

يتكون هذا الاختبار من (100) سؤال موضوعي من نوع الاختيار من متعدد، الإجابة عنها إجبارية. ظلل بقلم الرصاص بشكل غامق الدائرة التي تشير إلى الإجابة الصحيحة في المكان المخصص لذلك في نموذج الإجابة

### الأطراف الاصطناعية السفلية 3

1. **The main cause of hemipelvectomy amputation is:**

a- Cancer	b- Trauma
c- PVD	d- Congenital
2. **Ischial ramal containment socket design is :**
  - a- Rectangular in shape
  - b- wide mediolateral dimension
  - c- Weight bearing is focused through the medial aspect of the femur and the ischial ramus
  - d- Weight bearing is focused on ischial seat
3. **When ascending stairs, the amputee leads with :**

a- Sound leg	b- Amputated leg
c- Use hands to swing both legs	d- use both leg
4. **Running prosthetic feet are characterized by:**

a- Aerodynamic shape	b- Energy storing and release
c- Durability	d- Good cosmoeses
5. **BK (below knee) cycling socket is characterized by:**

a- low posterior wall	b- loose fit with extra suspension
c- low side walls	d- NO need for BK soft socket
6. **The main weight bearing area in AK (above knee) stump is:**

a- End of the stump	b- Ischial tuberosity
c- Stump soft tissue	d- Greater trochanter
7. **Swimming prosthesis ankle joint is:**
  - a- Multiaxial
  - b- Solid
  - c- locks at 90 degree and 120 degree
  - d- Single axis
8. **Endoskeletal prosthesis refers to:**
  - a- Modular prosthesis
  - b- Conventional prosthesis
  - c- Electric prosthesis
  - d- prosthesis with 4-bar linkage or hydraulic knee
9. **Hip flexion deformity means:**
  - a- The hip does not flex completely
  - b- The hip does not extend completely
  - c- The hip does not adduct completely
  - d- The hip does not abduct completely
10. **The minimum knee space in the AK stump should be:**

a- 10- 12.5 cm	b- 15- 17.5 cm
c- 20- 25 cm	d- 25- 30 cm

- 11. Cosmoses refers to:**  
a- Appearance  
b- function  
c- Durability  
d- Foot size
- 12. An amputee is a person who:**  
a- Has muscle paralysis  
b- Has muscle contracture  
c- lost part of his muscle  
d- Has bone fracture
- 13. A swimming prosthesis should:**  
a- Allow water to go in and out  
b- Does not allow water to go in  
c- Absorb water  
d- Bulky
- 14. The prosthetic cosmetic cover is usually made of:**  
a- Sponge  
b- plastic  
c- Wood  
d- Stockinet
- 15. The tubes in the modular prosthesis are usually:**  
a- Round shape  
b- Square shape  
c- Triangle shape  
d- Hexagonal shape
- 16. A good socket should be:**  
a- Tight  
b- loose  
c- Well fitting  
d- Heavy
- 17. A hemipelvectomy socket should be:**  
a- Above the pelvic level  
b- Below the pelvic level  
c- Same height as the pelvis  
d- Bulky
- 18. The AK (above knee) socket lateral wall should be:**  
a- Higher than the medial wall  
b- lower than the medial wall  
c- Same level as the medial wall  
d- Same level as the posterior wall
- 19. The prosthesis socket edges should be :**  
a- Square  
b- Triangular  
c- Smooth and round  
d- Rough
- 20. BK (below knee) cycling prosthesis should:**  
a- Secure the prosthesis to the bicycle pedal  
b- doesn't allow knee joint full flexion  
c- Be as heavy as possible  
d- doesn't allow knee joint extension

الأجهزة المساعدة للأطراف السفلية 2

- 21. The articulation in knee joint is:**  
a- Between tibia and fibula  
b- Between condyles of the femur and head of fibula  
c- Between head of the tibia and femur condyles  
d- Between condyles of the femur and condyles of the tibia
- 22. Type of hip joint is:**  
a- Hinge joint  
b- Ball and socket joint  
c- Ellipsoid joint  
d- Modified ellipsoid joint

