UNIVERSITY OF NAIROBI

END YEAR EXAMINATIONS – 2017/2018

YEAR V EXAMINATIONS FOR THE DEGREE OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

PAEDIATRICS AND CHILD HEALTH

WRITTEN PAPER

DATE: OCTOBER 30, 2018 **TIME: 9.00 A.M. – 12.00 NOON**

INSTRUCTIONS:

1. **FOR SAQs**

   a) Write your Student Number on each paper you write on.

   b) Begin the answer to a new question on a fresh paper.

   c) Write legibly, preferably "print"

   d) Answer **ALL** questions.

2. **FOR MCQs**

   a) Write your Student Number in the space provided on the answer sheet.

   b) There is only **ONE** correct answer for each question.

   c) Write the letter representing the correct response in the space provided against each question, eg 1. a.

   d) In case of change of mind with respect to the chosen response, cross it with one line and write the correct response next to it, eg. ~~a~~ b.

   e) Marks will not be awarded
      i) If no response is chosen
      ii) If a wrong response is chosen
      iii) If more than one response for a question, even if one of the responses is correct.

SHORT ANSWER QUESTIONS (SAQs)

1. A 4 year old presents with history of generalized body swelling for 1 week. On examination the child has pedal edema, facial puffiness and ascites:-

a) Give 5 differential diagnosis for this condition (5 marks)

b) Urinalysis of this patient showed protein 4+ and serum albumin of 19 g/L. List 5 relevant investigations and the expected abnormality. (5 marks)

c) Describe the management of this patient's condition. (2 marks for each)

d) Give 2 complications of this condition. (2 marks)

2. a) Define prolonged neonatal jaundice. (2 marks)

b) List the causes of prolonged jaundice. (10 marks)

c) What investigations would you do in this condition? (10 marks)

d) List the complications of ~~prolonged jaundice~~ (2 marks)

3. Kito aged 8 years is brought to the OPD with 2 day history of fever, joints pains, vomiting and convulsions for 1 day. He has a temperature of 40.5 °C, severe palor, sphenomegally and GCS is at 11/15.

a) What is the most likely diagnosis? (2 marks)

b) List 3 differential diagnosis. (3 marks)

c) What laboratory investigations would you carry out on this child? (4 marks)

d) Outline how you will manage this child under the following subheadings:

i) Definitive treatment. (2 marks)

ii) Supportive treatment. (2 marks)

e) List any two prevention strategies for the disease condition this child has. (2 marks)

4. a) What does the term "cold chain system" mean in vaccine management ? (3 marks)

b) What is a vaccine vial monitor (VVM) and how does one interpret the different stages on the monitor? (3 marks)

c) List 4 vaccines that have VVMs. (5 marks)

d) Describe the procedure for conducting the shake test. (4 marks)

1. A sick 6 hour old neonate, weighing 1.7 kg is admitted to the Newborn Unit with mild respiratory distress., fever and inability to feed. The most appropriate care is:-
   A) Start iv fluids at 60 ml/kg/day and start iv antibiotics
   B) Start NGT at 60 ml/kg/day and give iv antibiotics
   C) Keep warm using skin-to-skin contact with the mother
   D) Give im vit K 0.5 mg stat
   E) Clean the cord using betadone solution

2. Regarding non-severe pneumonia, the most suitable therapy is;-
   A) Oral Amoxillin 40 mg/kg 12 hourly
   B) Oral Amoxillin 100 mg/kg 12 hourly
   C) iv Chloramphenical 50 mg/kg 6 hourly
   D) No therapy required
   E) Oxygen, iv penicillin and gentamicin

3. After giving ventilations to a newborn requiring resuscitation for one minute your next step of action should be:-
   A) Ask the helper to establish iv access and push bicarbonate for the circulation
   B) Give oxygen by face mask and recheck the pulse within 30 seconds
   C) Listen for the heart beat and if less than 60 begin chest compressions at a rate of 3:1 breaths
   D) Chest compressions are to be started at a rate of 3:1 for all babies who are not breathing
   E) Give ventilation at a rate of 80 breaths per minute so as to achieve faster ventilations

4. Regarding oxygen administration:-
   A) Only children with visible central cyanosis and oxygen saturation less than 90% should receive oxygen
   B) Low flow of 2 litres per minute can be used with non-rebreather mask for babies with mild distress
   C) Oxygen has no known side effects; it can be used for a long time safely with minimal monitoring
   D) Oxygen concentrators work by pumping room air to a baby's airway
   E) Use of high flow rate like 4 litres per minute with nasal prongs can work for a child but with a higher risk for abdominal distension.

