

**KENYA MEDICAL TRAINING COLLEGE**

**FACULTY OF CLINICAL SCIENCES**

**DEPARTMENT OF ORTHOPAEDIC & TRAUMA MEDICINE**

**FINAL QUALIFYING EXAMINATION**

**FOR**

**DIPLOMA IN ORTHOPAEDIC & TRAUMA MEDICINE**

**PAPER: TRAUMA**

**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 ………………………………………………………………

**SECTIO N A: MULTIPLE CHOICE QUESTIONS (40 Marks)**

1. **The amount of heat produced during casting does NOT depend on:**
2. Amount of water used.
3. Temperature of the water used.
4. The number of layers applied.
5. Manufactures specifications.
6. **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
7. **A long arm posterior splint is applied to the underside of the arms and extends from the proximal palmer crease all the way to the axilla. What is axilla?**
8. Top of the deltoid muscle
9. Mid-point of the upper arm
10. Armpit
11. Lateral part of the clavicle
12. **Functions of the tabular gauze/stockinette include the following EXCEPT:**
13. It is skin tight cast.
14. It helps prevent the limb-hairs from becoming caught in the plaster.
15. It removes any roughness caused by the plaster casts edges.
16. It aids in the removal of the cast.
17. **Cork up splint is used to manage:**
18. Foot drop.
19. Shoulder dislocation.
20. Wrist drop.
21. Mal-union of fractures.
22. **Figure of 8 bandage can best be applied to manage which orthopedic condition?**
23. Ankle joint sprains.
24. Fracture olecranon process.
25. Skull fractures.
26. Fractures of the ribs.
27. **Long arm posterior splints and double-sugar tong splints are used with fractures to the olecranon process. Olecranon is a bony prominence located at the top of the**
28. Radius
29. Ulna
30. Humerus
31. Acromion
32. **Choose the proper foot position for applying a posterior ankle or stirrup splint.**
33. Foot pointed towards the floor
34. Foot pointed towards the ceiling
35. Foot approximately at 900 angle with the lower leg
36. Foot turned in slightly to stretch the outer ankle
37. **What is the purpose of using ice cold compressions in the management of STIs.**
38. To vaso-dilate the blood vessels.
39. To increase blood circulation.
40. To make the limb cold.
41. To vaso-constrict the blood vessels.
42. **The bulky Jones splint is a specific type of stirrup splint. What is the difference between a stirrup splint and a bulky Jones splint?**
43. A bulky Jones splint is longer
44. A bulky Jones splint is made of elastic bandages
45. A bulky Jones splint requires the lower leg to be wrapped in cotton padding
46. A bulky Jones splint is only used for children
47. **Which material is NOT typically used for posterior ankle or stirrup splints?**
48. Plastics
49. Wood
50. Fiberglass
51. Plaster
52. **What do you understand by the term ‘100-900’tricky?**
53. Reduce the elbow joint to 1000 then back to 900.
54. Reduce the elbow joint to 900 then 1000.
55. Reduce the knee joint to 1000 then back to 900.
56. Reduce the knee joint to 900 then 1000.
57. **When you mix P.O.P in water, there is production of bubbles, this is due to:**
58. Heat production.
59. Thermal expansion of P.O.P.
60. Formation of gypsum molecules.
61. Drying of the cast.
62. **What do you understand by the term ‘green period’ in casting?**
63. Grace period when modeling of the cast can be done.
64. Period when the fracture is fresh.
65. Period when the cast is producing bubbles.
66. Period when the cast cannot break.
67. **Windowing of a cast is done to:**
68. Correct deformities.
69. Inspection of the cast.
70. Allow dressing of the wound.
71. To make the cast cosmetic.
72. **When ulna gutter and radial gutter splints are applied, the fingers are usually placed in a\_\_\_\_\_ position**
73. Straight
74. Slightly extended
75. Flexed and rounded
76. Slightly pronated
77. **Which of the following is NOT a disadvantage of oscillating plaster machine?**
78. Not easy to cut dry casts
79. Produces scary noise
80. Can easily cause burns
81. Cannot be used without electricity
82. **What do you understand by the rule of two in casting:**
83. Two patients, two practitioners, two limbs.
84. Two X-rays, two joints, two practitioners.
85. Two applications, two X-rays, two patients.
86. Two days, two joints, two X-rays.
87. **Both the long arm posterior splint and the double sugar-tong splint are applied to the arm with the elbow bent at a\_\_\_ degree angle.**
88. 45
89. 60
90. 90
91. 125
92. **Single sugar-tong splints usually begin at the proximal palmer crease, extend down the forearm, wrap round and under the elbow, extend up the back of the fore arm and end at the\_\_\_\_\_**
93. Base of the wrist
94. Tip of the fingers
95. Base of the fingers
96. One inch below the wrist
97. **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
98. **Which of the following is an indication for creating a window at the heel side of a lower limb cast?**
99. Below knee slabs.
100. Above knee casts.
101. Lower limb casts on cerebral palsy patients.
102. Lower casts in children.
103. **Which of the following is NOT a reason for serial casting:**
104. Fractures of tibia-fibula.
105. Congenital talipes equino varus.
106. Correction of joint contractures.
107. Repaired tendon Achilles.
108. **Hard cervical collars are NOT indicated for:**
109. Whiplash injuries.
110. Fractures of cervical region.
111. Injuries around the hip in women.
112. Prolapsed intervertebral discs of the neck.
113. **Which of the following is a possible indication for a white man P.O.P cast?**
114. Vertebral discs fractures.
115. Pelvic fractures.
116. Shoulder joint fractures.
117. Sternum fractures.
118. **Which of the following is the COMMONEST cause of cast related compartmental syndrome?**
119. A firmly cast.
120. A tight cast.
121. An elevated limb in a cast.
122. Long leg cast.
123. **A patient on a lower limb cast with a callus forming fracture is advised to bear weight so as to:**
124. Reduce pain.
125. Prevent re-displacement of the fracture.
126. Increase calcification of the fracture.
127. Gain mobility.
128. **Which one the following is NOT a rule of splintage:**
129. Prolonged duration of casting.
130. Have uninterrupted casting procedure.
131. Have a rigid cast for adequate mobilization.
132. Extend the cast to accommodate two joints.
133. **Mono-valving is indicated for:**
134. Severe edema.
135. Minimal edema.
136. Wet cast.
137. Un-uniting fracture.
138. **Choose the proper foot position for applying a posterior ankle or stirrup splint.**
139. Foot pointed towards the floor
140. Foot pointed towards the ceiling
141. Foot approximately at 900 angle with the lower leg
142. Foot turned in slightly to stretch the outer ankle
143. **Rest as used in management of orthopaedic and trauma conditions simply means:**
144. Patient to sleep always.
145. Patient to sit on the chair.
146. Patient to have reduced activities after immobilization.
147. Patient not to walk
148. **Orthopaedic technologists are a family of orthopaedics that are specialists in:**
149. Exercising the patient.
150. Fine tune maneuvers to restore functions.
151. Fabrications of orthotics and prosthetics.
152. Surgery of orthopaedic patients.
153. **A patient on a lower limb cast with a callus forming fracture is advised to bear weight so as to:**
154. Reduce pain.
155. Prevent re-displacement of the fracture.
156. Increase calcification of the fracture.
157. Gain mobility.
158. **Areas that should be well padded include:**
159. Pressure tolerant areas.
160. Pressure sensitive areas.
161. Unanticipated swelling regions.
162. Bulky muscle regions.
163. **Patients with knee injuries will benefit from which of the following treatments?**
164. Rest, ice, compression, elevation
165. Hiking, ice, long term splint use, sunlight
166. Rest, traction, massage therapy, gait therapy
167. Heat, exercise, water therapy, pain medication
168. **The importance of applying Wool padding in plaster of Paris application is**
169. To protect the bony prominences and increase comfort to the patient
170. To protect the skin from sweating
171. To protect the skin when cutting with oscillating machine
172. To act as a reinforcement material
173. **Hanging cast is indicated for which fracture**

