**Proposal of vitamins for 2nd year exam**

1. **Compare between water soluble vitamins and fat soluble vitamins as regards :**
* Solubility in fat
* Water solubility
* absorption
* Carrier protein in blood
* Storage
* Urinary excretion
* Occurrence of Deficiency
* Occurance of toxicity
* Treatment of deficiency
1. **On biochemical basis explain:**
2. Vitamin C deficiency can cause microcytic hypochromic anemia
3. Retinol acts like a steroid hormone
4. Calcitriol acts like a steroid hormone
5. Vitamin K is important for the function of blood clotting factors II, VII,IX & X.
6. Dietary deficiency of vitamin K is rare.
7. Thiamine requirement is increased with higher intake of CHO
8. **Enumerate vitamins that can cause megaloblastic anemia upon deficiency and explain the mechanism of this anemia in one of them.** Vit C , Folic acid ,Vit B 12
9. **Enumerate vitamins that can cause microcytic hypochromic anemia upon deficiency and mention 2 other deficiency manifestations of one of them**

Vit C , Vit B 6

1. **Enumerate vitamins that can cause peripheral neuritis upon deficiency and mention another deficiency manifestation of one of them**

Vitamins B1,6,12

1. **Mention the deficiency manifestations of the following vitamins:**

Vitamin A .

Vitamin C .

Vitamin B1

Vitamin B2

Vitamin B6

Vitamin B12

1. **Enumerate vitamins containing pyridine ring, and mention the active form of one of them together with 2 reactions catalyzed by it.**

 Vitamin B3 (Niacin),Vitamin B6

1. **Vitamin B1 is a vitamin containing sulfur. Enumarate other vitamins containing sulfur and mention 2 reactions catalyzed by Vitamin B1 and the deficiency manifestations it.** Biotin, lipoic acid
2. **Vitamin A is important for the health of eye.**
* **Mention its importance for healthy eyes**
* **Mention the effects of deficiency on the eye.**
* **Enumerate 2 other vitamins important for the eye health.**

Vit A (retina&m.m., antioxidant)& vit C (lens, antioxidant), vit E (antioxidant) & vit B2 (m.m.

1. **MCQ:**
2. polyisoprenoid compound(s) containing β- ionone ring is (are) :
3. Retinol.
4. β- carotene.
5. Retinoic acid
6. **All of the above**

2- Vitamins with antioxidant activity include;

1. **Vitamins A, E & C.**
2. Vitamins A, K & C.
3. Vitamins C, B1& K
4. Vitamins C , E & folic acid.

3- Vitamin A is stored in the body as:

1. Retinol
2. **Retinyl esters**
3. Retinoic acid
4. Retinal

4- The following pair are interconvertable:

1. Retinal and retinoic acid
2. **Retinal and retinol**
3. Retinol and retinoic acid
4. All of the above

5- Provitamin D3 is :

1. Cholecalciferol
2. Ergosterol
3. **7- dehydrocholesterol**
4. Ergocalciferol

6- All the following can occur in rickets except:

1. Decrease in plasma Calcium
2. Decrease in plasma inorganic phosphorous
3. Poor mineralization of bone
4. **Soft tissue calcification**

7- The following can affect gene expression:

1. **Vitamins A& D**
2. Vitamins A& K
3. Vitamins D& K
4. Vitamins A& E

8- Which of the following regarding vitamin C is correct:

1. Vitamin C activity is seen in D-ascorbic acid
2. **Vitamin C enhances the intestinal absorption of iron**
3. Vitamin C is required to synthesize bile salts from bile acids
4. Deficiency of vitamin C causes beriberi.

9- Thiamine pyrophosphate acts as a coenzyme for:

1. Transaldolase
2. Transketolase
3. Pyruvate dehydrogenase
4. **b & c**

10- The following enzymes are impaired in riboflavin deficiency except:

1. **pyruvate carboxylase**
2. amino acid oxidase
3. NADH dehydrogenase
4. Xanthine oxidase

11- Niacin deficiency can occur in all the following except :

1. **Deficient leucine intake**
2. Isoniazide administration
3. Malignant carcinoid syndrome
4. hartnup diseases

12- conversion of folic acid to tetrahydrofolic acid requires:

1. NADH + H+
2. **NADPH + H+**
3. FMNH2
4. FADH2

13- All the following vitamins upon deficiency can cause megaloblastic anemia except:

1. **Pantothenic acid**
2. Folic acid
3. Vitamin B12
4. Vitamin C

14- Vitamins synthesized from the intestinal bacterial flora include all the following except:

1. vit B2
2. Vit K
3. Biotin
4. **Vit B1**

15- All these vitamins upon deficiency can cause peripheral neuritis except:

1. vit B1
2. Vitamin B6
3. **Vitamin B2**
4. Vitamin B12

16- Vitamins important for oxidative decarboxylation of α-keto acids include all the following except:

1. Vitamin B1
2. VIT B2
3. Pantothenic acid
4. **Vit B12**

17- NAD+ is formed of :

1. nicotinamide + 1 ribose + 1 phosphate +adenine
2. **nicotinamide + 2 ribose + 2 phosphate +adenine**
3. nicotinamide + 2 ribose + 3 phosphate +adenine
4. nicotinamide + 2 ribose + 1 phosphate +adenine

18- FAD is formed of:

1. **flavin+ ribitol+ 2 phosphate+ ribose + adenine**
2. flavin+ ribitol + 1 phosphate+ ribose +adenine
3. flavin+ 2 ribitol+2 phosphate+ adenine
4. flavin+2 phosphate+ 2ribose +adenine