5. A baby was born weighing 2.7 kg after vacuum assisted delivery. At one minute of life, the baby was uniformly blue, the pulse was 90 per minute, the nasal catheter passage stimulated sluggish sneezing, the limbs were flaccid, and respiratory effort was not elicited. What was the APGAR score?
   A) 9
   B) 7
   C) 3
   D) 2
   E) 4

6. A baby was born by caesarean section due to severe material hyperlension. The birth weight was 1.4 kg. What was the baby's total fluid requirement on this first day of life?

A) 84 ml
B) 112 ml
C) 140 ml
D) 60 ml
E) 80 ml

7. A baby aged 48 hours weighing 3.1 kg had deep jaundice with serum indirect bilirubin level of 310 micro mol/L. Choose the correct statement.

A) Exposure of the baby to sunlight would be adequate intervention
B) Dubin Johnson syndrome is the likely cause
C) Breast milk jaundice is the most likely diagnosis
D) Exchange transfusion is appropriate treatment
E) Hemolytic disease of the newborn is likely to be the cause

8. The following is **TRUE** regarding Dysentry:-

A) Dysentry is an infections gastrointestinal disorder, characterized by inflammation of the small intestine
B) Amoebiasis can only be diagnosed with certainty when cysts of E. histolytica containing red blood cells are seen in fresh stool or in mucus from rectal ulcerations
C) Dysentery occurs with increased frequency and severity in children who have measles or have had measles in the preceding month
D) Irrespective of its cause, persistent diarrhoea settles once the infectious cause has been eliminated
E) WHO recommends that only microbiologically confirmed dysentery episodes should be treated with antibiotics

9. Regarding perinatal hepatitis B transmission the following is **TRUE**:-

A) Postpartum transmission occurs commonly through exposure to infectious maternal blood, saliva, stool, urine or breast milk
B) Only about 10% of infants infected perinatally will develop chronic infection
C) No therapy prevents the development of chronic subclinical hepatitis once infection is acquired
D) All children with chronic HBV infection should not be immunized with hepatitis A vaccine
E) Like HIV,HBV can survive outside the body for at least 7 days. During that time, the virus cannot cause infection if it enters the body of a person who is not infected

10. A newborn whose mother has taken carbamazepine throughout her pregnancy because of a severe seizures disorder is noted to have a large cephalo-hematoma in both parietal areas. This finding is related to insufficient amounts of the following Vitamin

A) Vitamin A
B) Vitamin B_{12}
C) Vitamin C
D) Folic acid
E) Vitamin K

11. Which of the following features is true about infants with pyloric stenosis?
A) Usually present with bilious vomiting ✗
B) Initially there is only regurgitation of occasional non projectile vomiting
C) Common before 1 week of age >3 weeks
D) Oral feeds are started on the 3rd day post-operation
E) Ultrasound is not useful in diagnosis ✗

12. Which of the following is true about intussusception? Abd pain, currant jelly stools, bilious vomiting
A) Most common cause of obstruction in 3 month to 6 year age group <6 months - 3 years ✗
B) Most intussusceptions strangulate the bowel within the first 24 hours ✗
C) Typically present with persistent severe abdominal pains ✗
D) Associated vomiting is usually non-bilious
E) Untreated intussusceptions is infants is rarely fatal ✗

13. A 9 year old is having left iliac fossa pain, associated with colicky abdominal pains on emptying the bowels. Colitis is suggested by the following:-
A) Watery stools
B) Large volume stools
C) Mucoid stools
D) Stool pH of less or equal to 5.5
E) Greenish stools.

Left (LIF)

14. A 2 year old child presents with stridor over 2 days and coryza. Which of the following is true regarding this condition?
Stridor
A) No antibiotics are indicated
B) Subcutaneous adrenaline has a role in management ✓
C) Dexamethasone should not be given as it may complicate the infection ✗
D) Nebulized Salbutamol may alleviate the stridor ✗
E) Pneumothorax is a known complication ✗

15. A 4 month old presents with a 3 day history of low grade fever, worsening wheeze ar difficulty feeding. The following is true regarding this condition.
A) This infection is uncommon in less than 1 year age ✗
B) This child is at risk for later development of asthma ✗
C) Inhaled bronchodilator therapy plays a key role in treatment
D) Hypoxaemia complicates severe cases ✗
E) Steroids have been shown to decrease duration of wheeze

CORE

16. A previously well 2 year old child has been ill for the past 4 days and has not urinated the past 20 hours. There is no evidence of congestive heart failure on phys examination. The diagnosis of Prerenal failure is strongly supported by:-
A) A history of recurrent colicky abdominal pain ✗
B) A serum potassium concentration of 6.7 mmol/L ✗
C) A urine sodium concentration of < 20 mmol/L
D) Presacral and periorbital edema on examination.
E) The presence of red blood cell casts in urine ✗

17. A 12 year child presents with generalized edema and urine dipsticle showed proteinuria of 3+ and no blood. After further investigation high dose prednisone was started. Which of the following is an indication for performing renal biopsy?

