



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS**

**2019/2020 ACADEMIC YEAR**

**FOURTH YEAR,**

**FOR THE DEGREE**

**OF**

**BACHELOR OF SCIENCE IN PHYSIOTHERAPY**

**SPECIAL/SUPPLEMENTARY EXAMINATIONS**

**COURSE CODE: BSP 313**

**COURSE TITLE: PAEDIATRICS**

**DATE: FRIDAY 22/10/2020**

**TIME: 2:00PM – 4:00PM**

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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: 3 Hours**

**MMUST observes ZERO tolerance to examination cheating**

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

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

- 1) A 3.5 year old boy says only three single words, and these are poorly articulated. He uses gestures to communicate. There are no other reported problems, gross and fine motor skills are normal for age and physical examination, including tympanography, is normal. Which of the following is the MOST LIKELY explanation?
  - A. Deafness
  - B. Manipulative behaviour
  - C. Dysarthria
  - D. Autism
- 2) A patient presents in labour at a level 1 clinic. By her date and abdominal palpation she is 32 weeks pregnant. After a short labour she delivers a male infant weighing 1400 grams. How would you classify this infant by weight for gestational age?
  - A. Low birth weight
  - B. Premature infant
  - C. Appropriate for Gestational Age (AGA)
  - D. Small for Gestational Age (SGA)
- 3) A one month old is seen after turning blue when feeding. Auscultation of the heart reveals a systolic murmur over the pulmonary area that radiates to the back. Arterial blood gas shows a normal pH, PaCO<sub>2</sub>, and PaO<sub>2</sub> at rest. The ECG demonstrates right axis deviation and right ventricular hypertrophy. The chest x-ray film reveals a large heart with a reduced main pulmonary artery segment. Which of the following congenital heart disorder is consistent with these findings?
  - A. Atrial septal defect
  - B. Coarctation of the aorta
  - C. Tetralogy of Fallot
  - D. Patent ductus arteriosus
- 4) A child is brought to your clinic for routine examination. She can dress with help, can ride a tricycle, knows her own age, and can speak in short sentences. She had difficulty in copying a square. The age of this child is most likely
  - A. 1 year
  - B. 2 years
  - C. 3 years
  - D. 4 years
- 5) What is the earliest sign of rickets?
  - A. Rickety rosary
  - B. Craniotabes
  - C. Bow legs
  - D. Harrison's groove
- 6) 13-year-old boy admitted for complaints of lower extremity weakness noticed that his legs were weak when getting out of bed. His symptoms seem to be getting worse because now he is having difficulty in walking. He contracted an upper respiratory tract infection about 2 weeks ago but did not experience any fever. He plays football but denies any recent trauma. Physical examination : afebrile, cranial nerves normal, upper extremities is 5/5, no pronator drift and lower extremity strength is 3/5. Sensory normal, gait : unable to walk unassisted. Reflexes are absent in the lower extremities. Give the most likely diagnosis :
  - A. Transverse myelitis
  - B. Poliomyelitis
  - C. Guillain Barre Syndrome