a) Supracondylar humerus

b) Clavicular

c) Colles

d) Mid shaft humerus

1. **Which of the following is Not a best advice to give the patient after cast application?**
2. Always elevate the limb to the level above the heart
3. Do not pour water onto the cast
4. Exercise the exposed digits
5. Patient must be reviewed after 24 hours
6. **What period of time do fractures of lower limb in children takes to unite**
7. 2 weeks
8. 3 months
9. 6 weeks
10. 4 weeks
11. **Which of the following is NOT true about removal of casts**
12. Do check X-ray after removal of the cast
13. Cut in coronal plane while removing cast on the lower limbs
14. Cut in sagittal plane while removing cast on the upper limbs
15. Refer the patient for rehabilitation services after removal of the cast

**SECTION B: SHORT ANSWER QUESTIONS (40 Marks)**

1. Outline five purposes of casts **(5marks)**
2. Highlight five indications for use of P.O.P **(5marks)**
3. Outline five advantages of P.O.P **(5marks)**
4. List five benefits of using standard plaster of Paris **(5marks)**
5. Outline five rules of application of P.O.P Casts **(5marks)**
6. Outline five complications P.O.P Casts **(5marks)**
7. Outline five signs suggestive of plaster sores. **(5marks)**
8. Outline five ways of managing swelling of a limb in a cast. **(5marks)**

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

1. Discus Five complications of P.O. P Casts. 20marks