A) Lack of response to therapy after 1 week
B) Microscopic haematuria showing more than 5 red blood cells per high-power filed in urine
C) Reduced serum concentration of C3 complement
D) Serum albumin less than 1.5 g/dL (15 g/L)
E) Relapse after remission for months

18. Which statement is **INCORRECT** regarding past streptococcal glomerulonephritis?

A) It is seen especially in children
B) It usually occurs 7 – 14 days post throat infections
C) It usually occurs 7 – 14 days post skin infections
D) Treatment of the primary illness with antibiotic will prevent glomerulonephritis
E) The disease can range from isolated haematuria to severe glomerulonephritis

19. The best method to reduce potassium level during hyperkalemia, by reducing the body of potassium is:-

A) Sodium bicarbonate
B) Calcium gluconate
C) Salbutamol aerosol
D) Glucose and insulin infusion
E) Kayexalate (sodium resonium) enema

20. Regarding Molluscum contagiosum infection, which of the following is **TRUE**?

A) Commonly affects hands and feet
B) Lesions are generally itchy and painful
C) Lesions may be enucleated and cauterized
D) 1% hydrocortisone ointment is useful therapy
E) The typical lesion is the target lesion

21. Concerning iron poisoning. the following statement is true:-

A) Causes veno-dilation
B) Coagulopathies occur in stage 1 of the poisoning
C) Gastric outlet obstruction is likely to occur within 7 days
D) Activated charcoal is useful
E) Vin rose colour is a good sign of improvement

22. Which of the following is the least likely cause of an erythematous groin in an infant?

A) Perineal candidiasis
B) Perineal psoriasis
C) Tinea cruris
D) Seborrhoeic eczema
E) Irritant contact dermatitis

23. A 7 year old presents with recurrent excoriated skin lesions on the trunk for the last 5 months. Which of the following is true?

A) Azathioprine is indicated
B) Direct immunofluorescence detects; IgG antibodies in blood
C) Elevated IgA level in the gut biopsy suggests dermatitis herpetiformis
D) Acrodermatitis enteropathica is related to the gluten enteropathy
E) Moderate potency topical steroids have a role in care

24. A 10 year old girl presents with a painful hip and limp for 4 weeks. Which of the following is a true statement?

A) Positive ASOT confirms acute rheumatic fever
B) Positive rheumatoid factor has a better prognosis
C) Intravenous Cloxacillin has no role in care
D) Perthes disease is likely cause in case the child is a sickler
E) Positive anti-smith antibody gives, indication of disease severity

25. A 9 ~~year~~ month old infant presents with one episode of a generalized tonic-clonic seizure associated with fever. This is the second time in 2 months. Which of the following is false?

A) A lumbar puncture should be done immediately
B) This type of convulsion is the commonest in children
C) The child should be started on anticonvulsants
D) The child has a higher risk of getting epilepsy in future
E) This condition is self-limiting and children recover fully by 3-4 years

26. In the general management of convulsions:

A) Combination therapy is the preferred mode of treatment
B) Drug levels should be monitored routinely for all patients for potential toxicity
C) Carbamazepine is the drug of choice for absence seizures
D) Phenobarbitone is a good choice for generalized seizures for children less than six months of age
E) Anticonvulsants should be tapered down and stopped once seizures are controlled

27. Regarding myelomeningocele:-

A) Neurologic deficit is not common in cases where there is no leakage of cerebra spinal fluid
B) Maternal folate deficiency is responsible for over 99% of cases
C) Recurrences may occur in the same family
D) Condition commonly occur as an isolated defect with no other abnormalities
E) With treatment, children do not have neurological sequela

28. A 3 month old child is noted to have an accelerated increase of the head size during a routine clinic. Regarding this child's condition:

A) The infant most likely suffered from meningoencephalitis that was not detected
B) Communicating hydrocephalus is the most likely type in this infant
C) Medical treatment with Acetazolamide is an effective as surgical management
D) Hydrocephalus is associated with more severe neurological problems compared to hydraencephaly
E) MRI and cranial ultrasound identifies the specific cause and severity of the hydrocephalus

29. A three year old child presents with acute onset ascending weakness of the lower limbs. On examination child is a febrile, power and tone in both limbs are reduced. Deep tendon reflexes are absent. Concerning this child's condition.

