

# Question of CAT 2 in Biochemistry

## PART I\ One Best Response

**1- As regarding DRI :**

- a. EAR ... when no sufficient data to calculate RDA
- b. EAR ... directly required for all healthy individual.
- c. RDA ... the minimal requirement of healthy adult.
- d. EAR ... the basic for ... RDA. ✓
- e. Dietary b/w EAR & RDA can consider as normal.

**2- Retinol:**

- a. Can be enzymically formed from retinoic acid.
- b. Is transport retinyl ester from the intestine to the liver in chylomicrons. ✓
- c. Is best recommended to treatment of acne.
- d. Can give rise to two molecules Beta-carotene.
- e. Is available in plant as retinyl ester.

**3- UI level:**

- a. It is recommended level of daily dietary ...
- b. Intake b/w RDA & UI can consider as inadequate.
- c. Level intake above UI is safe.
- d. It highest average daily ... ✓
- e. It applies to half of individual in a healthy state.

**4- Differences in fat distribution:**

- a. Apple shape common in female.
- b. Lower fat cell large than abdominal fat cell.
- c. Abdominal fat cells hormonally more response than fat cells in leg. ✓
- d. Women lose weight more readily than men.
- e. Android obesity is relatively benign healthwise.

**5- Severe obesity is characterized by:**

- a. Increased of no. of fat cell.
- b. Hypertrophy of fat cell.
- c. Hypertrophy & hyperplasia of fat cell. ✓
- d. Increased the size without increased the no. of fat cell.
- e. Increased the no. without increased the size of fat cell.

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**6- RMR:**

- a. Is the energy expended by an individual during absorption of food.
- b. Is the energy required for carrying out normal body function. ✓
- c. Is obtained from carbohydrate of diet only.
- d. Varies w/ muscular activity.
- e. Requirement 10% of total energy expenditure.

**7- Best describe a 50-years old man that 200 tall & 96 weighting:**

- a. Overweight.
- b. Obesity.
- c. Normal. ✓
- d. Apple-shape obese.
- e. Pear-shape obese.

**8- As in protein in urine:**

- a. Albumin is normally present in urine in high amount.
- b. Bence-Jones protein precipitate at 100 C.
- c. Nephrotic syndrome causes marked renal proteinuria. ✓
- d. Bladder stones causes prerenal proteinuria.
- e. Glomerulonephritis may cause postrenal proteinuria.

**9- In CSF electrophoresis, an oligoclonal bands are seen in:**

- a. T.B. meningitis.
- b. Bacterial meningitis.
- c. Multiple sclerosis. ✓
- d. Brain tumor.
- e. sub-arachnoid hemorrhage.

**10- As for LDL-cholesterol blood level, the incorrect statement:**

- a. Lowered w/ increased conc. of oleic acid.
- b. It correlated w/ coronary heart disease.
- c. