**[](http://images.google.com/imgres?imgurl=http://www.ksu.edu.sa/sites/KSUArabic/Mngmnt/RectorAndDeputies/UDB/IslamicChair/PublishingImages/big_logo.jpg&imgrefurl=http://www.ksu.edu.sa/sites/KSUArabic/Mngmnt/RectorAndDeputies/UDB/IslamicChair/Pages/default.aspx&usg=__NXgWhs9xr82E-gEwnkGHlfrpBdI=&h=548&w=439&sz=55&hl=en&start=10&tbnid=2OEMGFNKSQTPtM:&tbnh=133&tbnw=107&prev=/images?q=%D8%AC%D8%A7%D9%85%D8%B9%D8%A9+%D8%A7%D9%84%D9%85%D9%84%D9%83+%D8%B3%D8%B9%D9%88%D8%AF&gbv=2&hl=en&safe=active)King Saud University**

**College of Applied Medical Sciences**

**Community Health Department**

**Nutrition Section**

**CHS 261**

**Final Exam**

**Time Allotted: 2 hours**

**Mrs. Alanoud Aladel**

**Name:…………………………………..**

**Student NO.:…………………………..**

|  |  |
| --- | --- |
| **Total Marks** | |
|  | **Q 1** |
|  | **Q 2** |
|  | **Q 3** |
| **/40** | **Total** |

**Q1: Fill in the blanks (7 marks):**

1. *99% of calcium is stored in* ***bones*** *and* ***teeth****, and the 1% is present in the blood and other tissue fluids*
2. *High-potency vitamin A supplements interfere with the action of* ***vitamin D****, decreasing calcium absorption and increasing the risk of* ***hip*** *fracture****.***
3. ***Hemolytic anemia****, a medical problem in premature infants, responds positively to vitamin E therapy.*
4. *All water soluble vitamins are functioning as* ***coenzymes***
5. *Lipids are stored in the body as* ***adipose tissue****.*
6. *Some clinical situations that increase water needs include:* ***High fiber intake*** *and* ***Uncontrolled DM and High protein intake*** *and* ***Intense athletic activity*** *and* ***CF*** *and* ***Impaired thirst in older adults*** *and* ***Certain medications***
7. *Triglycerides circulate in the water based blood plasma encased in a covering of water soluble protein, these lipid protein complexes are called* ***lipoproteins***
8. ***Adequate Intake*** *is the average amount of a nutrient that appears sufficient to maintain a specified criterion, a value used as a guide for nutrient intake when RDA can’t be determined*
9. ***Deamination*** *is the removal of a nitrogen-containing amino group from an existing amino acid so a new amino acid can be formed.*
10. *The Riboflavin is a part of the cell enzymes called* ***flavoproteins****.*
11. *BMI =****Wt/Ht2***

**Q2: True and False: (10 marks):**

***Read the following statements, and put (T) for the correct statement and (F) for the wrong one:***

|  |  |  |
| --- | --- | --- |
| **1.** | **( T** **)** | *Presence of acid in the small intestine is important for vitamin C to be absorbed.* |
| **2.** | **( T** **)** | *The osmotic pressure inside cells is due to concentration of potassium ions.* |
| **3.** | **( F )** | *A deficiency of magnesium can easily occur as the food sources are very rare*. |
| **4.** | **( T** **)** | *The osmotic pressure inside cells is due to concentration of potassium ions.* |
| **5.** | **( F )** | *Osmotic Pressure is the movement of water across a membrane toward the less concentrated solutes.* |
| **6.** | **( F )** | *Retinol is the natural form of vitamin A called as provitamin A.* |
| **7.** | **( T** **)** | *The ultimate source of vitamin B12 is the synthesizing bacteria in the intestinal tract of herbivorous animals.* |
| **8.** | **( F )** | *Inadequate dietary intake, usually the result of unavailability of appropriate foods is one of the Causes of Vitamin A Deficiency.* |
| **9.** | **( T** **)** | *Presence of acid in the small intestine is important for vitamin C to be absorbed.* |
| **10.** | **( T** **)** | *Spinal cord fibers that control physical movement such as walking can be affected from vitamin E deficiency.* |
| **11.** | **( F )** | *Antioxidants might help prevent chronic diseases if used at levels the same as required to prevent deficiency.* |
| **12.** | **( T** **)** | *Essential FAs deficiency causes a break down in skin tissues with characteristic eczema and skin lesions.* |
| **13.** | **( T** **)** | *VLDLs transport endogenous triglycerides from the liver to tissue cells.* |
| **14.** | **( F )** | *Supplements that would alleviate premenstrual syndrome could lead to Vitamin B6 deficiency.* |
| **15.** | **( F )** | *Thiamin is absorbed most efficiently in the alkaline environment of the upper small intestine.* |
| **16.** | **( T** **)** | *If a woman does not use any contraceptive pills, she will be more susceptible to iron deficiency anemia than a woman who use the contraceptive pills.* |
| **17.** | **( T** **)** | *Patients on hemodialysis are likely to require extra riboflavin.* |
| **18.** | **( T** **)** | *Cystic fibrosis can lead to vitamin K deficiency.* |
| **19.** | **( T** **)** | *Long-term sun exposure can lead to vitamin D toxicity.* |
| **20.** | **( T** **)** | *When intestinal diseases injure the absorbing mucosal surface of the small intestine, MCT oil can be used.* |