A) Sensory function is usually spared
B) Bacterial and viral cultures are usually positive
C) Cerebral spinal fluid with elevated protein with no cell or only a few cells in diagnostic
D) Steroids should be given early in the acute disease
E) Autonomic dysfunction is not a common feature of the disease

30. Cyanosis in the Newborn may be caused by the following **EXCEPT**?

A) Transposition of the Great arteries ✓
B) Ventricular septal defect ✓
C) Hyperbilirubinaemia
D) Coarctation of the aorta ✓
E) Eisenmenger syndrome ✓

31. What is the dominant mechanism with which infants and young children increase their cardiac output?

A) By increasing ventricular contractility ✓ CO = SVR
B) By increasing heart rate ✗
C) By increasing ventricular end diastolic volume ↑ ventricular comp
D) By decreasing heart rate ✗
E) By increasing respiratory rate ✗

32. Which of the following is **NOT TRUE** about the development of acute rheumatic fever?

A) It develops during the acute phase of a group A beta-haemolytic streptococcal infection of the throat ✓
B) It is not associated with streptococcal infection of the site other than the pharynx ✓
C) It usually occurs during the course of epidemics of streptococcal throat infections in crowded settings ✓
D) It is far more common in underdeveloped countries ✓
E) Its lesions involve the heart, joint, skin and nervous system

33. A two year old infant is noted to have mild cyanosis, assumes a squatting position during long walking. He is noted to have increased fussiness followed by increasing cyanosis, weakness and unresponsiveness. The most likely underlying lesion is:-
A) Hypoplastic left heart
B) Transposition of the great arteries
C) Anomalous pulmonary venous return
D) • Tetralogy of Fallot
E) Aspiration with obstruction to air passages

34. What is the commonest congenital heart disease with left to right shunt casing congestive heart failure in the paediatric age group?
A) Atrial septal defect
B) Atrioventricular septal defect
C) • Ventricular septal defect
D) Autopulmonary window
E) None on the above

Left - Right-

35. Maina is seen at the maternal Child Health Clinic at the age of 9 months with delay in development milestones, has not had any tooth eruption yet, has bossing of the skull with prominent custochondral junctions and widened wrists. Which of the following is NOT a consistent finding in this condition?
A) Hypocalcemia
B) Low Vitamin D levels
C) • Hyperphosphataemia
D) High parathyroid hormone level
E) High alkaline phosphatase level ✓

36. You are in the dermatology clinic when you see an 8 year old girl with a hyperpigmented, scaling patchy lesions over the forehead, cheeks, neck, hands and foreman, feet and legs. The girl's mother reveals that the rash gets worse on exposure to sunlight. The most likely diagnosis is:_
A) Scurvy
B) Beriberi
C) Pernicious anaemia ✗
D) • Pellagra
E) Contact dermatitis

37. Psoriatic lesions after appears at sides of physical mechanical or thermal trauma. Th tendency is known as?
A) Auspitz sign
B) • Koebner phenomenon
C) Nikolsky
D) Herald sign
E) Oncholysis

38. A 3 year old boy presents with areas of scalp alopecia associated with scaling, and itchiness. You also note that he has cervical lymphadenopathy and that his 5 year old sibling has a similar rash. Which of the following is the best treatment option for this eruption?

A) Topical ketoconazole cream
B) Selenium sulphide lotion
C) Oral griseofuluin
D) Observation
E) Oral Doxycycline

39. A 7 year old girl presents with 2 months of fever, weight loss, epistaxis swollen left knee and diffuse bone pain which often wakes her up from sleep. Which of the following is the **CORRECT** diagnosis?

A) Benign hypermobility syndrome ✗
B) Leukaemia
C) Juvenile idiopathic arthritis
D) Legg-Calve-Perthe's disease ✗
E) Idiopathic nocturnal bone pain (growing pains) ✗

40. A 12 year old girl presents with pain on the left ankle joint for the last 6 weeks associated with morning stiffness that resolves after moving around for several minutes. There is associated swelling of the same knee in the evenings. The most likely diagnosis is:-

A) Osteoarthritis
B) Septic arthritis
C) Reactive arthritis
D) Juvenile rheumatoid arthritis
E) Rheumatic fever

41. Which of the following is NOT a sign/symptom of hyperthyroidism?

A) Weight gain
B) Goitre
C) Increased sweating ✓
D) Fast pulse
E) Prolonged diarrhoea ✓

42. Which of the following hormones are produced under the control of the Renin-angiotensin system?

A) Mineralocorticoids Aldosterone - Anticlev
B) Catecholamines
C) Glucocorticoids ✗
D) Thyroxine ✗
E) Glucagon ✗

