



The University of Fiji

Umanand Prasad School of Medicine

Department of Clinical Sciences

Year 2019

FINAL COURSE EXAMINATION PAPER

SURGERY 602

Important Instructions to Students:

1. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper.**
3. Silent, non-programmable calculators are allowed, but not supplied.
4. Write all your answers in the answer booklet provided. If you need extra sheets, please ask from the supervisor. Write your name, course code and student identification number on the examination sheets and on the attendance sheet as they function as your course booklet.
5. **This Final Course Examination Paper is worth 200 marks contributes 70% of the total course assessments.** Students must **at least score 40%** in this final exam to pass the course.
6. This paper contains four (4) sections A, B, C, D, E and F. Try to answer all questions.
7. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
8. This is a **Closed Book Examination.** The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

Examination Paper Content

<u>Section</u>	<u>Question</u>	<u>Content</u>	<u>Marks</u>	<u>Suggested Time</u>
A	1-100	Multiple Choice	100	60minutes
B	1-25	Definitions	100	20minutes
C	1-25	Mensuration	100	20 minutes
D	1-25	Etymology	100	20 minutes
E	1-20	Describe	100	20 minutes
F	1-5	Diagrams	100	40 minutes
		TOTAL	200	180 Minutes

Section A 1-100-NameID _____ MCQ 1x100=100 Marks

1. The clinical term "I and D" an abscess most closely relates to:
 - a) To culture in a Petri dish
 - b) Incorporate and drain
 - c) Probable use of the "Hilton" method
 - d) Incise and drain blood
2. The term 'sepsis' basically means:
 - a. Negative transformatively
 - b. To become coal black with pus
 - c. Disturbed by changes in pH and alkalinity
 - d. From sapein "To rot", "putrefaction"
3. Pus is basically which of the following:
 - a) A thick watery liquid
 - b) A bloody liquid
 - c) A polydactic protein fluid
 - d) An exudate rich in protein
4. Which is the same as a "Petri dish"
 - a. Transparent culture dish
 - b. A sophisticated garbage can
 - c. Opaque dish for cells
 - d. Centrifuge chamber
5. Fournier's specialty was:
 - a. Pulmonary medicine
 - b. Surgery
 - c. Pediatrics
 - d. Venereology
6. "Fractured bone" basically means:
 - a. Break in continuity of the bone usually x-ray visualized
 - b. Disruption of Sharpey's fibers on a biopsy specimen
 - c. Cutting Volkmann's canals as they penetrate the dura
 - d. Replacing osteocytes with granulocytes
7. Which is true of a "compound fracture"
 - a. High chances of infection
 - b. Minimal possibilities of infection
 - c. The epidermis is intact with an underlying hematoma
 - d. High sensitivity to ultra violet light
8. Which is also true of a compound fracture:
 - a. Always life threatening
 - b. Not particularly bothersome
 - c. Very rare MVA's
 - d. Very serious for diabetics
9. Which type of fracture may be hard to see on an x-ray:
 - a. Comminuted
 - b. Stress
 - c. Compound
 - d. Diaphyseal

10. Diabetic foot sepsis or "DFS" is often associated with:
 - a. Limited to complete recovery
 - b. Amputations
 - c. Elevated serum ascorbic acid levels
 - d. Improving function
11. Fournier's gangrene is commonly found in which anatomic region:
 - a. Anterior cervical triangle
 - b. Under the rhomboids
 - c. Scapular areas
 - d. In the anogenital triangle
12. Fournier's gangrene is also described as:
 - a. A large pimple filled with fluid
 - b. Necrotizing fasciitis or Meleney's gangrene
 - c. Advanced metastases and rot
 - d. Semi-serious inflammation requiring dialysis
13. Fournier's gangrene is often seen at Lautoka hospital associated with:
 - a. Elevated blood glucose
 - b. Collagen autoimmune diseases
 - c. Elevated pH
 - d. Leukemia plus STEM's
14. Fournier's gangrene often cultures:
 - a. Hepatitis B virus
 - b. Mycobacterium leprae
 - c. Anaerobes and aerobes
 - d. Aspergillus plus prions
15. Meleney's gangrene is which type of infection:
 - a. Bone infection inclusive of marrow
 - b. Limited to the brain and meninges
 - c. Often fasciitis and subcutaneous tissue
 - d. Limited to abdominal organs
16. The "Hilton" method relates to:
 - a. Draining pus
 - b. Fournier's gangrene
 - c. Debridement of cellulitis
 - d. Removing a gangrenous tooth
17. Further, the Hilton method:
 - a. Always requires preoperative x-rays
 - b. Is usually sign of cancer
 - c. Is associated with skin grafting techniques
 - d. Involves gentle blunt dissection
18. Most situations requiring the Hilton method are:
 - a. Caused by viruses and prions
 - b. Easily treated by vaccines from attenuated sources
 - c. Usually advanced malignancies in diabetics
 - d. Associated with moderate to large amounts of pus