**23. Collateral fibular ligament help to prevent:**

- |                                   |                                  |
|-----------------------------------|----------------------------------|
| a- Lateral rotation of knee joint | b- Flexion of knee joint         |
| c- Adduction of knee joint        | d- Medial rotation of knee joint |

**24. Knee extensor muscle is :**

- |                   |              |
|-------------------|--------------|
| a- Rectus femoris | b- Gracilis  |
| c- Popliteus      | d- Sartorius |

**25. Iliofemoral ligament help to prevent:**

- |                                 |                           |
|---------------------------------|---------------------------|
| a- Medial rotation of hip joint | b- Adduction of hip joint |
| c- Hyperextension of hip joint  | d- Flexion of hip joint   |

**26. Extension movement in hip joint is performed by:**

- |                    |                    |
|--------------------|--------------------|
| a- Rectus femoris  | b- Gluteus medius  |
| c- Gluteus maximus | d- Gluteus minimus |

**27. Quadriceps fibrosis is:**

- a- Contracture of one or more heads of quadriceps muscle
- b- Contracture of hamstring muscle
- c- Contracture of biceps femoris muscle
- d- Contracture of gracilis muscle

**28. When genuvalgum deformity is mild in young children, correction is achieved by:**

- a- Orthoses consisting of boots with long medial bar
- b- Wearing of boots with medial heel raised 3/8 inch
- c- No treatment is required
- d- 1/8 inch raise of the lateral border of heel

**29. Varus load on the flexed knee injure:**

- a- Posterior cruciate ligament with the posterior lateral complex
- b- Anterior cruciate ligament with the posterior lateral complex
- c- Anterior cruciate ligament with the anterior lateral complex
- d- Posterior cruciate ligament with the anterior lateral complex

**30. Prefabricated orthoses is:**

- |                             |                                |
|-----------------------------|--------------------------------|
| a- Manufactured in one size | b- Durable                     |
| c- Inexpensive              | d- Used as definitive orthoses |

**31. KAFO, plastic metal design is:**

- a- heavier than leather metal design
- b- easier to don than leather metal design
- c- Less cosmetic appearance than leather metal design
- d- Need more energy consumption than leather metal design

**32. Single axis knee joint:**

- |                             |                                   |
|-----------------------------|-----------------------------------|
| a- Is Inexpensive           | b- Is adequate for active patient |
| c- Does not allow pistoning | d- Is complex                     |

**33. Which of the following is correct:**

- a- Pavlic harness keep the hip joint in abduction, flexion and internal rotation
- b- Pavlic harness keep the hip joint in abduction, flexion and external rotation
- c- Pavlic harness keep the hip joint in adduction, flexion and external rotation
- d- Pavlic harness keep the hip joint in abduction, extension and external rotation

**34. Which of the following is correct:**

- a- Serrated lock knee joint can alter the alignment of the distal upright through a 180 degree
- b- Fan lock knee joint is more expensive than Ratchet lock knee joint
- c- Serrated lock knee joint is indicated in the presence of knee laxity
- d- Serrated lock knee joint is more efficient than fan lock knee joint

**35. Which of the following is correct:**

- a- Genuvarum deformity may be corrected by exert medial directed force on the lateral aspect of the knee joint and lateral directed force on the medial aspect of the thigh and leg
- b- Genuvarum deformity may be corrected by exert lateral directed force on the medial aspect of the knee joint and medial directed force on the lateral aspect of the thigh and leg
- c- Genuvalgum deformity may be corrected by exert medial directed force on the lateral aspect of the knee joint and lateral directed force on the medial aspect of the thigh and leg
- d- Genuvalgum deformity may be corrected by exert lateral directed force on the lateral aspect of the knee joint and medial directed force on the medial aspect of the thigh and leg

**36. Which of the following is correct:**

- a- The split stirrup is thicker than solid stirrup
- b- The split stirrup is lighter in weight than solid Stirrup
- c- The split stirrup is more durable than solid stirrup
- d- The split stirrup is indicated for person who has several torsional movement