43. Genetic counselling includes all of the following **EXCEPT**:-

A) Discussion of available genetic testing ✓
B) Discussion of available therapies ✓
C) Assessment of the occurrence or recurrence of risk ✓
D) Discussion of the impact of the disease on the patient and family
E) Recommendation of specific reproductive options ✓

44. Which of the following activities is a 3 year old **NOT** able to do?
A) Draw a triangle
B) Climb up stairs 2 steps at a time
C) Speak in sentences
D) Know his name and gender
E) Make a tower of a 9 blocks

45. When examining a child in the Maternal Child Health clinic you notice he is using single words like mama and dada. Assuming he is developing normally, what is his most likely age?
A) 2 Years
B) 8 Months
C) 1 year
D) 18 months
E) 3 years

46. Which of the following development abilities appear latest in child development?
A) Pincer grasp with index finger and thumb apposition
B) Transfer of objects from one had to the other
C) Sitting without support
D) Use of single words like mama, dada
E) Making a tower of 2 blocks

47. Normal increase in length during the first year of life is approximately?
A) 10 cm
B) 25 cm
C) 15 cm
D) 20 cm
E) 30 cm

48. Which of the following is true about conjugated vaccines?
A) Conjugated vaccines are those in which there is more than one vaccine antigen e.g. MMR
B) Conjugated vaccines tend to induce a poorer response than polysaccharide vaccines
C) Meningitis C vaccine is not available in a conjugated form
D) Hib vaccine is an example of a conjugated vaccine
E) All conjugated vaccines are live alternated vaccines

49. Which of the following is true concerning the two cholera vaccines licensed for use in Kenya?
A) One formulation is administered orally and the other one is an injectable formulation
B) They are live attenuated vaccines
C) They provide protection for a period of 7-10 years
D) Dukoral contains recombinant B toxin subunit
E) Recommended storage temperature is -15 to -25 °C

50. Which of the following is **FALSE** concerning the oral polio vaccine?
A) It reduces the frequency of symptomless excretion of wild viruses
B) It may cause vaccine associated paralysis
C) It may protect contacts of vaccinated people
D) The bivalent formulation currently provided in the KEPI schedule is protective against serotypes 2 and 3
E) It must be stored at -15 °C to 25 °C at national and regional vaccine stores

51. Which of the following is **TRUE** concerning BCG vaccine?
A) If given again to a child who has received it previously there is a risk for an adverse reaction
B) Absence of the BCG scar is reliable evidence that BCG has not been given previously
C) Induration at the injection site is a usual reaction to successful immunization
D) Enlargement of a regional lymph node to 1 cm is a sign of an adverse reaction
E) It provides 60 – 80% protection against pulmonary tuberculosis

52. Kazungu aged 12 years was diagnosed with epilepsy at the age of 3 years and his convulsion have been well controlled. He now presents with gum hypertrophy, coarse facial features, hirsuitism and gynaecomastia. The most likely antiepileptic drug he has been on is:-
A) Phenobarbitone
B) Sodium valproate
C) Carbamazepine
D) Phenytoin
E) Ethosuximide

53. A 5 month old infant is brought with 2 day history of cough and difficulty in breathing. There is also history of close contact with an aunt diagnosed with sputum positive TB 2 months before presentation. Mum reports the infant received BCG vaccine at birth. The best method to determine if this infant has TB infection is?
A) Chest x-ray
B) Tuberculin skin test
C) Gastric aspirates for Gene expert
D) Interferon-gamma release assay
E) Erythrocyte sedimentation rate

54. A 3 month old child was treated for an ear infection 2 weeks ago. Her mother now brings her back to hospital with complaints of excessive crying and irritability. You perform a lumbar puncture and it reveals the following: increased protein, low glucose levels, and increased white blood cell count predominantly neutrophils. Based on these findings she most likely has:
A) Viral meningitis
B) Bacterial meningitis
C) Tuberculosis meningitis
D) Aseptic meningitis
E) Subarachnoid haemorrhage

55. A 7 year old boy presents with history of prolonged jaundice, recurrent fevers and bone and joint pains, bossing of the skull and failure to thrive. Mum reports that 2 other siblings of the child have similar symptoms. Which of the following is **NOT** a likely finding in this child?

A) Increased urine Urobilinogen
B) Raised reticulocyte count ✓
C) Increased unconjugated bilirubinaemia ✓
D) Increased red cell precursors in the bone marrow ✓
E) Presence of Howell Jolly bodies on the peripheral blood film

56. Baby Aisha is a 13 day old baby who is brought to the casualty department with a 3 day history of inability to breastfeed, stiffness of muscles and noted to develop prolonged spasms wherever he is touched. You also note that he has a septic cord and mum says she has been applying cow dung on the cord since birth. Which of the following is **NOT** true concerning this condition?

