Write short notes on:

1. Outline the approach to management of a 2 month old infant having fever without focus.

2. Describe clinical manifestations of cerebral malaria. Enlist the differential diagnosis and investigations required. Write management of a case of cerebral malaria in high endemic area.

3. Outline the WHO criteria for diagnosis of dengue hemorrhagic fever. Draw an algorithm for volume replacement for a child with DHF and >20% increase in hematocrit.

4. Define probiotics and prebiotics and enumerate their essential characteristics. Outline the effects of probiotic in various gastrointestinal disorders.

5. Outline the pre-hospital and hospital management of a 10 year old boy bitten by a poisonous snake.

6. Outline the stepwise approach for managing infants and young children (≤ 5 year of age) with chronic asthma.

7. A 10 year old child (body weight 22 kg) presents with severe diabetic Keto acidosis. Write down the expected clinical and investigative findings. Outline the plan of management in first 24 hours.

8. Discuss the etiology and management of Autoimmune Hemolytic Anemia.

9. Outline the steps in managing intracranial hypertension and provide rationale for each of these steps.

10. How will you assess that a 10 year old child who has fallen unconscious in front of you required basic life support. What are the steps for basic life support to such a child (as per American Heart Association Guidelines for CPR)
Write short notes on:

1. Enumerate common peripheral nerve injuries in neonates. Describe their clinical characteristics and outline the management.

2. Discuss the clinical features, diagnosis and management of neonatal necrotizing enterocolitis.

3. Discuss the risk factors for vertical transmission of HIV infection and methods to prevent parent to child transmission of HIV.

4. Discuss the predisposing factors, causative agents, methods of diagnosis and treatment of neonatal osteomyelitis.

5. A 3-day-old home delivered boy (Weight 1450g, Gestation 36wk) is brought to you with abnormal body movements and not accepting foods. The child is cold to touch and capillary filling time is 5 sec. Outline the immediate, short-term and long-term management of this child.

6. Outline the basic principles of sleep hygiene for children and adolescents.

7. Discuss the normal physiology of puberty and its relation to sexual development.

8. List and define the important public health indicators of mortality in children. Also discuss their current status in India.

9. Outline the essential components and principles of IMNCI strategy. Highlight the cardinal features of case management process of young infants (<2 months).

10. Enumerate various air pollutants and discuss their effects on health of children.
Write short notes on:

1. A one year old child is referred for an asymptomatic cardiac murmur. Outline the likely causes. How will you differentiate an innocent murmur from that of a congenital heart disease, on clinical grounds?

2. Classify causes of acquired pancytopenia. Write briefly about the management of acquired aplastic anemia.

3. Define Recurrent Abdominal Pain (RAP) and list the diagnostic features of functional RAP. Suggest a plan for investigations and managing a 10 year old girl with RAP.

4. Discuss the etiology, clinical presentation, diagnosis and treatment of Acute Disseminated Encephalomyelitis (ADEM).

5. A 1½ year old female is brought to you with obesity, short stature, hypertension and hypertrichosis of face and trunk. Provide differential diagnosis and approach to investigating and managing this child.

6. Discuss the pathogenesis, differential diagnosis and echocardiography findings in Kawasaki Disease (KD). How is the classical KD different from Atypical KD?

7. Discuss approach to a child with recurrent urinary tract infections. What are the indications, goal and schedule of antimicrobial prophylaxis in treating such a child?

8. Discuss the etiopathogenesis, clinical manifestations, diagnosis and treatment of hypercalcemia.

9. Write in brief the clinical manifestations, laboratory findings and management principles of Langerhans Cell Histiocytosis.

10. Define Fulminant Hepatic Failure and outline the staging of severity of Hepatic Encephalopathy. Discuss the steps in its management?
Write short notes on:

1. Outline the functions of Spleen. Describe the indications and complication of splenectomy and post-operative management.

2. Discuss the pathophysiological basis of clinical and radiological manifestations of nutritional rickets.

3. Describe the normal cerebrospinal fluid pathway with the help of a diagram. Define and classify hydrocephalus and enlist its causes.

4. Describe the changes taking place in circulation at birth and their implications in neonatal resuscitation.

5. Discuss the synthesis of Thyroid Hormones. Outline the causes of congenital hypothyroidism and a brief comment on neonatal thyroid screening.

