



**KENYA MEDICAL TRAINING COLLEGE
FACULTY OF CLINICAL SCIENCES
DEPARTMENT OF CLINICAL MEDICINE**

**FINAL QUALIFYING EXAMINATION
FOR
DIPLOMA IN CLINICAL MEDICINE AND SURGERY**

PAPER: SURGERY

DATE: 24th February, 2021

TIME: 3 HOURS (9:00AM – 12:00 NOON)

INSTRUCTIONS

1. This paper consists of:
 - Section 1 (40 Multiple Choice Questions)
 - Section 2 (8 Short Answer Questions)
 - Section 3 (1 Long Answer Question)
2. Attempt **ALL** Questions
3. Write the **EXAMINATION NUMBER** given on all the answer sheets provided and on the question paper.
4. Ensure that all examination answer scripts are handed in at the end of the examination
5. Ensure you sign the examination register provided

EXAMINATION NUMBER

SECTION 1: MULTIPLE CHOICE QUESTIONS - (40 MARKS)

1. The surgical term for excision of an organ starts with the name of the organ to be excised and ends with the suffix
 - a) -otomy
 - b) -oplasty
 - c) -ostomy
 - d) -ectomy
2. A 25-year-old female patient with moderately enlarged thyroid gland is suspected to have hyperthyroidism. She is likely to have all the following features except
 - a) Bradycardia ✓
 - b) Palpitations ✓
 - c) Fine tremors in the hands ✓
 - d) Exophthalmos ✓
3. Which one of the following statements about spinal column injuries is untrue?
 - a) Significant disruption of the thoracic spine requires major energy transfer and associated visceral and vascular injuries are common
 - b) The thoracolumbar junction is quite flexible and is thus not prone to injury
 - c) Upper cervical cord injury is uncommon as the canal is spacious
 - d) The cervico-thoracic junction is a transitional zone, as is thus prone to injury
4. A 5 year old boy presents with severe pain in his leg just below the knee joint and inability to use the limb for two days. He gives a history of mild trauma to the leg while playing football about five days ago. On examination, his temperature is 39 degrees celcius, and has a markedly tender swollen leg near the knee. There is no crepitus. Which one of the following actions will you carry out first for this patient?
 - a) Give high dose intravenous antibiotics immediately to neutralize any infection
 - b) Administer intravenous fluids immediately*
 - c) Take blood sample for culture and sensitivity then start on antibiotics'
 - d) Send the patient for x-ray of the limb immediately to confirm the diagnosis'
5. Which one of the following injuries of the cervical spine is most likely to be stable
 - a) Dislocation
 - b) Flexion subluxation
 - c) Wedge compression fracture
 - d) Fracture dislocation
6. A 28 year old male patient weighing 60kg is brought to your facility with burns of his whole anterior trunk, after scalding by his wife following a quarrel. Using Parkland's formula, how much fluid will you administer to him over the 24 hour period following the burn incident
 - a) 2400ml
 - b) 4320 ml
 - c) 2160 ml
 - d) 4800 ml
7. Which one of the following is not an extrinsic factor that leads to the formation of decubitus sores
 - a) Sensory loss
 - b) Pressure
 - c) Friction

- d) Moisture
8. Regarding pneumothorax
- Spontaneous pneumothorax is due to trauma
 - Severe pneumothorax causes ipsilateral lung collapse
 - Open pneumothorax is that which communicates freely with the bronchi
 - Tension pneumothorax causes mediastinal shift towards the involved side
9. The most common causative organism for cellulitis is
- Staphylococcus aureus
 - Clostridium perfringens
 - Pseudomonas aeruginosa
 - Beta-haemolytic streptococcus
10. The following is a common site for impacted fracture
- Shaft of tibia
 - Mid shaft of humerus
 - Lower end of radius
 - Shaft of ulna
11. True about dry gangrene
- Occurs when venous as well as arterial blood flow is suddenly occluded
 - Infection and putrefaction are always present
 - Occurs when the tissues are desiccated by gradual slowing and cessation of blood flow
 - The affected part becomes swollen and discolored
12. Which one of the following is not a complication of duodenal ulcer
- Hour-glass constriction
 - Perforation
 - Ulcer bleeding
 - Pyloric stenosis
13. A young adult male patient with some septic spots on the legs presents to hospital with history of pain in his thigh anteriorly, which has continued to increase in intensity over the last three days. He now has fever, and the anterior mid part of the thigh is markedly tender and indurated. Aspiration with a long wide bore needle deep in his quadriceps produces pus. The most likely diagnosis is;
- Cellulitis
 - Pyomyositis
 - Carbuncle
 - Necrotizing fasciitis
14. Paradoxical breathing is a typical feeling;
- pneumothorax
 - flail chest
 - fracture of a rib
 - cardiac tamponade
15. On per abdominal examination in a patient with severe abdominal pain
- shifting dullness is a sign of gas in the peritoneal cavity
 - rebound tenderness suggests peritoneal irritation
 - palpation precedes auscultation^{^^}
 - the most painful part is palpated first