19. Carbuncles are often seen in which situation:
- Type II diabetic complications
 - Epistaxis
 - Healthy newborns
 - Common cold
20. Carbuncles often involve which particular surgical treatment
- Wide drainage and excision
 - Fine needle aspiration biopsy
 - Application of penetrating x-rays
 - Primary compression dressings
21. Carbuncles often require
- Simple continuous suture closure
 - No dressings whatsoever
 - Split thickness skin grafting
 - Application of isopropyl alcohol dressings
22. Carbuncles are often found in which area of the body:
- Periumbilical area
 - Places where hair is scarce
 - Back and nape of the neck
 - Around the eyes and ears
23. Carbuncles often start in what structures:
- Nail beds
 - Taste buds
 - Hair follicles
 - Lacrimal glands
24. Even a properly treated carbuncle will often result in which:
- Major scarring where it occurs
 - Complex fractures
 - Amputation of a leg
 - Carcinoma of the CNS
25. The word 'carbuncle' literally means:
- Diabetic foot sepsis
 - Like fungus balls
 - "None of your business..."
 - Something like "Fiery jewels"
26. Treatment of carbuncles often involves:
- Needle aspiration
 - There is no know treatment
 - The Hilton method
 - Wide excision and debridement
27. Carbuncle treatment frequently involve use of:
- Non ionizing adiation
 - Skin grafting
 - Tetanus antitoxin or Tdap
 - Plaster of Paris

28. Steel is basically an alloy of iron and:
- Sulfur
 - Copper
 - Carbon
 - Aluminum
29. Stainless steel is a steel alloy containing which element:
- Chromium
 - Tin
 - Zinc
 - Aluminum
30. Gel based hospital hand sanitizers often contain which of the following:
- CN
 - AgNO_3
 - Bleach compounds
 - Ethanol
31. Such hand sanitizers can also contain which of the following:
- Boric acid crystals
 - Table sugar
 - Glucose
 - Isopropyl alcohol
32. Which of the following most commonly relates to "pyomyositis?"
- The digastrics and pectorals
 - The quadriceps and hamstrings
 - The anconeus and semispinalis
 - The flexi carpi ulnaris and sesamoid structures
33. The word "pyo" basically means:
- Watery
 - Pus
 - Silk
 - Virus
34. The 'indwelling catheter' was invented by:
- Dr. Niels Røvsing
 - Dr. Louis Pasteur
 - Dr. Frederic Foley
 - Dr. Edwin Hubble
35. The rule of "nines" is most important in which type of situation:
- Sepsis
 - Multisystem organ failure
 - Radiation trauma
 - Burn trauma
36. Who is credited with publishing the "Rule of Nines"?
- Cardiologist Wilhelm His
 - Alex Wallace
 - Louis Pasteur
 - Anton van Leeuwenhoek

37. The term "GCS" relates most closely to:
- Cardiac failure secondary to fluid overload
 - Damage to the area of the Bregma
 - Hairline fractures of neck of the femur
 - Liver abscess
38. Lipomas are always:
- Frequently malignant
 - Benign or non-metastatic
 - Often found near the mitral valve
 - Never noted near the azygous system
39. Bedsores are basically caused by:
- Lymphedema
 - Pressure induced ischemia
 - Faulty interstitium
 - Faulty ischial tuberosities
40. The word 'staph' basically means:
- Pineapple like
 - Cluster of beetles
 - Bunch of grapes
 - Massive fungus overgrowth
41. The 'strepto' basically means:
- Twisted
 - Coiled and ready to strike
 - Linearly organized
 - Smashed
42. The word pimple basically means:
- Having shingles
 - Crusted scabs
 - Pustule
 - Lethal and small
43. In medicine the term MRSA means:
- Most RNA seen around
 - Methicillin rich serum agglutinate
 - Methicillin resistant staph aureus
 - More resistant nuclear albumin
44. In medicine the term ORSA means:
- Ortho right structured orthotics
 - Oxacillin resistant staphy aureus
 - Otherwise random section apps
 - Ornithine random staph auricular
45. MRSA develops in part by:
- Mitochondrial shifting
 - Natural selection promoted by temperature variability
 - Cross typing and rerecognition
 - Vertical and horizontal gene transfer