6. Enumerate functions of the Phagocytes and briefly describe defects of their functions.

7. Outline the Normal Bilirubin Metabolism. Outline the principles of phototherapy for treating neonatal jaundice. List factors that influence efficacy of phototherapy.

8. Diagrammatically outline the Normal Coagulation Cascade. Outline diagnosis and management of Disseminated Intravascular Coagulation (DIC)

9. A couple has a child with Down syndrome. Outline the principles of genetic counseling and antenatal management for the subsequent pregnancy.

10. Discuss the pathophysiology of Hypoxic-Ischemic Encephalopathy (HIE) in neonates.
Write short Notes on:

1. What are the criteria used to diagnose Acute Respiratory Distress Syndrome (ARDS). Write in brief the pathogenesis, clinical features, and lab findings of the same. Discuss the treatment and ventilatory strategies to manage ARDS.

2. Classify metabolic acidosis based on anion gap. Mention the various causes of lactic acidosis. Describe the approach to diagnosis of inborn error of metabolism in an infant.

3. An 8 year old apparently well boy presents with generalized seizures for the last one hour. How will you approach (including history and examination) this child? Discuss the management of this patient.

4. Classify stable and unstable arrhythmias. Discuss the types of SVT (Supra Ventricular Tachycardia with their ECG changes). Outline the approach to manage unstable arrhythmias.

5. Define hematemesis, melena and hematochezia. A 3 years old child presents with sudden onset vomiting of blood. Describe the approach to this child (including history and examination). Outline the steps of management.

6. An 8 year old child is bitten by a snake while playing in the field. Discuss the different types of pathological changes the patient can go through. How do you grade the severity of envenomation and discuss the management.

7. A 3 year old boy has swallowed an unknown amount of toilet cleaner and is brought to you in distress. Discuss the possible injuries, initial and late management of this patient.

8. A 4 year old girl presents with history of fever for 2 days associated with severe anemia, black colored urine and splenomegaly. Discuss the management of this patient.

9. Detail the various complications of enteric fever and briefly outline their specific management.

10. A 10 month old child presents with third episode of wheezing to you. The current episode started with fever and coryza for 2 days and progressed to cause moderate respiratory distress. Discuss the differential diagnosis. Describe the management of acute bronchiolitis.
Write short Notes on:

1. Discuss safe injection practices at a level three health care facility. Outline the management of a needle stick injury to a health care provider 10 minutes back.
3. Describe the attributes of complementary feeding. What is the safe age of introduction of complementary feeding in your opinion? Justify. Describe some foods appropriate for complementary feeding.
4. What is nocturnal enuresis? Outline the causes for the same. Describe the modalities for managing a 6 year old child with enuresis.
5. Define delayed puberty in a male child. List the possible causes. Describe changes in male genitals in different stages of sexual maturation.
6. A term child is born apnoeic. What information of the perinatal events you would like to know? What are the initial steps of management in the labor room? What are the possible complications in next 48hrs?
7. Define polycythemia in a newborn. What are the factors predisposing to it? Describe the impact of polycythemia on various systems and their clinical presentation. Describe the management of polycythemia in newborn.
8. Discuss the impact of pain on a preterm neonate. Identify common procedures associated with pain in a newborn. Describe the strategies for pain management in a newborn.
9. Compare the composition of human milk with cow's milk. Outline the difference in the milk composition of a mother with a premature neonate from that of a term neonate. Describe the immunological factors present in human milk.
10. Write the components, pre-requisites and benefits of kangaroo mother care.
Write short Notes on:

1. Detail the causes for localized emphysema of the lung. Describe the presentation and management of congenital lobar emphysema.
2. List the causes of congestive heart failure in a 2 years old child. Describe different types of VSD according to position and size. Write indicators for surgical intervention / device closure.
3. Discuss the presentation, diagnostic criteria for Kawasaki Disease. What is the management strategy? What are the complications?
4. List the causes of microcytic hypochromic anemia. How will you differentiate between iron deficiency anemia and thalassemia? Discuss briefly the oral iron chelators.
5. A 4 year old child presents with polydipsia and polyuria. How will you establish a diagnosis of diabetes insipidus in this case? Discuss its management.
6. What are trisomies? What are predisposing factors? Discuss clinical features of 3 common trisomies seen in clinical practice?
7. Define malabsorption. Enlist the generalized and specific malabsorption states. Discuss the investigative plan for a child with generalized malabsorption.
8. Enlist the possible conditions which could result in a 24 month old child with history of regression of milestones for past 8 month. The child also has a liver enlargement. Detail the clinical manifestation of Tay Sach Disease?
9. Enumerate the causes of persistent fever which are not due to infection. Describe the clinical presentation of ectodermal dysplasias.
10. What is acute renal failure? List the common causes leading to it. Tabulate the laboratory indices used to differentiate pre-renal and intrinsic acute renal failure. Outline the medical management of acute renal failure.
Write short Notes on:

