

**KENYA MEDICAL TRAINING COLLEGE**

**FACULTY OF CLINICAL SCIENCES**

**DEPARTMENT OF ORTHOPAEDIC & TRAUMA MEDICINE**

**FINAL QUALIFYING EXAMINATION**

**FOR**

**CERTIFICATE IN ORTHOPAEDIC PLASTER TECHNOLOGY**

**PAPER: CASTING TECHNIQUES**

**DATE: TIME: 3 HOURS (9:00AM – 12:00NOON)**

**INSTRUCTIONS**

1. This paper consists of:

* Section 1 (40 Multiple Choice Questions)
* Section 2 (8 Short Answer Questions)
* Section 3 (1 Long Answer Question)

1. Attempt **ALL** Questions
2. Write the EXAMINATION **NUMBER** given on all the answer sheets provided and on the question paper.
3. Ensure that all examination answer scripts are handed in at the end of the examination
4. Ensure you sign the examination register provided

EXAMINATION NUMBER **………………………………………………………………**

**SECTION A: MULTIPLE CHOICE QUESTIONS (40 Marks)**

1. **Which one of the following is NOT a Quality of a Soft ban:**
   1. Comfortable
   2. Hard to tear
   3. Allergic
   4. absorbent
2. **Evaluation of a patient before plaster application include:**
   1. Quality of the skin is checked
   2. History taking
   3. Complete neurovascular examination
   4. All the above
3. **Which one is NOT true about below elbow casts**
   1. Extends from above the elbow to the palm crease
   2. For wrist sprains and carpal fractures
   3. For Smith’s fracture
   4. For colle’s fracture
4. **Cylinder casts is used for:**
   1. Distal femoral fractures
   2. Malleoli fractures
   3. Ankle joint injuries.
   4. Patella fractures
5. **Which one of the following is NOT true about cast application:**
   1. Fibre glass takes 2-3 days to dry completely.
   2. Stockinet may be used as the first layer.
   3. Fibre glass is lighter than P.O.P
   4. We approach the skin diagonally.
6. **Which one of the following is NOT a physical property of P.O.P.?**
   1. Sets in 2 – 3 minutes
   2. It is smooth when molded.
   3. It is creamy
   4. Comes in single colour.
7. **Long arm casts usually begin at the middle of the humerus, extends down the arm, and ends at the**
   1. Base of the wrist
   2. Base of fingers
   3. End of the fingers
   4. Mid-point of the forearm
8. **A fracture to which of the following fingers would most likely require an ulna gutter splint**
   1. Pinky fingers
   2. Middle fingers
   3. Pointer fingers
   4. Thumb
9. **Besides fractures, what other types of finger injury is likely to require the use of ulna gutter or radial gutter splint**
   1. Blood clots
   2. Severe sprains
   3. Tendinitis
   4. Carpal tunnel syndrome
10. **When doing plaster casting , the following statement is true**
    1. Bonny prominences are covered with wool
    2. Stockinet and wool must be always be used
    3. One layer of wool is recommended
    4. Circular cast is advisable in posterior slab where no swelling of the limb is anticipated
11. **Which one is NOT a feature of arterial obstruction of to a casted limb?**
    1. Paralysis of fingers or toes
    2. Parenthesis of fingers and toes
    3. Pallor of the skin with disturbed capillary return
    4. Severe pain at the fracture site
12. **Which of the following is true for casting of below knee with a swelling**
    1. Back-slab covers whole limb circumference
    2. Partial cast is applied on the limb
    3. Spica is always used
    4. External fixator applied
13. **The purpose of reducing the elbow joint using the ‘100-900’ tricky is to:**
    1. Reduce pain at the elbow joint.
    2. Avoid creasing of the cast at the elbow joint.
    3. To improve blood circulation.
    4. To enhance healing of the fracture.
14. **Mallet finger splints are used for avulsions of extensor tendon. Which of the following describes this type of injury?**
    1. Tendon detaches from the bone
    2. Tendon becomes weak
    3. Tendon becomes inflamed
    4. Tendon is stretched out
15. **A lady presents with swelling of hands with shiny skin. She had a history of fracture of radius and kept on P.O.P cast for 4 weeks. The most likely diagnosis is?**
    1. Mansion
    2. Myositis ossificans progressiva
    3. Reflex sympathetic syndrome
    4. Rupture of extensor pollicis longus tendon
16. **Which of the following is NOT an advantage of fiber glass cast?**
    1. Fiber glass cast will retain its structural integrity in water
    2. Fiber glass cast is light weight yet strong
    3. Fiber glass cast will not expand to accommodate any swelling
    4. Fiber glass cast comes in many colours
17. **Thumb Spica splints are commonly used for injured thumbs and are usually worn until\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
    1. Swelling of injury goes away
    2. Injury is completely healed
    3. A person regains feeling in the thumb
    4. A person can move their thumb
18. **Which of the following types of finger splints is applied to only the tip of the finger**
    1. Buddy taping
    2. Finger Spica splint
    3. Dorsal extension-block splint
    4. U-shaped splint
19. **During cast removal, the patient may get injuries from the cast saw blade due to the following reasons EXCEPT**
    1. Dragging the blade up and down motions
    2. Blood stained casts
    3. Due to edema
    4. Resin based materials
20. **A cast is usually wedged to do which of the following:**