46. Likewise, it also includes the mechanism of:
- Response to evolutionary stress factors
 - Local membrane remodification chemistry
 - RNA mistakes and Golgi shut down
 - Basic dynamic clustering
47. MRSA does not apply to which antibiotic:
- Penicillin
 - Oxacillin
 - Chloromycetin
 - Cephalosporins
48. MRSA is most troublesome in which situations:
- Sports stadiums
 - Non nosocomial environments
 - People in small elevators
 - Nursing homes
49. Which situation likely promotes MRSA:
- ASA taking patients
 - Immune compromised patients
 - A doctor's private office
 - Crowded lecture halls
50. Nosocomial basically means:
- Related to nursing care
 - Associated with drug manufacturing
 - Hospital acquired
 - Found in the military
51. Gangrene literally means:
- To swallow whole
 - To have a bad odor
 - That which eats away
 - To resemble blood
52. Comminuted fracture basically means:
- Disruption of all Sharpey's fibers
 - Bone broken into no more than two pieces
 - Cutting Volkmann's canals
 - Bone broken into multiple fragments
53. Which is true of a "stress fracture"...
- May be invisible on a standard x-ray study
 - Usually associated with significant blood loss
 - Common in skull bones
 - Is usually painless
54. You would expect to find an epiphyseal line in:
- An infant
 - A 16 year old male
 - An 18 year old female
 - A 35 year old female

55. You would expect to find an epiphyseal plate in:
- A 6 year old child
 - A 26 year old male
 - A 30 year old female
 - A 40 year old male
56. Plaster for fractures is made of:
- Iron carbonate
 - Calcium borate
 - Calcium sulfate
 - Magnesium silicate
57. Fracture of which bone may permit weight bearing at the time of injury:
- Neck of the femur
 - Fibula
 - Tibia
 - Shaft of the femur
58. Volkman's canals are associated with:
- Healthy cartilage
 - Passage of blood vessels
 - Diseased Haversian systems
 - Apoptosis
59. Sharpey's fibers are associated with:
- Periosteum
 - Osteocytes
 - Osteoblasts
 - Cartilage
60. The basic structural unit of bone is:
- Lacuna formations
 - The osteon
 - The Volkman factor
 - The diaphysis
61. Healthy bone maintenance depends on which cell:
- Osteon
 - Osteocyte
 - Osteoblast
 - Osteoclast
62. Bone resorption depends on which cell:
- Osteoclast
 - Osteoblast
 - Osteophyte
 - Osteoprogenitor
63. Which bone cell is capable of cell division:
- Osteocyte
 - Osteoprogenitor
 - Osteoclast
 - Osteoblast

64. Which bone cell does not derive from the osteoprogenitor cell:
- Osteoclast
 - Osteocyte
 - Osteoprogenitor
 - Osteoblast
65. This bone does not articulate with any other bone:
- Sternum
 - Ilium
 - Ishium
 - Hyoid
66. Blunt trauma to face: which bone is not a part of the ocular orbit?
- Lacrimal
 - Maxilla
 - Occipital
 - Zygoma
67. In suturing a scalp laceration, the deepest layer is called:
- Skin or hypodermis
 - Periosteum or pericranium
 - Connective tissue or capillary bed
 - Aponeurosis or epithelium
68. Your patient sustained a basilar skull fracture; which bone is NOT included:
- Occipital
 - Sphenoid
 - Ethmoid
 - Parietal
69. Which bone is the "keystone" bone of the skull?
- Vomer
 - Ethmoid
 - Sphenoid
 - Frontal
70. Battle's sign is associated with what type of injury:
- Stabbing of the abdomen
 - Chest trauma
 - Fracture neck of the femur
 - Base of skull fractures
71. Raccoon eyes are associated with what type of trauma?
- Basilar skull fractures
 - Hepatic trauma
 - Pancreatitis
 - Fractures of the humerus
72. The Edinger Weshphal nucleus is associated with:
- Penetrating abdominal injuries
 - Duodenal ulcers
 - Head injuries
 - Burns

73. Ludwig's angina involves which part of the body?
- Chest and mediastinum
 - Head and neck
 - Pelvis
 - The knee
74. Which skull bone does not normally contain sinuses?
- Frontal
 - Ethmoid
 - Mastoid
 - Occipital
75. Which bone is often fractured in strangulation?
- Ethmoid
 - Cricoid
 - Mandible
 - Hyoid
76. The largest cartilage of the larynx is the:
- Epiglottis
 - Carina
 - Thyroid
 - Cricoid
77. Another name for C1 is:
- Axis
 - Vertebral prominens
 - Atlas
 - Manubrium
78. C2 is also known as the:
- Atlas
 - Vertebral prominens
 - Axis
 - Epiglottis
79. C1 articulates with the:
- C7
 - Zygomatic arch
 - Occipital condyles
 - Parietal bones
80. Jefferson fractures often result from:
- Boxing trauma
 - Penetrating chest injuries
 - Diving into shallow water
 - Minor shakes of the head
81. Hangmans's fracture basically involves:
- C1
 - C2
 - C3
 - T1

82. Which term is closely associated with acute appendicitis:
- Pitting edema
 - "V" tach
 - Abdominal rebound tenderness
 - Sharp CVA tenderness
83. The styloid process of the skull arises from which bony structure:
- Mastoid
 - Occipital
 - Frontal
 - Temporal
84. The ambient concentration of oxygen is usually about:
- 10-15%
 - 25-30%
 - 20-22%
 - More than 79%
85. ABG's of a patient is a collective term measuring which of the following:
- RBC count
 - Megakaryocytes
 - Serum bilirubin
 - PO₂ pH PCO₂
86. Oxygen saturation refers to:
- Level of carbon dioxide dissolved in blood
 - Megakaryocyte saturation
 - Monocytes saturation count
 - Hemoglobin oxygen binding sites
87. Ischemia basically means:
- Let run free
 - Infection is likely
 - No sensations noted
 - To hold back
88. The word anasarca basically means:
- Having shingles
 - Water throughout
 - Giving off foul odors
 - Is very painful
89. The word edema means:
- To swell
 - To shrink
 - To dry up
 - To drag down
90. Edema fluid is located in which space:
- Intracellular
 - Intravascular
 - Intramembranous
 - Interstitial

91. The word decubitus means:
- To lie down
 - Standing around
 - Same as horizontal
 - To stand up
92. Which condition does not usually require incision and drainage:
- Carbuncles
 - Big abscesses
 - A 15cm diameter abscess over the left deltoid region
 - Widespread cellulitis of the upper back
93. HPV is known to cause which condition:
- Acute gastritis
 - Chronic appendicitis
 - Warts
 - Basal cell carcinoma
94. HPV is well known to be associated with:
- Cervical cancer
 - Bronchogenic Ca
 - Night sweats
 - Breast malignancies
95. Which term applies to cervical collars:
- MRSA
 - FNA
 - Philadelphia
 - Turkey
96. Ampule scoring means:
- To scratch or incise
 - Counting the numbers
 - To make a rough patch
 - To identify nicely
97. Ampoule basically mean
- Bladder shaped
 - A large bottle
 - Small bottle
 - Giant abscess
98. Debridement basically means:
- Granulation in progress
 - Remove damaged tissues
 - To skin graft
 - Special dressing changes
99. Acute pancreatitis is often characterized by:
- Elevated amylase
 - Markedly elevated PSA
 - High troponin serum levels
 - Low T_3 and T_4 levels
100. Shifting dullness is associated with:
- Extremity swelling above the knees
 - Impaired cisterna chyli
 - Empyema and tension thorax
 - Low IQ performance

Section B 1- 25 Questions 4x25=100 Marks: Fill -in- Blanks 100marks with an accurate brief description

1. Stensen's duct

2. Intussusception

3. Function of:

A- osteocytes _____

B- osteoblasts _____

C- osteoprogenitor cells _____

D- osteoclasts _____

4. Name the 9 cartilages of the larynx

e=2 _____

a. _____

b. _____

c. _____

d. 3 pairs each of _____

f=2 _____

g=2 _____

5. Compound fracture.

6. Meckel's diverticulum-the 'Rule of 2's' (five common factoids)

a. _____

b. _____

c. _____

d. _____

e. _____

7. Angle of Louis-location and importance

8. Basic pathophysiology of acute appendicitis:

9. Carbuncle: origin of name and significance:

10. Pus

11. DFS

12. Inflammation: general description, the well known 5R's:

R

R

R

R

R

13. Raccoon eyes-importance in trauma:

Battle's sign-importance in trauma;

14. Beck's triad-and clinical importance

a.

b.

c.

15. Empyema

16. Tension pneumothorax; what is it and why so dangerous?

17. Three types of commonly performed Biopsies;

18. Importance of preoperative "NBM"

19. Meaning of "descending colostomy"

20. Four outstanding well recognized indications for general surgical operations:

a. _____ b. _____

c. _____ d. _____

21. Two most common site/segment site for liver abscess; ie, the segments.

22. Term describing the most "Acute and lethal MI".

23. Testicular torsion

24. Sepsis

25. Hirschprung's disease

Section C 1- 25 Questions-mensuration: Answer questions to nearest whole number with accurate succinct responses: $4 \times 25 = 100$ marks Mensuration and descriptions: write clearly

1. Avg mass human brain
2. Avg mass adult human heart
3. Avg length esophagus
4. Avg mass adult tongue
5. Avg mass adult prostate
6. Avg mass adult spleen
7. Avg diameter RBC
8. Avg mass adult Right lung
9. Avg mass adult Left lung
10. Avg mass adult liver
11. Avg length adult femur
12. Avg length adult duodenum
13. Avg mass a single adult kidney
14. Avg cardiac stroke volume
15. Avg end diastolic volume
16. Avg heart beats/day (24hours)
17. Avg breaths/day (24hours)
18. Avg volume salivary output/day
19. Avg CSF made/day 24 hours
20. Avg % body mass the integumentary system
21. Avg % body mass the skeletal system
22. Avg total volume tears made/day
23. Avg # RBC's destroyed per second
24. Average TV tidal volume
25. Avg volume of pancreatic output/day

Section D 1-25 Etymology, definitions, meanings of words/terms. Write your short answers clearly: 4x25=100 marks

1. Ethmoid

2. Dura mater

3. Antigen

4. Sarcomere

5. Nephron

6. Meconium

7. Macrophage

8. Portal circulation

9. Pterygoid

10. Bregma

11. Pterion

12. Pons (as in the brainstem)

13. Carotid

14. Coronary

15. Ortho

16. Porphyrin

17. Appendix

18. Sinus

19. Fistula

20. Goodsall's rule

21. Urachus

22. Mediastinum

23. Auricle

24. Cerebellum

25. Pituitary

Section E 1-20 Eponyms: Fill in important definition information that attaches to or is described by this name/term: 5x20= 100mks

1. Dorothy Reed (as in Reed-Sternberg)

2. McBurney (as in an anatomic point)

3. Apgar Score

4. Down (as in syndrome)

5. Koch (as in postulates)

6. Potter (as in sequence)

7. Meckel (as in diverticulum)

8. Santorini (as in duct of)

9. Wirsung (as in duct of)

10. Stensen (as in duct of)

11. Lithotomy (as a type of surgical maneuver)

12. Lambdoid (as in suture)

13. Parietal

14. Obturator

15. Acetabulum

16. Glenoid

17. STEMI

18. Cremaster

19. Kehr's sign

20. Rovsing as in sign

Section F 1- 5 Medical diagrams-follow directions as you have before: 5x20 = 100 Marks

1.	2. In anterior anatomic view of the average 70kg adult diagram clearly the 'rule of nines'
3. Draw and label in anterior anatomic view the basic structures of the biliary system.	4. Diagram in <u>Right</u> anterior anatomic view the triangles of the neck.

5. In inferior anterior anatomic view draw a diagram of the Circle of Willis and its main named vascular branches.