1. Describe the pathogenetic mechanism of injury in near drowning. Discuss the steps of initial resuscitation and subsequent hospital management.
2. Describe the calcium metabolism in a child. Detail the clinical manifestation, diagnosis and treatment of a child with pseudohypoparathyroidism.
3. List the causes of metabolic alkalosis. Describe its pathophysiology, clinical features and treatment.
4. Describe the symbols used in pedigree chart. Draw pedigree charts over 4 generations depicting a) X-linked dominant disease. b) X-linked recessive disease.
5. Discuss the enzymes replacement therapy and substrate reduction strategies in management of metabolic disease.
6. Describe the various pressures which are used or varied during mechanical ventilation. What is "Cycling" and "Control" in mechanical ventilator? Describe the differences in pressure controlled and volume controlled ventilation. Illustrate with suitable indication use of these forms of ventilation.
7. Discuss the pathophysiology of cardiogenic shock. How are the various hemodynamic parameters affected in cardiogenic shock? Discuss steps in monitoring and treatment of cardiogenic shock.
8. Discuss the metabolic changes associated with diabetes ketoacidosis with steps of treatment of diabetic ketoacidosis.
9. Describe the pathophysiology of hyponatremic dehydration. Briefly discuss the management of a child with serum sodium of 110 meq/liter presenting with moderate dehydration and seizures.
10. Discuss biochemical and metabolic derangements in a child with severe malnutrition. Discuss factors associated with high mortality in severe PEM.
Write short Notes on:

1. Outline the initial management (in first 48 hours) of a 2 year old severely malnourished child (weight 5.5 kg) who is cold to touch and has edema and poor peripheral pulses.


3. Discuss the role of vasodilator therapy in congestive heart failure. Enumerate various vasodilator agents used in CHF and their respective mechanisms of action.

4. Define tumor lysis syndrome. Enlist its important constituents. Outline its etiology and describe the management.

5. Discuss the management of acute upper gastrointestinal bleeding in a 5 year old child.


7. Draw an algorithm for managing pulseless ventricular tachycardia and ventricular fibrillation.

8. Enumerate the causes of adrenal crisis. Provide key features of clinical presentation and discuss its management.

9. Enumerate various sedatives and analgesics recommended for children undergoing painful procedures. Describe their main action, indication in pediatric practice and important side-effects in a tabular format.

10. Discuss the differential diagnosis and management of a 3 year old girl with history of cough and cold, presenting with onset of noisy breathing, barking cough, hoarse voice and respiratory distress.
Write short Notes on:

1. Discuss the complications in the fetus and newborn of a mother with diabetes during pregnancy.

2. Enumerate causes of persistent pulmonary hypertension in neonates and discuss its pathophysiology.

3. Briefly describe ‘baby friendly hospital initiative’ and list ten steps to successful breast feeding.


5. Describe briefly the principles of integrated management of neonatal and childhood illness (IMNCI). Outline the broad steps of case management process.

6. Describe the criteria or conditions to be considered for approving a ‘newer’ vaccine in an immunization program of a developing country.

7. Define evidence based medicine, as applicable to pediatric practice. Enlist basic steps in the practice of evidence based medicine. Name few databases of systematic reviews.

8. Enumerate the major routes of pesticide exposure in children. Outline the manifestations of their toxicity. Discuss steps for minimization/prevention of exposure to pesticides in children.

9. An 18 month old child was brought to you after he fell upside down in a tub filled with water. Briefly describe the possible injuries and preventive strategies to avoid similar situations in future.

10. Enumerate chief causes of neonatal mortality in India. Describe the current status in India and its status. Prepare a 5 year plan for reduction of neonatal mortality rate in your district.
Write short Notes on:

1. Define febrile neutropenia and describe the treatment and care of a child with febrile neutropenia.

2. Enumerate risk factors for brain abscess. Outline a scheme for investigating and treatment a 10 year old child with brain abscess.