16. Following a road traffic accident, a patient present with severe right-sided chest pain and difficulty in breathing. On examination, his skin feels cold and clammy. He has reduced chest expansion and stony dullness on the right chest. This patient most likely has;
- emphysema
 - pneumothorax
 - haemothorax
 - empyema thoracis
17. Clinical tests of union of a fracture include all the following except
- absence of mobility between the fragment
 - absence of tenderness on firm palpation over the site of fracture
 - absence of pain when angulation stress is applied at the site of fracture
 - visible callus bridging the fracture and blending with both fragments
18. Regarding brain concussion in head injury
- it is characterized by transient neurologic dysfunction ✓
 - head CT scan clearly outline the lesion
 - it causes persistent coma in head injury patients
 - it results from widespread axonal shearing
19. An elderly female patient with body aches and malaise for the past one month has Bence-Jones protein in urine. Bone X-ray shows punched out osteolytic lesions in her skull, ribs and pelvic bones. Her condition is consistent with the diagnosis of;
- metastatic cancer of the breast
 - krukenberg tumour
 - multiple myeloma
 - osteogenic sarcoma
20. Regarding complications of fractures, cross union is most likely to be encountered in;
- fractures neck of femur
 - fractures of shafts of ulna and radius
 - malleolar fractures
 - fracture of the clavicle
21. An adult male patient has a painless swelling in his groin that comes on and off. It appears when he stands or strains and disappears when he lies flat on his back. On examination, you place your finger over his internal inguinal ring, and it restrains the swelling from protruding when the patient stands. The most likely diagnosis is;
- femoral hernia
 - direct inguinal hernia
 - strangulated hernia
 - indirect inguinal hernia
22. The term "sequestrectomy" is associated with the treatment of
- chronic osteomyelitis
 - osteogenic sarcoma
 - septic arthritis
 - multiple myeloma
23. Measurement of limb circumference provides an index of the following parameters, except;
- muscle wasting
 - soft tissue wasting

- c) length discrepancy
 - d) bony thickening
24. The fracture constantly demands immobilization to ensure union;
- a) fracture of a rib
 - b) fracture of the neck of femur
 - c) fracture of the scapula
 - d) fracture of the clavicle
25. In head injury, contra coup injury;
- a) occurs under the site of impact with an object
 - b) occurs on the side opposite the area that was hit
 - c) is a basal skull injury with CSF leakage
 - d) is an injury that does not cause bruising of brain tissue
26. In a child with hydrocephalus, a CT scan finding showing dilated lateral and third ventricles with normal fourth ventricle, indicates the cause of the hydrocephalus to be;
- a) stenosis of foramina of Munro
 - b) cerebrospinal fluid overproduction
 - c) stenosis of foramina of Magendie and Luschka
 - d) stenosis of aqueduct of Sylvius
27. This condition presents as a polyarthritis of symmetric distribution, with a higher incidence in the more peripheral joints;
- a) osteoarthritis
 - b) gouty arthritis
 - c) rheumatoid arthritis
 - d) tuberculous arthritis
28. A lower limb cylinder cast is used for the treatment of;
- a) simple fracture of tibia and fibula
 - b) undisplaced fracture of the patella
 - c) fracture of distal femur
 - d) malleolar fractures
29. A cause of functional intestinal obstruction is;
- a) hernia
 - b) spinal injury
 - c) ascaris lumbricoides infestation
 - d) adhesions
30. A 6-year-old boy is brought to you with complaints of ballooning of the foreskin and discomfort during micturition. On examination, his foreskin is tight and cannot be pulled back over the glans penis. This condition is called
- a) epispadias
 - b) paraphimosis
 - c) hypospadias
 - d) phimosis
31. Salter-Harris classification in which there is separation of the epiphysis at the growth plate without damage to the metaphysis or epiphysis is;
- a) Salter-Harris type III
 - b) Salter-Harris type IV