**37. Which of the following is correct:**

- a- Swedish knee cage has moving knee joint
- b- Swedish knee cage is difficult to use
- c- Swedish knee cage doesn't slip or rotate
- d- The proximal edge of Swedish knee cage protrude when the wearer is seated

**38. All of the following are correct except:**

- a- Supracondylar KAFO resist genurecurvatum during stance phase while permitting knee flexion during swing phase
- b- The proximal shell of supracondylar KAFO protrude above the thigh when the patient is sitting
- c- Supracondylar KAFO is indicated in the presence of altering edema
- d- Supracondylar KAFO provides support in all three planes

**39. Which of the following is correct:**

- a- Hip control orthoses restrict hip flexion and extension but permit motion in the frontal and transverse plane
- b- For the nonambulatory child with a hip dislocation a hip abduction KAFO can hold the joint while healing occur
- c- SWASH orthoses doesn't permit sagittal motion and abduction
- d- Orthoses after hip replacement doesn't provide access for wound care and hygiene

**40. All of the following are caused of circumduction gait when the patient is wearing lower limb orthoses except:**

- a- Weak dorsiflexor muscle                      b- Weak hip flexor muscle  
c- Inadequate weight shift                      d- Long contralateral leg

**الأجهزة المساعدة العلوية**

**41. Protraction of the shoulder is:**

- a- The action of rhomboid muscles  
b- The serratus anterior action over the scapula only  
c- The shift of the scapula away of the midline (spinal column ) by serratus anterior and other muscles  
d- Done by the elevator scapula muscle

**42. All of the following are correct except:**

- a- The prosthesis is an artificial device used to replace partially or total missing part or extremity of the body  
b- The orthoses is an exoskeleton device used in limb amputation management  
c- The orthoses may be used in paralyzed limb management  
d- The orthoses is used to improve function of an extremity

**43. The followings are part of the shoulder joint except:**

- a- Glenohumeral joint  
b- Scapulothoracic joint  
c- Lower costo-condrosteral joint  
d- Sternoclavicular joint

**44. All of the following are movement of the glenohumeral joint except:**

- a- Flexion    b- Extension  
c- Retraction                                        d- Internal rotation

**45. All of the followings are correct except:**

- a- Elbow joint is composed of humero-ulnar and radio-ulnar joint  
b- Supination, pronation, flexion and extension of the elbow are done by the humero-ulnar joint only  
c- The supination is done by the supinator muscle  
d- The pronation is done by the pronator quadratus and pronator teres muscle

**46. The shoulder abduction is ranged from:**

- a- 0 -120 degree                                      b- 0 -180 degree  
c- 0 -90 degree                                        d- 30 -150 degree

**47. Elbow extension is done mainly by:**

- a- Biceps muscle                                      b- Anconeus muscle  
c- Triceps muscle                                      d- Pronator teres muscle

**48. Abduction of the wrist is done by the following except:**

- a- Extensor carpiradialis longus muscle  
b- Extensor carpiradialis brevis muscle  
c- Extensor carpiulnaris muscle  
d- Abductor pollicis longus muscle

- 49. The main abductor muscles of the metacarpophalangeal joints are:**
- a- The dorsal inter-ossei muscles
  - b- The palmar inter-ossei muscles
  - c- The lumbrical muscles
  - d- Opponens muscle
- 50. Upper limb orthoses static type is used in all of the following except:**
- a- Acute rheumatoid arthritis to prevent deformity
  - b- Peripheral nerve lesion for patient who waiting operation
  - c- Acute rheumatoid arthritis to reduce pain
  - d- Classical and advanced rheumatoid arthritis to correct deformity
- 51. Which of the following is correct:**
- a- Three jaw chuck involves grip with the thumb, index and little Finger
  - b- A lateral or key grip involves contact of the palp of the thumb with the lateral aspect of the corresponding finger
  - c- The hook power grip involves flexion of metacarpophalangeal joint and minimal participation of interphalangeal joint
  - d- Spherical grip involves maximum flexion of finger which are adducted and rotated
- 52. The following deformities can be corrected by finger orthoses except:**
- a- Swan neck deformity
  - b- Zigzag deformity
  - c- Mallet finger deformity
  - d- Boutonniere deformity
- 53. Palmar prehension is:**
- a- Precision grip
  - b- Power grip
  - c- To move away the fingers from the middle finger
  - d- To bring the fingers to the midline (middle finger)
- 54. Spherical prehension is:**
- a- Precision grip
  - b- Power grip
  - c- The contact of the thumb pad with the pads of the middle and index finger
  - d- To bring the fingers to the midline (middle finger)
- 55. Carpometacarpal joint of the thumb is:**
- a- Ball and socket joint
  - b- Pivot joint
  - c- Saddle joint
  - d- Fibrous joint
- 56. The functional position of the resting hand splint is:**
- a- The wrist in 20 degree-30 degree of extension
  - b- The thumb in 45 degree of palmar adduction
  - c- The metacarpophalangeal joints in 35 degree-45 degree of extension
  - d- The metacarpophalangeal joints in 25 degree-35 degree of extension