3. Discuss the etiology of cortical necrosis in newborns and older children, separately. State the most important clinical manifestations of cortical injury and factor governing prognosis.

4. Discuss various adjunct therapies in neonatal sepsis.


7. Describe the causes of arterial thromboembolism in children. Outline the management of a child with acute hemiplegia

8. Differentiate between the laboratory features of hypoparathyroidism, pseudohypoparathyroidism and hyperparathyroidism.

9. Discuss the role of recombinant human erythropoietin therapy (indication, dose, aim, precaution, benefits and complications) in management of chronic renal failure. List reasons of resistance to such therapy.

10. Tabulate differentiating features of various types of juvenile rheumatoid arthritis.
Write short Notes on:

1. Draw a labeled diagram of fetal circulation. Indicate partial pressure of oxygen (PaO₂) and oxygen saturation (SaO₂) values at key points in this circulation.

2. Enumerate and describe the structural abnormalities of autosomes. Illustrate with suitable examples.

3. Define multidrug resistant (MDR) salmonella typhi (MDR-ST) and nalidixic acid resistant salmonella typhi (NARST). Discuss the mechanism of development of drug resistance for salmonella typhi.

4. Enumerate the chemical mediators of allergic reactions and describe the important actions of histamine.


7. Discuss the pathogenesis of disseminated intravascular coagulation (DIC) and relate it to the laboratory abnormalities observed in this entity.

8. Provide a diagrammatic representation of urea cycle. Indicate and name related disorders of urea cycle metabolism at each step.

9. Outline the pulmonary function testing in children with emphasis on performance and interpretation of spirometry.

10. Discuss karyotype abnormalities, clinical features and management of true hermaphroditism.
Write short notes on:

1. Management of steroid dependent nephritic syndrome
2. Refractory congestive heart failure – causes and management
3. A one year old baby weighing 5.5 kg comes in severe dehydration. Discuss complete management
4. Prognostic indicators in acute leukaemia
5. Management of:
   a) lead poisoning
   b) organ phosphorus poisoning
6. Management of a 4 year old child with grade IV PEM
7. Pathogenesis, clinical features and management of distal renal tubular disorders
8. Autistic spectrum disorders
9. Management of a 3 yrs old child with recurrent attacks of wheezing
10. Aetiopathogenesis and diagnosis of celiac - disease
Write short notes on:

1. Neonatal thyroid screening
2. Bone age assessment and its usefulness
3. Approach to a child with short stature
4. Problems of adolescence
5. Complications in infants born to diabetic mothers
6. National Iodine deficiency disorders control programme
7. Preventive cardiology in adolescents
8. An approach to a child with obesity
9. Medical management of fetal problems
10. Prevention of childhood AIDS
Write short notes on:

1. Discuss the treatment of hypertension in children. Classify the drugs used to treat hypertension and briefly mention their mechanism of action.
2. Discuss causes, clinical manifestation, laboratory findings and treatment of foliate deficiency anemia in children.
3. Discuss the various aspects of management of a child with hemophilia A.
4. Define migraine in children. Discuss the classification of migraine and write its management.
5. Discuss conditions that mimic seizures in children.
6. Discuss the pathogenesis, clinical features and management of acute post streptococcal glomerulonephritis.
8. Discuss causes, clinical features and management of acquired hypothyroidism.
9. Discuss briefly adolescent health problems.
Write short notes on:

1. Briefly discuss the normal fetal development of surfactant. List the uses of surfactant in newborns

2. Give the grading of vesico-uretic reflux. Outline its evaluation and management in children

3. Outline the calcium metabolism discuss the causes and management of hypocalcaemia in a 3yrs child

4. Outline fetal circulations. Discuss the diagnosis management of persistent pulmonary hypertension in newborns

5. Briefly outline normal erythropoiesis. Describe the diagnosis & treatment of G6PD deficiency

6. Outline development of normal hearing in children. List causes of hearing impairment in a 1 yr old child and its diagnostic approach

7. Briefly discuss the arterial supply of the brain. Outline the causes of acute hemiplegia in a 2 year old child

8. Outline the normal mechanism of Acid-Base regulation in children. What is anion gap. Describe the causes and management of a child with metabolic acidosis

9. Outline the antenatal management of a mother with an earlier child with thalassemia major

10. Briefly outline the uses for intravenous immunoglobulin (IVIG) therapy in children