A) This baby should be treated with intravenous penicillin ✓
B) The vaccine against this condition is a live attenuated vaccine ✓
C) This baby requires sedation ✓
D) Vertebral fractures may complicate this condition ✓
E) The signs and symptoms are caused by a toxin ✓

57. A 2 year old child is brought to the emergency room with a 5 day history of cough, redness of the eyes with subsequent onset of a maculopapular rash 2 days later that started behind the ears, then spread to the face and trunk and finally spread to the limbs. Which of the following is **NOT** a recognised complication of this condition?

A) Otitis media
B) Convulsions
C) Pneumonia
D) Activation of latent TB infection
E) Cataracts

58. You see a 9 year old boy at coast PGH with 2 day history of high fever, retro-orbital headache, flushing of the face and a maculopapular rash over the trunk and limbs. Which of the following is **NOT TRUE** concerning this condition?

A) Thrombocytopenia is the most common abnormal laboratory funding
B) Patients may develop shock due to capillary leakage
C) Hospitalization may not be necessary for patients with no signs of severe infection
D) Shock syndrome associated with this condition is characterized by decrease haemoglobin
E) There is no specific or definitive treatment available for this condition

59. A 4 year old child who travelled from Webuye 2 weeks ago is diagnosed with mala Which of the following findings would indicate the child has complicated malaria?

A) Platelet count of 150,000/mm^3
B) Blood urea nitrogen of 8 mg/dL (2.9 mmol/L)
C) Blood pressure of 85/60 mmHg
D) Haematocrit of 9%
E) White blood cell count of 11,000 cell/mm^3

70 fentolitres.

60. Noel a 3 year old boy is brought to the OPD with one month history of easy tiring, poor appetite and palpations. On examination he is severely pale and his full haemogram reveals Hb of 3 g/dL, MCH of 22 picograms, MCV of fentolitres, MCHC of 25% WBC of 5,000 x 10^9/L and platelet count of 250,000 cells. The most likely diagnosis is:-

A) Folic acid deficiency anaemia
B) Anaemia of chronic disease
C) Iron deficiency anaemia
D) Aplastic anaemia
E) Anaemia due to Vitamin B_{12} deficiency

Easy tiring, Poor appetite, Palpation.

MCH - 22
MCHC - 25
WBC -

10·40 - 11·40
11·40 - 12·00

9·40
12·45

SECTION A: SHORT ANSWER QUESTIONS (SAQs)

INSTRUCTIONS:-

(I) THERE ARE TWO (2) QUESTIONS IN THIS SECTION
(II) ANSWER THE TWO (2) QUESTIONS
(III) START EACH QUESTION ON A FRESH BOOKLET

SAQ (1)

Regarding Immunization:

(a) Briefly describe the cold chain.

(b) Outline the immunizable diseases in children.

(c) Outline the KEPI schedule.

SAQ (2)

All

A 2 year old child presented with fever, diarrhea, vomiting and convulsions.

(a) Outline the causes of this presentation

(b) Outline how you would investigate this child.

SECTION B: LONG ESSAY QUESTIONS (LEQs)

INSTRUCTIONS

THERE IS ONE (1) QUESTION IN THIS SECTION
ANSWER IT

1. a. Define an HIV exposed child (5 marks)

b. Discuss the investigations done for an HIV exposed child (10 marks)

c. Describe the prevention of mother to child Transmission of HIV. (35 marks)

Discuss the following in a patient with shock

Presentation (5 marks)

Investigation (10 marks)

Treatment of shock due to dehydration (35 marks)

SECTION 1: ESSAYS

1. NEONATAL

A. You receive a newborn aged 2 hours who is reported to have had an APGAR score of 2 and 3 at 1 and 5 minutes respectively. Outline the management steps (10 Marks)

B. Briefly describe the essential components in the management of Respiratory Distress Syndrome in a 30 week gestation newborn. (10 Marks)

2. CHILD HEALTH

A. List and briefly explain the strategies of preventing pneumonia. (10 Marks)

B. Several children are admitted in your district hospital with fever, maculo-papular Rashes and Respiratory symptoms. Briefly outline the essential components of the necessary response. (10 Marks)

3. EMERGENCY PAEDIATRICS

A. Briefly describe the Emergency Triage and Treatment procedure. (10 Marks)

B. A seven year old child on follow-up for insulin dependent diabetes is admitted in delirious state. The blood sugar is beyond the upper level. Describe the 1st 5 steps in the management of this child. (10 Marks)

4. INFECTIOUS DISEASES

A. Outline the management of a child who presents with a temperature 38.9°C and chills. The child looks pale and has respiratory distress. He had travelled to Kisumu 10 days earlier. (10 Marks)

B. Define Pyrexia of undetermined origin and list (including one example for each the groups of disorders that commonly cause it. (10 Marks)

SHORT ANSWER QUESTIONS Attempt all Questions.