- D. Myasthenia gravis
- 7) A mother in the preceding question delivered a 4000 g- baby by a difficult forceps delivery. The baby was alert and active. She did not move her left arm, however, which she kept internally rotated by her side with the forearm extended and pronated; she also did not move it during a Moro reflex. The rest of her physical examination was normal. This clinical picture most likely indicates
- Fracture of the left clavicle
  - Left-sided Erb paralysis
  - Left-sided Klumpke paralysis
  - Spinal injury with left hemiparesis
- 8) A mother brings her 7-year-old child for a routine check-up. Between the ages of six and eight, children typically become able to participate in a much greater of activities primarily as a result of:
- A significant increase in fine-motor control.
  - A latency period of minimal physical growth and development.
  - A sudden, dramatic improvement in gross-motor control.
  - The establishment of handedness and footedness
- 9) An 18-month-old boy comes to clinic with the chief complaint of not being able to walk yet. He was born at 32 weeks of gestation. He recently understands simple instruction say dada-tata, and can eat using a spoon. The most probable development problem for this child is:
- Delayed motor development
  - Delayed speech
  - Delayed fine motor development
  - Normal development
- 10) Which of the following statements concerning necrotizing enterocolitis is true?
- Breast feeding is protective
  - Anaemia is a common symptom
  - Commoner in premature term infants
  - Can occur in babies of pre-eclamptic mothers
- 11) A 4 year old boy derives most of his caloric requirements from which of the following?
- Carbohydrates
  - Proteins
  - Fats
  - Minerals
- 12) A 2-year-old has been diagnosed with bell's palsy, which is a lower motor neuron lesion of the facia nerve it is affecting the Lt side. Which of the following statements is not correct?
- The mouth is drawn to the left side
  - Loss of wrinkling of the forehead
  - Inability to close the left upper eyelid
  - Patient is unable to talk clearly
- 13) Which is higher in human breast milk than cow milk
- Protein
  - Lactose
  - Sodium
  - Calcium
- 14) Which of the following statements is not correct regarding Patent ductus arteriosus?
- Presence of murmur
  - Normal diastolic pressure
  - Small pulse pressure
  - L-R shunt
- 15) Concerning bronchilits, which is false?
- Fever is high-grade
  - Chest radiograph shows hyper-inflated lung

- C. wheezing and rhonchi is present  
D. Prognosis is good
- 16) Which of the following is false regarding Protein-Energy malnutrition  
A. Growth and mental retardation, edema are common features of kwashiorkor  
B. Rickets and heart failure is expected during recovery  
C. Anaemia is present in kwashiorkor  
D. Immunization might be helpful
- 17) Which of the statements does not reflect etiology present in children with asthma  
A. Rhonchi is present  
B. Tactile fremitus is increased  
C. Chest radiograph shows nothing on xray  
D. Peak expiratory flow rate of >75% of predicted indicates mild condition
- 18) Which of the following is false about cerebral palsy  
A. Motor function is impaired but sensory is preserved  
B. Birth asphyxia is not a possible cause  
C. Hypotonia or hypertonia is expected  
D. Management should be multidisciplinary
- 19) The most common cause of pneumonia in children under age 5  
A. Fungi  
B. Viruses  
C. Bacteria  
D. Mycoplasmas
- 20) Tetralogy of Fallot a combination of various congenital defects listed below except  
A. Right ventricular hypertrophy  
B. Pulmonary stenosis  
C. Ventricular septal defect  
D. Left ventricular hypertrophy

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

1. Outline the major changes in the circulatory and respiratory systems that occur at the time of birth
2. Outline the anthropometric measurements and assessments you use to assess the physical growth of your pediatric patients
3. Compare and contrast the use of breast milk and formula for the nourishment of an infant
4. Identify and describe the essential components of a pediatric assessment
5. Compare and contrast the clinical and diagnostic features of ascending GBS, Myasthenia Graves and Motor Neuron Disease

**SECTION C: LONG ANSWER QUESTIONS****(40 MARKS)**

1. A 12-year-old male mountain bike rider crashes into a tree, resulting in a neck injury, and fractured lower left ribs. He now presents to hospital with shock and a painful distending abdomen.
  - a) What are the physiological differences between the adult and the pediatric musculoskeletal systems?
  - b) After another 24 hours it is clinically apparent that he has a complete spinal cord lesion at C4. What signs of this lesion are likely to be present? How will you counsel the patient and the family?
  - c) What is your physiotherapy management plan for the patient?
2. A 3-month old baby is referred to you for management from the general ward following a deterioration in clinical respiratory status and an elevated PCO<sub>2</sub> as measured by capillary sample. The patient has bronchopulmonary dysplasia and is oxygen dependant.
  - a) What is bronchopulmonary dysplasia.
  - b) Describe your assessment and physiotherapy management of this patient.