**57. Typical joint placement for a person with rheumatoid arthritis positions:**

- a- The wrist in 10 degree of flexion
- b- Thumb in palmar abduction
- c- The metacarpophalangeal joints in 35 degree-45 degree of extension
- d- The wrist in 20 degree of flexion

**58. To splint a crushed hand the therapist can position:**

- a- The wrist in 0 degree -30 degree of flexion
- b- The metacarpophalangeal joint in 60 degree-80 degree of extension
- c- The thumb in palmar abduction
- d- The metacarpophalangeal joint in 50 degree-70 degree of extension

**59. Which of the following is correct:**

- a- The proximal transverse arch in the hand consist of the proximal row of carpal bones
- b- The transverse carpal ligament and the bones of the distal transverse arch in the hand form the carpal tunnel
- c- The proximal transverse arch of the hand is rigid arch
- d- The distal transverse arch of the hand is rigid arch

**60. Antideformity position in resting hand orthoses places:**

- a- The wrist in 30-40 degree of extension
- b- The thumb in 40-45degree of palmar adduction
- c- The thumb interphalangeal joint in full flexion
- d- The thumb in 30-40 degree of palmar adduction

## الأجهزة المساعدة للعمود الفقري

**61. All of the following are correct except:**

- a- Spinal orthoses is an exo- skeletal device used for mobilization of the spine
- b- Sacroiliac corset is used to assist in reducing intraabdominal pressure
- c- Sacroiliac corset is used to restrict totally pelvic joints motion post trauma
- d- Spinal orthoses is an exo- skeletal device used for traction the spinal segments

**62. The followings are muscles of the posterior wall of the trunk except:**

- a- Trapezius muscles
- b- Sternocleidomastoid muscles
- c- Longissimus muscles
- d- Lattismus dorsi muscles

**63. Spinal orthoses do their functions by all of the followings except :**

- a- Increasing intracavitary pressures
- b- Restriction of trunk motions
- c- Modification of skeletal alignment
- d- Increasing the load over the vertebral lesion

**64. The followings are of the thorax joints except :**

- a- Costo –vertebral joints
- b- Sterno - clavicular joints
- c- Sterno- costal joints
- d- Intra-articular (facets) joints

**65. The thickest intervertebral discs are in :**

- a- Sacral region
- b- Cervical region
- c- Lumbar region
- d- Thoraco-lumbar region

**66. Lumbosacral corset can control and restrict :**

- a- Lumbar flexion motion significantly
- b- Lumbosacral flexion motion significantly
- c- Lumbar and lumbosacral rotatory movement in a high degree
- d- Lumbar and lumbosacral lateral flexion the same as extension in mild to moderate degree

**67. The thoracolumbosacral corset is :**

- a- Trunk stabilizer , elevates the thoracic and abdominal pressure to reduce vertebral loading
- b- The same as the lumbosacral corset with modification in the anterior part
- c- Rigid, prefabricated orthoses
- d- Orthoses , restricted completely the thoracic and lumbar flexion and extension

**68. The followings about spina bifida are true except :**

- a- Myelomeningocele account 95% of cysica spina bifida
- b- Hydrocephalus is a serious complication in myelocele type
- c- In meningocele type the sac containing cerebrospinal fluid and nerve roots
- d- Paralytic scoliosis is one of the complications

