destruction of the articular cartilage
55. **Adhesions/scar tissue**
56. Opposition of soft tissues
57. Which of the following explains the close packed position?
58. Is a position attainable by all synovial joints
59. **Is the position at which there is maximum contact between the opposing surfaces.**
60. Is the position joints acquire during arthritis
61. May be adapted by the hip joint, the knee joint and the interphalangel joints
62. Which of the following is not a role of Golgi tendon organ?
63. Has dynamic and static response
64. **Tendon reflex is a feedback mechanism to control muscle length**
65. Stretch reflex is a feedback mechanism to control muscle length
66. Decreases in muscle length during active concentric contraction
67. Which muscle unlocks the knee in the interim between heel-strike and foot flat phase of stance phase?
68. Hamstrings
69. Gastrocnemius
70. **Popliteus**
71. Quadriceps
72. Ankylosing spondylitis is one of the rheumatoid diseases characterized by a gradual ankylosing of vertebrae, rib and pelvic joints. Other joints are usually involved. The end result may be a complete fusion of the trunk with pelvis. What effect would this have on the gait?
73. Cause an increase in adversive trunk rotation and thereby a scissoring gait.
74. **Cause a decrease in adversive trunk rotation and thereby cause a distortion of the centre of gravity**
75. Forearm in neutral position
76. All the above are correct
77. The mechanical advantage of a lever is;
78. **Ratio of the length of the force arm and the length of the weight arm**
79. Ratio of the length of the weight arm to the effort applied
80. Ratio of the length of force arm to the resistance encountered
81. Product of the force and the resistance encountered
82. Which of the following movements is an example of an open kinetic chain?
83. Squatting
84. **Extension of the knee in high sitting**
85. Push-ups
86. All of the above
87. Which of the following factors does not influence the stability of the body?
88. The height of the centre of gravity above the base of support
89. The mass of the body
90. The location of the line of gravity within the base of support
91. **None of the above**
92. A normal individual raises the right upper extremity from a position of 60o of shoulder flexion to 120o of shoulder flexion. What type of muscular contraction is occurring in anterior deltoid during this activity?
93. **Concentric and isotonic contraction**
94. Eccentric and isotonic contraction
95. Eccentric and isokinetic contraction
96. Isometric and concentric contraction