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# MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

## MAIN CAMPUS

## UNIVERSITY EXAMINATIONS

## 2022/2023 ACADEMIC YEAR

## SECOND YEAR, Second Trimester EXAMINATIONS

## FOR THE DEGREE

## OF

## BACHELOR OF SCIENCE IN PHYSIOTHERAPY

## COURSE CODE: BSP 321

**COURSE TITLE:** **GERONTOLOGY**

**DATE:** WEDNESDAY 12<sup>TH</sup> April 2023      **TIME:** 2:00-4:00 PM

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## INSTRUCTIONS TO CANDIDATES

**Answer all Questions**
Sec A:  Multiple Choice Questions (MCQ) 20 Marks
Sec B: Short Answer Questions  (SAQ)    (40 marks)
Sec C: Long Answer Questions   (LAQ ) ( 40 marks)

TIME:  2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

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**SECTION A: MULTIPLE CHOICE QUESTIONS** (20 marks)

1. What is the leading cause of postoperative morbidity and mortality in the elderly?
   A. Congestive heart failure
   B. Cerebrovascular accident
   C. Pneumonia
   D. Renal failure

2. Frailty is a major risk factor for postoperative complications. Which of the following measures does not contribute to frailty?
   A. Impaired recognition
   B. One or more falls in the past 6 months
   C. Osteoporosis
   D. Hematocrit < 35&

3. In older people which condition is more common
   A. Myocardial infarction
   B. Stable angina
   C. Newly diagnosed angina
   D. Unstable angina

4. A 74-year-old woman has pain in her left hand and right knee which started 1 month ago and is causing impairment. The pain gets worse as the day progresses. There is no history of trauma and she has no other comorbidities. O/E there is bony swelling soft tissue swelling on her 2$^{nd}$ and 3$^{rd}$ DIP joints and crepitus on the Rt knee on flexion. Which of the following is the most likely explanation the joint pain in OA?
   A. Synovial inflammation is not the cause
   B. Ligament inflammation is a common cause
   C. Clinically visible fractures are a common cause of pain
   D. Osteophytes can cause pain

5. Which of the following serum levels would help in distinguishing an acute liver disease from a chronic liver disease?
   A. Aminotransaminase
   B. Alkaline phosphate
   C. Bilirubin
   D. Albumin

6. A 69-year-old smoker has had dysphagia increasingly when eating solid foods for 3/12. He has dropped 8kg of weight in the last few months. Which investigations are likely to be done?
   A. Barium swallow
   B. Chest x-ray
   C. Endoscopy and biopsy
   D. CT scan

7. A 70-year-old chronic smoker attended the outpatient department with complaints of chronic productive cough, dyspnea, and wheezing. A chest x-ray was ordered and reported a hyperinflated lung with a flattened diaphragm. CBC shows an increase in hematocrit. What is the single most likely diagnosis?
   A. COPD
   B. Intestinal lung disease
   C. Lung cancer
   D. Amyloidosis

8. A 65-year-old has a long-standing history of RA, you note that there are presenting with subcutaneous nodules. Which joint is likely to be affected by the nodules?
   A. Occiput
   B. Feet
   C. Wrist
   D. Elbow

9. The least likely joint(s) to be affected by OA in the elderly?
   A. Hip joint
   B. Shoulder joint
   C. Metacarpophalangeal joint
   D. Knee joint
10. An 80-year-old man presented with pain in his lower back and hip. He also complains of waking up at night to use the washroom and has urgency as well as dribbling. What is the most likely diagnosis?
   A. Bladder carcinoma
   B. Prostatitis
   C. UTI
   D. Prostrate carcinoma
11. A disease characterized by increased fragility of bones due to a decrease in their calcium content:
   A. Osteoporosis
   B. Rheumatic fever
   C. Osteochondrosis
   D. RA
12. A 73-year-old presented with a shuffling gait with increasing forgetfulness which has been gradual on the onset. He has a long-standing history of hypertension and diabetes. There is a history of MIA 3 years ago and CVA 2 years ago. What is the most likely diagnosis?
   A. Alzheimer's
   B. Cerebrovascular disease
   C. Lewy body disease
   D. Parkinsonism
13. A 79-year-old has sudden loss of vision in the left eye. She is taking warfarin and digoxin and has a long-standing history of chronic atrial fibrillation and hypertension. What is the likely diagnosis?
   A. Acute glaucoma
   B. Cranial arteritis
   C. Macular degeneration
   D. Retinal artery occlusion
14. Ageing is associated with multiple changes in the gastrointestinal system. What is the most clinically significant change in the gastrointestinal tract with aging?
   A. A reduction in gut motility
   B. A reduction in pancreatic secretions
   C. A reduction in small intestinal absorptive area
   D. An increased prevalence of atrophic gastritis
15. Which is not a physical consequence of malnutrition?
   A. Increased risk of infection
   B. Decreased likelihood of cardiac failure
   C. Delayed wound healing.
   D. Increase loss of subcutaneous fat
16. The most common risk factor(s) for the development of nosocomial infections in the elderly is which of the following?
   A. The length of time they are in the hospital and the number of times that they move wards.
   B. The presence of an invasive indwelling device and the degree of any underlying illness
   C. Whether they are exposed to other patients with infections
   D. If they are bed bound and cannot cough properly
17. A 45-year-old patient reports to you that they are going through a mid-life crisis. You recognize this phenomena refers to which theory developed by which psychologist?
   A. Freid
   B. Newman
   C. Jung

D. Erikson
18. What does secondary prevention in the elderly population include?
    A. Making sure that patients are complaint
    B. Early detection (e.g screening)
    C. Making sure patients get all the medical help they need
    D. Making sure that you the physiotherapist gets all the resources you need to assist the elderly population
19. Which of the following is not an example of elder neglect:
    A. Over or under medicating
    B. Leaving an older person for long periods of time
    C. Hitting, slapping, kicking or punching
    D. Failure to provide adequate food or clothing
20. The absorption of medication in the geriatric client is most often affected by:
    A. A decrease in body water and lean body weight
    B. A decrease in body fat
    C. An increase in serum albumin
    D. An increase in body water

## SECTION B: SHORT ANSWER QUESTIONS                                    (40 MARKS)
**(5 marks each)**
1. Identify factors that promote a healthy aging process
2. Outline the special nutritional needs of an aging woman
3. Describe the components of a comprehensive pain assessment
4. Infer the unique aspects of drug pharmakinetics and pharmacodynamics in older people
5. Relate changes that occur in the respiratory system of an aging person with the reasons for respiratory illness
6. Define the following terms.
    i.   Cataract
    ii.  Glaucoma
    iii. Macular degeneration
    iv.  Presbycusis
    v.   Presbyopia
7. Outline pathologies that may cause dementia
8. Discuss the considerations in geriatrics on the proper use of mobility aids .

## SECTION C: LONG ANSWER QUESTIONS                                     (40 marks)
1. Prof. Joshua is 70 years and is about to retire, he has no comorbidities and is physically active. He fears in retirement he will become sedentary. Devise him an exercise program.
2. Adapt a pulmonary rehabilitation program for a geriatric patient with COPD