**Questions to the lesson «Vitamins Deficiencies»**

1. Vitamin A deficiencies and excess: overview of vitamin А, metabolism of vitamin A, functions of vitamin A and mechanisms of action.
2. Vitamin A deficiency: clinical manifestations of vitamin A deficiency, diagnosis, epidemiology and public health issues, dietary reference intakes for the healthy population, vitamin A for treatment of deficiency.
3. Hypervitaminosis A: clinical manifestations, diagnosis, prevention, treatment Vitamin B complex deficiencies and excess: Thiamine (Vitamin B1) deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment.
4. Riboflavin (Vitamin B2) deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment.
5. Niacin (Vitamin B3) deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment.
6. Vitamin B6 (Pyridoxine) deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment.
7. Biotin deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment
8. Folate deficiency: clinical manifestations, diagnosis, prevention, dietary, treatment.
9. Vitamin B 12 (Cobalamin): clinical manifestations, diagnosis, prevention, dietary, treatment.
10. Vitamin C (Ascorbic Acid): metabolism of vitamin C, dietary needs and sources.
11. Vitamin C (Ascorbic Acid) deficiency: clinical features, laboratory findings and diagnosis, differential diagnosis, treatment, prevention.
12. Vitamin E deficiency: pathogenesis, clinical manifestations, laboratory findings, diagnosis and differential diagnosis
13. Vitamin E deficiency: treatment, prognosis, dietary, prevention.
14. Vitamin K deficiency: pathogenesis, clinical manifestations, laboratory findings, diagnosis and differential diagnosis, treatment, prognosis, prevention.

**Nelson:** Chapter 48. Vitamin A Deficiencies and Excess - pp. 317-321,

Chapter 49. Vitamin B Complex Deficiencies and Excess 321-328

Chapter 50. Vitamin C (Ascorbic Acid) – 329

**Additional literature:** Agarwal: pp.32-42.

**Homework**

1. **Make a terminology dictionary**
   1. Vitamin A deficiencies: definition, clinical symptoms, diagnosis, treatment.
   2. Riboflavin (Vitamin B2) deficiency: definition, clinical symptoms, diagnosis, treatment.
   3. Niacin (Vitamin B3) deficiency: definition, clinical symptoms, diagnosis, treatment.
   4. Vitamin B6 (Pyridoxine) deficiency: definition, clinical symptoms, diagnosis, treatment.
   5. Biotin deficiency: definition, clinical symptoms, diagnosis, treatment.
   6. Folate deficiency: definition, clinical symptoms, diagnosis, treatment.
   7. Vitamin B 12 deficiency: definition, clinical symptoms, diagnosis, treatment.
   8. Vitamin C deficiency: definition, clinical symptoms, diagnosis, treatment.
   9. Vitamin E deficiency: definition, clinical symptoms, diagnosis, treatment.
   10. Vitamin K deficiency: definition, clinical symptoms, diagnosis, treatment.
   11. Xerophthalmia: definition, clinical symptoms, diagnosis, treatment.
   12. Hypervitaminosis A: definition, clinical symptoms, diagnosis, treatment.
2. **Make a plan investigation for a child with Vitamins Deficiency**
3. **Recommended dietary daily Allowances or and treatment of Vitamins Deficiency ( Vit A, B1, B2 B3, B6, B9, B12, C) for infancy and childhood**