    1. Relieve swelling
    2. Properly align a reduced-displaced fractured bone
    3. Reduce skin irritation
    4. Permit suture removal
21. **Which of the following is not one of the signs and symptoms of cast sores?**
    1. Local heat.
    2. Loose cast.
    3. Burning sensation.
    4. Offensive smell.
22. **Cylinder cast is indicated to the following conditions EXCEPT**
    1. Malleoli fracture
    2. Knee dislocations
    3. Patella fractures
    4. Knee sprains
23. **Both posterior ankle splints and bulky Jones splints are used for fractures of the malleolus. What is malleolus?**
    1. A bone in the middle of the foot
    2. The bone at the base of the big toe
    3. The round bone that sticks out from the sides of the ankle joint
    4. The bone that makes up the heel of the foot
24. **Which situation would a splint NOT be the best choice of treatment**
    1. A patient with finger dislocation
    2. A patient with non-displaced , closed fracture
    3. A patient with a sprained ankle joint
    4. A patient with tendonitis of the elbow.
25. **In a minimally displaced fracture of the proximal humerus with impacted fragments, the major treatment is:**
    1. Immobilization in hanging arm cast
    2. Immobilization in an elevated cast
    3. Immobilization with a sling and swathe
    4. Immobilization in a U-slab
26. **When long arm casts are applied, the elbow joint is usually bent at \_\_\_\_\_\_degrees.**
    1. 450
    2. 600
    3. 900
    4. 1200
27. **Which type of cast will you apply on a dislocated-reduced elbow joint?**
    1. Hanging cast.
    2. Above elbow posterior slab.
    3. Above elbow cast.
    4. U-slab
28. **What is the reason for applying P.O.P cast diagonally?**
    1. To have a firm cast.
    2. To prevent cast breakages.
    3. To avoid tourniqueting the limb
    4. To increase the strength of the cast.
29. **Which are NOT the possible areas of applying reinforcement sticks on casts?**
    1. At knee joint of above the knee cast.
    2. At the hip joint of hip spicas.
    3. At the level of fracture site on the cast.
    4. Along the shafts of the casts
30. **Short arm casts are frequently used for Colle’s fractures. Where do Colle’s fractures occur?**
    1. On the radius near the wrist
    2. On the radius near the elbow
    3. On the ulna near the elbow
    4. On the ulna near the wrist
31. **Which of the following is a benefit of treatment using a splint**
    1. Splints are water proof, so that one may continue with their daily swimming
    2. Splints permit swelling, thereby reducing the risk of neurovascular compromise
    3. Splints cannot be removed, providing a constant stable environment for healing
    4. Splints can be removed, so that the patient can put it on and off as much as they want
32. **Why is the bulky Jones splint called “ bulky”**
33. It is mostly used for injuries that result in the ankle being very swollen
34. The ankle is first wrapped with a thick cotton wrap before the splint is applied
35. Splint is made up of a very thick metal material
36. The person who created this type of splint was named Bulky Jones.
37. **When a volar/dorsal and single sugar-tong splints are applied, the wrist is usually in an\_\_\_\_\_position**
38. Extended
39. Flexed
40. Abducted
41. Adducted
42. **Which of the following people would mostly need to use a volar/dorsal splint**
43. Larry, who sprained wrist
44. Dan, who fractured his ulna
45. Bretty, who fractured his radius
46. Mike, who just had surgery to his wrist and hand
47. **Knee injuries can be classified according to sprains, fractures, inflammatory, and**
48. Lacerations
49. Strains
50. Abrasions
51. contractures
52. **A patient on a lower limb cast with a callus forming fracture is advised to bear weight so as to:**
53. Reduce pain.
54. Prevent re-displacement of the fracture.
55. Increase calcification of the fracture.
56. Gain mobility.
57. **Which of the following is NOT diseases of the cast:**
58. Joint stiffness.
59. Osteoporosis.
60. Plaster sores.
61. Callus formation.
62. **Which one of the following is an indication for aero-plane cast in children?**
63. Club foot.
64. Congenital dislocation of the hip.
65. Erb’s palsy.
66. Achondroplasia.
67. **After how long will you remove a lower limb cast from an adult patient?**
68. 6 weeks.
69. 3- 4 months.
70. 8 weeks
71. 6 months,
72. **Which of the following is a reason for applying anti-rotational bars on casts?**
73. Above knee unilateral casts
74. Below knee casts
75. Above knee bi-lateral casts
76. One and a half hip Spica

**SECTION B: SHORT ANSWER QUESTIONS**

1. Highlight five types of upper limbs splints/casts (**5marks)**
2. Mention five indications of above elbow casts (**5marks)**
3. Mention five injuries that can be managed by a boot cast (**5marks)**
4. List five causes of injuries by saw blade. (**5marks)**
5. Highlight five advantages of fibre glass over P.O.P Cast (**5marks)**
6. List five items used during Cast application (**5marks)**
7. List five indications of a posterior splints (**5marks)**
8. Explain the rule of splintage. (**5marks)**

**SECTION C: LONG ANSWER QUESTION (20 Marks)**

1. Discuss 5 types of slabs,there indications and there contra- indications