- c) Salter-Harris type I
d) Salter-Harris type II
32. In the management of orthopaedic conditions, the operation for the reconstruction of a damaged joint to a new movable joint is termed as;
a) synovectomy
b) arthrotomy
c) arthrodesis
d) arthroplasty
33. Internal haemorrhoids that prolapse through the anus upon straining but spontaneously reduce are classified as;
a) Grade II
b) Grade III
c) Grade I
d) Grade IV
34. A U-slab is used for the treatment of which one of the following injuries
a) fracture of the scaphoid bone
b) fracture of the clavicle
c) fracture of the mid-shaft of humerus
d) fracture of the olecranon process of ulna
35. You are called to review a 20-year-old post-operative male patient who has had a knee surgery under spinal anaesthesia. The patient is not catheterized and is on intravenous infusion of normal saline. He complains of severe discomfort in his lower abdomen, but cannot exactly tell what the problem is. On examination, the patient has a distended suprapubic area. It has been four hours since he came from theatre. What impression do you make?
a) acute intestinal obstruction
b) acute appendicitis
c) pelvic abscess
d) acute urine retention
36. Which one of the following conditions is incorrectly matched with its presentation
a) high small bowel obstruction – Massive abdominal distension
b) gastric outlet obstruction – succession splash
c) large bowel obstruction – early onset of vomiting
d) Achalasia – Bile stained vomitus
37. Acute cholecystitis
a) is inflammation of the urinary bladder
b) is due to obstruction at the sphincter of oddi
c) follows obstruction of the cystic duct
d) causes jaundice
38. "Light bulb" appearance is seen in the following injury;
a) posterior dislocation of the shoulder joint
b) fracture of the capitulum
c) dislocation of the ankle joint
d) dislocation of the elbow joint

39. A 22-year-old male presents with severe pain in the right lower quadrant of his abdomen. Which of the following differential diagnosis would you not enlist?
- acute appendicitis
 - acute salpingitis
 - acute ureteric colic
 - Meckel's diverticulitis
40. "Onion Peel" appearance on X-ray of a long bone in a patient with painful swelling of his limb is characteristic of;
- osteomyelitis
 - osteosarcoma
 - giant cell tumor
 - Ewing's sarcoma

SECTION 2: SHORT ANSWER QUESTIONS - (40 MARKS)

- Briefly describe the clinical presentation of infantile hypertrophic pyloric stenosis, highlighting at least ten features **(5 marks)**
- List five (5) post-operative complications of thyroidectomy **(5 marks)**
- State ten (10) indications for in-patient admission of an adult patient with burns **(5 marks)**
- State five (5) common sites for pressure sores in bed-ridden spinal injury patients **(5 marks)**
- Outline ten (10) typical clinical features of female breast cancer **(5 marks)**
- Highlight five (5) key clinical features of tension pneumothorax **(5 marks)**
- Enumerate five (5) indications for use of external fixators in managing orthopaedics and trauma patients **(5 marks)**
- Outline ten (10) clinical features of acute appendicitis **(5 marks)**

SECTION 3: LONG ANSWER QUESTION - (20 MARKS)

- Following a road traffic accident involving a head-on collision, a passenger in one of the vehicles sustains an injury you diagnose as posterior dislocation of the hip.
 - Describe the mechanisms of injury of this patient's hip **(2 marks)**
 - Describe the patient's clinical presentation **(5 marks)**
 - Describe the X-ray findings for this injury **(5 marks)**
 - Describe the treatment of this patient's conditions **(3 marks)**
 - State the possible complications associated with this patient's injury **(5 marks)**