Write each Question (Q 1,2,3,and 4) in its own answer sheet.

1. i) A twelve year old boy arrives home from a boarding school with acute onset severe headache, photophobia and muscle aches. Physical examination shows that he has a hemorrhagic (non-blanchable) rash. He is febrile, has a weak pulse, a stiff neck with positive Kernig's sign:

   a. What's the diagnosis and what's the most likely causative organism (3 marks).

   b. List two other common bacterial pathogens that may cause a similar infection in children. (2 marks).

   c. Describe the diagnostic test you would carry out to confirm the diagnosis and the expected results (appearance of the sample and microscopy) (4 marks).

   d. Which antibiotics would you choose in the management of this child's condition? (3 marks).

   - Describe three long-term complications that may be associated with this condition. (6 marks).

   iii) List the vaccines available in the EPI program that have led to a reduction in incidence of childhood bacterial pneumonia, the recommended age at administration; and two absolute contraindications to these vaccines. (7 marks).

2. i) Felix, an eight year old boy is admitted with one week history of epistaxis, and a month history of easy bruising and severe bone pains. He has had fever that has responded poorly to antibiotics and noted to have lost significant weight. On examination he is pale with an Hb of 5g/dl and has generalized lymphadenopathy as well as hepatosplenomegaly.

   a. What's the likely diagnosis? (2 mark).

   b. List the two diagnostic investigations you would carry out to confirm the diagnosis and describe the expected results. (6 marks).

   c. Discuss the management for this child's condition. (6 marks).

   ii) Briefly describe: a) the clinical presentation (4marks)

   b) Diagnostic investigation (4 marks) and

   c) Management of Haemophillia A (3 marks)

3. i) A 1 day old baby born at home by spontaneous vertex delivery to a para 2+1 mother is brought to paediatric emergency department because he was noted to be generally unwell, is pale and has difficulty suckling. He is noted to be deeply jaundiced, lethargic, anaemic and to have generalized oedema. The baby is reported to have cried immediately at birth. The temperature is 37 degrees celcius, the respiratory rate is 65/minute and he has a hepatomegaly of 4 cm below costal margin. On further inspection of the ANC book, it's noted that the mother's blood group was "B-Negative", VDRL negative, Hb 12g/dl and urinalysis was unremarkable. She attended clinic only once.

60. Which first-line agents are preferred in treating seizures secondary to hypoxic-ischemicencephalopathy (HIE):

a) Benzodiazepines

b) Paraldehyde

c) Phenytoin

(d) Phenobarbital

e) Sodium Valproate

Hemolytic dz of newborn
FHG
Coombi Test
- LFTs
- bilirubin level (Direct & Total)
- UECs

- Admit
- Intubate
- Drain pleural Effusion, Ascite
- PRCs Transfusion / Exchange
- Correct acidosis
  Monitor metabolic proces
  (acidosis, hypoglycemia)
- IV Immunoglobulin
  Londropar - dugavin

SECTION A: SHORT ANSWER QUESTIONS (SAQs)

INSTRUCTIONS:

(I) THERE ARE TWO (2) QUESTIONS IN THIS SECTION
(II) ANSWER ALL THE TWO (2) QUESTIONS
(III) START EACH QUESTION ON A FRESH PIECE OF PAPER OF THE BOOK

Q. 1) Outline the

(a) Presentation → Edema, ascites, pleural effusion, diarrhoea, lethargy, abd pain

(b) Investigations → Urinalysis - dipstick 3+ ... serum albumin ... (10 marks)

(c) Treatment of 20kg child with nephrotic syndrome (10 marks)

Q. 2) Outline:

(a) The aetiology → Acute ... sub-acute ...

(b) The pathogenesis → damaged valve ... (5 marks)

(c) Investigation and treatment of a child with infective endocarditis. (10 marks)

Essay Questions

Answer all 4 questions.

List the differential diagnosis of a four year old child who presents with a day history of generalised oedema. Briefly discuss the investigations you would carry out on this patient to help identify the diagnosis.

List the causes of anaemia in children. Briefly discuss the investigations for a 3 year old patient with anaemia.

List the common micronutrient deficiencies in Kenya. Discuss short term and long term measures that could be taken to reduce these deficiencies.

Describe the common causes of neonatal convulsions. How would you manage a baby with this condition?