**69. In Scheurmans disease all true except :**

- a- It is an osteochondrosis of the spine
- b- Presented by back pain and kyphosis
- c- Involves the thoracic region mainly
- d- Back flexion exercise is one of the best management method

**70. Spondylolisthesis is a forward slippage of a vertebrae :**

- a- Most commonly at the thoracolumbar region
- b- Most commonly at the L5/ S1
- c- Most commonly at the L3/L4
- d- TLSO is mandatory in all types and grades

**71. The effect of rigid spinal orthoses on the body :**

- a- Decrease intra-abdominal and increase the intrathoracic pressures
- b- Decrease thoracolumbar motion only
- c- Increase intracavitary pressure as a main biomechanical effect
- d- Decrease intracavitary pressure as a main biomechanical effect

**72. The main components of the rigid spinal orthoses are :**

- a- Pelvic band and interscapular band
- b- Thoracic band and abdominal support
- c- Thoracic band, pelvic band , uprights and abdominal support
- d- Thoracic support and oblique lateral upright

**73. The Chairback spinal orthoses:**

- a- Is Lumbosacral flexion and extension control orthoses with some effect on rotation
- b- Provides two-point force system
- c- Is Lumbosacral flexion-extension control orthoses with thoracic traction effect
- d- Is Thoracolumbar orthoses control flexion

**74. The knight –Taylor spinal orthoses is :**

- a- Thoracolumbosacral flexion - extension – lateral control orthoses and effective in lumbar and lumbosacral rotation control
- b- Restricting very well thoracic and lumbar spine rotation
- c- Thoracolumbosacral flexion – lateral control orthoses
- d- Lumbosacral flexion – extension control orthoses

**75. Plastic body jacket :**

- a- It is thoracolumbosacral polyethylene orthoses used when there is unstable fracture before fixation only
- b- It is lumbosacral orthoses used always after surgery
- c- It provides intracavitary pressure and increase the intervertebral discs load
- d- It can be attached with lower limb orthoses and provides thoracic , lumbar and lumbosacral rotation control and help the patient to stand

**76. Plastic body jacket functions :**

- a- It provides anterior directed force from the superior and inferior portions of the anterior section
- b- It provides posterior directed forces from the posterior section
- c- It provides a posterior directed force to the chest by the superior portion of the anterior shell
- d- Lateral trunk containment decrease intrathoracic pressure

**77. Sterno – Occipital – Mandibular – Immobilizer (SOMI) is :**

- a- A post – appliance, with a single anterior upright and posterior plate
- b- A cervical orthoses , resemble the post type device , provide cervical flexion control and some extension and rotary control
- c- A cervical orthoses provides full extension control
- d- A cervical orthoses with two posterior uprights arise from the interscapular pad

**78. The cervical flexion – extension, lateral, and rotary control orthoses:**

- a- Is a posterior appliance with anterior section just
- b- It restricts cervical flexion and allow cervical extension by forces applied under the mandible and occiput
- c- Is a custom – molded orthoses like Cuirass and the Minerva type orthoses provide more cervical lateral flexion and rotation control than the previous
- d- Is a anterior appliance with anterior section , anterior and posterior uprights just

**79. The halo type orthoses :**

- a- Provides the greatest control of all thoracic appliances
- b- Is formed of halo ring, distraction rods, shoulder bars and distal fixation components, and provides full control of all direction
- c- The halo can encircles the neck to provide cervical traction
- d- It can be extended down with a body jacket to provide great thoracolumbar distraction

**80. Which of the following is correct:**

- a- Ankylosing spondylitis is arheumatic disease with axial involvement more frequent in ladies
- b- Ankylosing spondylitis is arheumatic disease with axial involvement and the heel spur is the usual presentation
- c- Ankylosing spondylitis is arheumatic disease with axial deformity and the spinal orthoses is the ideal management
- d- In pott"s disease, the spine is infected by mycobacterium tuberculosis