**Q3: Multiple Choice Questions: (23 marks):**

**Choose only one correct statement from the followings:**

1. **All of the followings regarding preformed vitamin A are true except:**
   1. They also called as beta-carotene
   2. Retinol is considered as preformed vitamin A
   3. Mainly stored in the liver
   4. Found only in animal foods and usually associated with fat
2. **Most suitable indicator/s of IDA include/s:**
   1. Albumin
   2. Haemoglobin
   3. Prealbumin
   4. All of the above
3. **…………………………can be used to evaluate dietary supplements:**
   1. Estimated Average Requirement
   2. Recommended Dietary Allowances
   3. Adequate Intakes
   4. Tolerable Upper Intakes Level
4. **In stage 3 of lipid absorption:**
   1. Micellar bile-lipid complex is formed
   2. Chylomicrones are formed
   3. FAs & glycerol form new human Triglycerides
   4. Lipase complete the digestion of remaining diglyceride
5. **The ability of the eye to adapt to changes in light depends on a light-sensitive pigment**
   1. Retinal
   2. Opsin
   3. Rhodopsin
   4. Retinol
6. **K+ is considered as:**
   1. Vitamin
   2. Anion
   3. Cation
   4. None of the above
7. **……………is/are important in muscles contractions:**
   1. Potassium
   2. Calcium
   3. Magnesium
   4. All of the above
8. **Factor/s the can influence and increase Vitamin A requirement include:**
   1. Illness and infection
   2. Elevated liver stores
   3. All of the above
   4. None of the above
9. **…………….is the most abundant mineral in the body:**
   1. Potassium
   2. Sodium
   3. Chloride
   4. Calcium
10. **Cl- is considered as:**
    1. Mineral
    2. Anion
    3. ion
    4. All of the above
11. **…………..is Constituent of gastric juice and is considered as a Major anion of extracellular fluid:**
    1. Sodium
    2. Chloride
    3. Magnesium
    4. Iodine
12. **Magnesium is important in the:**
    1. Synthesis of ATP by activating enzymes.
    2. Oxygen transport.
    3. Formation of collagen
    4. All of the above
13. **Regarding Vitamin D, all of the followings are true except:**
    1. Ergocalciferol (vitamin D2) can be obtained by the action of ultraviolet light from the sun on the 7-dehydrocholesterol in the skin.
    2. The more important form is vitamin D3, also called cholecalciferol
    3. celiac disease, cystic fibrosis, and Crohn's disease or pancreatic insufficiency hinder vitamin D absorption
    4. Long-term sun exposure can lead to vitamin D toxicity
14. **When thiamin levels fall below what is needed, all the following systems can be affected, except:**
    1. Gastrointestinal system
    2. Cardiovascular system
    3. Respiratory system
    4. Musculoskeletal system
15. **All of the followings regarding water soluble vitamins are wrong except:**
    1. B vitamins function mainly as enzymes in cell metabolism
    2. Vitamin C works with enzymes that support tissue buildingand maintenance
    3. Stored in lipids
    4. Their functions are generally related to structural activities with proteins
16. **Intravascular fluid is a section of the:**
    1. Extracellular fluid
    2. Intracellular fluid
    3. Interstitial fluid
    4. Secretary fluid
17. **ω-3 and ω-6 fatty acids have an important role in:**
    1. skin integrity
    2. blood platelet aggregation
    3. Synthesis of hormone-like agents
    4. All of the above.
18. **All of the followings about calcium are true except:**
    1. It is important in blood clotting.
    2. 10-30% of dietary calcium is absorbed.
    3. Oxalic acid and phytic acid increase its absorption
    4. Vitamin D and Lactose increase its absorption.
19. **Fluid intake need to be increased in the following situation/s:**
    1. Renal failure
    2. High protein diet
    3. Edema
    4. All of the above
20. **20% of fat from total calories can be used in:**
    1. Weight management
    2. Weight gain
    3. Weight maintenance
    4. None of the above
21. **Regarding Vitamin C :**
    1. greater amounts can be found in metabolically resting tissues
    2. children contain more vitamin C than adults
    3. brain, eyes, and leukocytes have no stores of vitamin C
    4. all of the above
22. **All of the followings are true about the nutrition standards except:**
    1. Used by professional
    2. Standards are updated every 4-5 years as needed
    3. Focus on health and call attention to food, nutrients, and life style practices
    4. Include the dietary reference intakes
23. **Premature Infants are vulnerable to hemolytic anemia because they miss the last month or two were ………… stores are normally build up:**
    1. Vitamin C
    2. Vitamin E
    3. Vitamin A
    4. Iron
24. **Which one of the following statements regarding the functions of Vitamin B12 is wrong?**
    1. It participates in amino acid metabolism
    2. Participates in the formation of the heme portion of hemoglobin.
    3. Involved in the synthesis of important lipids and proteins that form the myelin sheath that covers the nerves of the brain and spinal cord.
    4. None of the above