Phenobarb 20mg/kg within 24 hours of loading dose. — 1st month

(After 1 month of diazepam)

Clonazepam.

10mg/kg further

Direct injxn of LA into fetal scalp

Drug withdrawal from mother

Inborn error of metabolism

Common causes of neonatal

- HIE
- Post-asphyxial seizure disorder
- Hypoglycemia, Hypoglycaemia
- Hypo, Hyper natremia
- Sepsis

Bulging fontanelle

Hemorrhagic

Discuss the management of a two year old presenting with persistent diarrhea

12. Discuss the evaluation and management of an 8yr old who presents with an acute asthmatic attack

13. Discuss the clinical presentation and management of a child with subacute bacterial endocarditis

14. Outline the management of a child with pyrexia of unknown origin

15. Write short notes on the following:
    a. Kenya primary immunization schedule
    b. Mantoux testing

16. A two year old presents with three days history of yellow eyes, itchiness and a very poor appetite accompanied by fever. Discuss:
    a. Your differentials(9marks)
    b. Lab investigations describing how they will help you discriminate btn your differentials

17. Write brief outlines on the following:
    a. How you would clinically assess the function of the 5th cranial nerve(12marks)
    b. How would you investigate a child with haemolytic anemia(13 marks)
    c. The flow of CSF in the CNS

18. Discuss the differential diagnosis(10marks) and investigation of a 5 days old neonate with convulsions and feeding difficulties(15marks)

19. Outline causes of acute diarrhea in children(10marks) and their specific management(15marks)

20. List differentials of a four year old child who presents with 2 day history of generalized oedema. Briefly describe investigations you would carry out on this patient to help identify the diagnosis

21. List the causes of anemia. Briefly discuss the investigations of a 3year old with anemia

22. List the common micronutrient deficiencies in Kenya. Discuss the short and long term measures that would be taken to reduce these deficiencies

23. Describe the common causes of neonatal convulsions. How would you manage a baby with this condition

24. Describe the WHO classification of acute respiratory tract infections(15marks). Outline interventions which have proved useful i reducing mortality due to childhood pneumonia(10 marks)

25. Describe the management of an outbreak of meningitis in the city slum

26. Describe the strategies for the EPI for the

4. In regard to emergency triage assessment and treatment in an outpatient department for children aged less than 5 years:
   - Define triage. (4 marks)
   - List the 3 triage categories and state the importance of triage as related to time spent by the patient before being attended in outpatient department. (6 marks)
   - List the emergency signs. (7 marks)
   - List the priority signs. (7 marks)

a. Triage is process of rapidly screening sick children soon after arrival in a hospital in order to identify (4 marks)

b. 3 triage categories and state the importance of triage as related to time spent by the patient before being attended in outpatient department. category. (6 marks)
   i. Those with emergency signs - require immediate emergency treatment
   ii. Those with priority signs – given priority while waiting in the queue so that hey can be assessed and treated without delay
   iii. Non Urgent cases, waits in the queue for their turn

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c. Emergency signs (7 marks)
   i. Obstructed airway
   ii. Severe respiratory distress
   iii. Central cyanosis;
   iv. signs of shock
   v. coma
   vi. convulsions
   vii. severe dehydration

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d. Priority signs (6 marks):(if no emergency signs found- 1 mark for stating this) (total 7 marks)
   Tiny baby < 2months
   Temperature -- high fever.
   Trauma and other urgent surgical conditions.
   Pallor severe
   Poisoning
   Pain -- severe
   Respiratory distress
   Restlessness, lethargic
   Urgent referral
   Visible severe wasting
   Kwashiorkor/edema of both feet
   Major burns.

a. What's the likely diagnosis? (2 marks) NNS.

b. Describe the management of this child's condition? (6 marks)

c. Describe the primary prevention for this condition. (2 marks)

d. Discuss the longterm and short term complications of this condition. (8 marks)

ii. Discuss the measures you would employ to reduce the occurrence of new born infections in a hosp new born unit. (7 marks)

4. i) A three year old child is brought with history of recurrent cough and has had persistent cou for the past three months treated with various antibiotics with no improvement. She is irritab restless and refuses to feed or go to sleep. Further examination reveals a child in fair nutrition status, with low grade fever (37.7 C), respiratory rate of 60 breaths/minute and lower chest w recession. She has wheezing as well as crackles on chest auscultation and her oxygen saturatic is 80% on room air.

a. What is the most likely cause of her persistent cough? (2 marks) TB.

b. Describe how you would manage this child during this admission. (8 marks)

c. Describe the long-term management of this child. (8 marks)

ii) Briefly describe the clinical presentation and list 3 complications of Juvenile Idiopathic Arthritis. (7 marks).