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(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

FOR THE DEGREE

OF

BACHELOR OF CLINICAL MEDICINE AND COMMUNITY HEALTH/PHYSIOTHERAPY

COURSE CODE: HCM 362

COURSE TITLE: PEDIATRIC AND CHILD HEALTH II

DATE: THURSDAY 7TH DECEMBER 2023 **TIME:** 8:00AM – 10:00AM

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 5 Printed Pages. Please Turn Over.

SECTION A: MULTIPLE QUESTIONS (MCQS) (20x1=20 MARKS)

1.Of the following, the strongest identifiable factor for the persistence of childhood asthma is;
   A. Allergy
   B. Male gender
   C. Low birth weight
   D. Parental asthma
   E. Lower respiratory tract infection

2.The MOST vital initial treatment in the management of severe asthma exacerbations is;
   A. Supplemental oxygen
   B. Inhaled β -agonist
   C. Intramuscular injection of epinephrine
   D. Inhaled ipratropium
   E. Intramuscular injection of β-agonist

3.The diurnal variation in Peak Expiratory Flow (PEF) that is consistent with asthma is more than
   A. 10%
   B. 20%
   C. 30%
   D. 40%
   E. 50%

4. Of the following, the MOST common childhood cause of nasal polyposis is;
   A. Chronic sinusitis
   B. Allergic rhinitis
   C. Samter triad
   D. Kartagener syndrome
   E. Cystic fibrosis

5. Children with croup should be hospitalized for any of the following **EXCEPT**
   A. Progressive stridor
   B. Severe stridor at rest
   C. Cyanosis
   D. Depressed mental status
   E. Congenital heart disease

6. The following are indications for admission to a hospital in children with pneumonia **EXCEPT**
   A. Age <6 months
   B. Sickle cell anemia
   C. Multiple lobe involvement
   D. Moderate to severe respiratory distress
   E. Vomiting

7. Pectus carinatum is characterized by all the following **EXCEPT**
   A. Accounting for 5-15% of congenital chest wall anomalies
   B. Females are affected 4 times more often than males
   C. High familial occurrence
   D. Common association of mild to moderate scoliosis
   E. Association with mitral valve disease

8.One of the following is a sign of right-sided heart failure
   A. Edema
   B. Tachypnea
   C. Orthopnea
   D. Wheezing
   E. Pulmonary edema
9. The following cardiac lesions are at increased risk for bacterial endocarditis **EXCEPT**
   A. Mitral insufficiency
   B. Aortic stenosis
   C. Atrial septal defect
   D. Coarctation of the aorta
   E. Patent ductus arteriosus
10. All the following are signs of coarctation of the aorta **EXCEPT**
   A. Femoral pulses are weak or absent
   B. Bounding pulses of the arms
   C. Femoral pulse occurs slightly before the radial pulse
   D. Blood pressure in the legs is lower than that in the arms
   E. Precordial impulse and heart sounds are usually normal
11. The following is a major Duke criterion for the diagnosis of endocarditis
   A. New valve regurgitant flow by echocardiography
   B. Osler nodes
   C. Single positive blood culture
   D. Serologic evidence of infection
   E. High erythrocyte sedimentation rate
12. What is the most common congenital heart defect with a left to right shunt causing congestive heart failure in the pediatric age group?
   A. Atrial septal defect
   B. Atrioventricular canal
   C. Ventricular septal defect VSD
   D. Patent ductus arteriosus
   E. Aortopulmonary window
13. An infant with a marked cyanotic congenital heart defect with decreased pulmonary vascularity should be treated with:
   A. Digoxin
   B. Indomethacin
   C. Prostaglandin E1
   D. Epinephrine
   E. Frusemide
14. The following condition is an important risk factor for developing infective endocarditis in children with cyanotic heart disease.
   A. Diarrhea
   B. RSV infection
   C. MMR vaccination
   D. Poor dental hygiene
   E. Arrhythmia
15. Which of the following infection is commonly associated with Rheumatic fever?

A. Group A Streptococcus lower respiratory tract infection.
B. Streptococcus pneumoniae upper respiratory infection.
C. Adenovirus lower respiratory tract infection
D. Staphylococcus aureus upper respiratory tract infection
E. Group A Streptococcus upper respiratory tract infection

16. Cardiovascular causes of wheezing include;
A. Right atrial enlargement
B. Left atrial enlargement
C. Right ventricular enlargement
D. Left ventricular enlargement
E. Coarctation of aorta

18. Which drug is the most commonly prescribed preventer therapy in asthma?
A. B2-adrenoreceptor agonists
B. Xanthines such as theophylline
C. Muscarinic receptor antagonists
D. Inhaled steroids
E. Increased mucus production.

18. The immediate response of asthma involves
A. Mast cell degranulation
B. Binding of antigen to IgE on macrophages
C. Release of cytokines such as il-13
D. Activation of cholinergic nerves on the airways

19. True about **Tubercle bacilli except**
A. Non-sporing
B. Non-motile
C. Acid fast
D. Spore forming
E. Slow growing

20. Classification of VSD include the following except
A. Posterior
B. Muscular
C. Anterior
D. Supracristal
E. Perimembranous

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

1. Describe the pathogenesis of otitis media (10mks)
2. List 5 causes of exudative pleural effusion (5mks)
3. List 5 cyanotic heart diseases (5mks)
4. What is the pathophysiology of congestive cardiac failure (10mks)
5. List 5 features of severe pneumonia (5mks)
6. Enumerate 5 risk factors for TB (5mks)

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

1.A child of 2 years of age previously diagnosed with large muscular ventricular septal defect now presents with fatigue and poor feeding over the past month. He has not gained weight in the last two months. On clinical examination, he is apathetic, tachypneic, and has wheezes and crackles on lung auscultation. There is also hepatomegaly.

a) What is the mostly likely diagnosis(2mks)
b) Describe the etiology of the above condition(10mks)
c) List relevant investigations needed(3mks)
d) Manage the patient (5mks)

2.A 6-year-old boy is brought to the outpatient clinic with history of eczema, cough, wheeze and breathlessness. His father has chronic rhinitis. The condition is precipitated by viral infection, exercise, emotion and colder weather and these symptoms occur several times week.

a) What is the likely diagnosis(2mks)
b) What is the pathophysiology of the above condition (10mks)
c) Manage the patient (8mks)