25. **Regarding Niacin, all of the following statements are true except:**
    1. Milk prevents pellagra because it is high in tryptophan even when it is low in niacin.
    2. Niacin has two coenzyme forms: nicotinamide-adenine dinucleotide (NAD) and nicotinamide-adenine dinucleotide phosphate (NADP).
    3. Niacin deficiency results in the disease pellagra
    4. Niacin partners with thiamin convert amino acids and glycerol to glucose and then oxidize the glucose to release energy.
26. **Pyridoxamine is a natural form of:**
    1. Vitamin B6
    2. Vitamin B1
    3. Vitamin B12
    4. Vitamin B2
27. **Lecithinase is secreted from:**
    1. Mouth
    2. Stomach
    3. Pancreas
    4. Small intestine
28. **Regarding thiamin, all of the following statements are wrong except:**
    1. Thiamin is absorbed most efficiently in the alkaline environment of the upper small intestine.
    2. Thiamin is combined with potassium to form TPP.
    3. Fat and protein increase the need for thiamin, whereas Carbohydrate spares thiamin.
    4. Tissue thiamin responds rapidly to increased metabolic demand as in fever, high muscular activity, pregnancy, and lactation.
29. **Sara has a usual weight of 74 kg, after one month she lost 6 kg of her weight and weighed 68 kg. Her % Wt.change is going to be:**
    1. > 2 %
    2. > 5 %
    3. > 7.5 %
    4. > 10 %
30. **All of the following about copper are true except:**
    1. Found in all body tissues especially in liver, brain, heart & kidneys
    2. Part of several enzymes
    3. Help in wound healing
    4. Help in muscle contraction and bone formation
31. **Prolong malabsorption, renal failure and inadequate intake of Ca during pregnancy all can lead to:**
    1. Rickets
    2. Osteomalacia
    3. Osteoporosis
    4. Scurvy
32. **B12 is absorbed in:**
    1. Duodenum
    2. Jejunum
    3. Ileum
    4. None of the above
33. **Regarding Beta-carotene:**
    1. It can't be absorbed and utilized by the body in its original form
    2. Also called as preformed vitamin A
    3. Beta-carotene can be converted to vitamin A in the intestinal wall during absorption
    4. Can be obtained from animal sources
34. **Intestinal bacteria can synthesize:**
    1. Pantothenic acid
    2. Vitamin K (Menaquinone)
    3. Vitamin B12
    4. All of the above
35. **A disease of the peripheral nerves caused by thiamin deficiency; characteristics include pain (neuritis), paralysis of the extremities, cardiovascular changes, and edema. This is called:**
    1. Beriberi
    2. Scurvy
    3. Pellagra
    4. Goiter
36. **Folic acid is a yellow crystal made up of:**
    1. Pteroic acid
    2. Para-aminobenzoic acid (PABA)
    3. Alutamic acid
    4. All of the above
37. **If you want to advice an iron deficient patient, you may say:**
    1. Increase animal meat products and vitamin C to increase iron absorption.
    2. Non-haem iron (iron from meat) enhances haem iron absorption.
    3. Increase milk and milk products with the main meals.
    4. All of the above
38. **A BMI of 33.6 kg/m2 is considered as:**
    1. Normal weight
    2. Over weight
    3. Grade I obese
    4. Grade II obese
39. **Regarding vitamin K, all of the following statements are wrong except:**
    1. Vitamin K is important in blood clotting by converting thrombin to prothrombin
    2. In the liver vitamin K is stored in large amounts but excreted rapidly after administration of therapeutic doses.
    3. Menaquinone, another form of vitamin K, is synthesized by plants.
    4. Vitamin K stimulates the synthesis of osteocalcin and other proteins that are important in bones
40. **All of the followings about vitamins are true except:**
    1. They are not metabolized to yield energy
    2. It cannot be manufactured by the body
    3. It must be an inorganic dietary substance
    4. When the vitamins were first discovered, it was believed that each had **one** unique function
41. **Intermediate density lipoproteins (IDL):**
    1. Transport triglycerides from the liver to tissue cells.
    2. Have the same action of VLDL
    3. Take cholesterol from the cells to the liver
    4. a + b
42. **Early observations of British sailors led to the discovery of an acid in lemon juice that could prevent or cure scurvy disease, that was:**
    1. Vitamin C
    2. Vitamin E
    3. Vitamin A
    4. Vitamin K
43. **Goiter is a disease caused by a deficiency of:**
    1. Iron
    2. Iodine
    3. Biotin
    4. Niacin
44. **Factor/s that can increase calcium absorption include/s:**
    1. Vitamin D
    2. Acidity of gastric juice
    3. Lactose
    4. All of the above
45. **All the followings are functions of body lipids except:**
    1. Ready source of energy for brain and central nervous system.
    2. Transmission of nerve impulses
    3. Precursors of other substances
    4. Protection of vital organs
46. **Infants with elevated blood levels of bilirubin who are treated with phototherapy are prone to have:**
    1. Thiamin deficiency
    2. Niacin deficiency
    3. Riboflavin deficiency
    4. Biotin deficiency

GOOD LUCK ☺