مواد تصنيع الأطراف الاصطناعية

**81. Thermoplastic material:**

- a- Soften when cooled
- b- Harden by heat
- c- Is not affected by temperature
- d- Can be moulded in heated condition to conform to a particular shape

**82. Polypropylene:**

- a- Heated between 100°C-115°C
- b- Is expensive
- c- Is available in one thickness
- d- Can be used of all orthotic device

**83. Polyethelene moulds between:**

- a- 140°C-150°C
- b- 100°C-150°C
- c- 200°C-250°C
- d- 180°C-200°C

**84. Water soluble materials (ways of wood preservation) applied by :**

- a- Pressure
- b- Spraying
- c- Dipping
- d- Brushing

**85. Polyvinyl chloride (PVC):**

- a- Is available in a liquid form
- b- Is usually used for hand orthoses
- c- Has amoulding temperature at 90°C-100°C
- d- Cured for 12 hours

**86. Acrylonitrile butadiene styrene (ABS):**

- a- Is soft
- b- Is bad weather resistance
- c- Is available in sheet material
- d- Has bad dimensional stability

**87. Which of the following is correct:**

- a- Acrylic resin is usually used in the 80 % rigid and 20 % flexible form
- b- Acrylic resin Pigment can be used with up to 5 %
- c- In Acrylic resin, hardening powder can be used with up to 5 %
- d- In Acrylic resin, hardening powder can be used with up to 7 %

**88. Epoxy resin:**

- a- Has bad mechanical strength
- b- Has high shrinkage

- c- Has low water absorption                      d- Has bad chemical resistance

**89. Polymer molecular structure is:**

- a- Multiple of carbon atoms and hydrogen atoms  
b- Atoms of carbon and oxygen  
c- Atoms of carbon and nitrogen  
d- Atoms of carbon and zinc

**90. Which of the following is correct:**

- a- Warm water retard setting of plaster of Paris  
b- Cold water accelerate setting of plaster of Paris  
c- The setting expansion of plaster of Paris due to crystal growth continues for about 30 minutes  
d- Sodium chloride accelerate setting of plaster of Paris

**91. Gypsum crystal:**

- a- If undisturbed while setting, it becomes not interlocked  
b- If undisturbed while setting, it produces weak structure  
c- If disturbed while setting, it becomes rigid structure  
d- Is needle shaped

**92. Too much water is used in moulding plaster of Paris:**

- a- Increase compressive strength  
b- Increase hardness  
c- Decrease density  
d- Decrease porosity

**93. All of the followings are correct except:**

- a- Flaying is the removal of hair from skin  
b- Curing is to preserve skin during transport or storage  
c- Fleshing is the removal of unwanted fat and flesh from skin  
d- Washing is to remove excess salt and to restore moisture lost in the curing process

**94. In finishing procedure after tannage for light leather, which of the following is correct:**

- a- Splitting to removing surplus chrome salt  
b- Neutralising to adjust the acidity in the leather  
c- Fatliquoring to achieve uniform thickness  
d- Setting out to eliminate excess moisture

**95. Which of the following is correct:**

- a- Medium weight leather can be used for socket  
b- Very heavy leathers can be used for socket  
c- Very heavy leathers is used for shoe  
d- Very soft leather is used for cuff and straps

**96. Cast iron contains:**

- a- Carbon (C) 3.0-4.0%                                      b- Silicone (Si) 3.0-4.0%

c- Manganese (Mn) 3.0-4.0%

d- Sulphur (S) 3.0-4.0%

**97. Wood composed mainly from :**

a- Sugars

b- Lignin

c- Cellulose

d- Salt

**98. Fast cooling rate of iron leads to :**

a- Brittle iron

b- Hard iron

c- Tough iron

d- Corrosion resistant iron

**99. Aluminum oxide (alumina):**

a- Has high friction properties

b- Is used for cutting at higher speed than is possible with other tools

c- Has low resistance to chemical attack

d- Has low resistance to abrasion

**100. Magnesium:**

a- Is high weight material

b- Has high tensile strength

c- Is alloyed to other metal to improve its strength

d- Isn't used in its alloyed form

انتهت الأسئلة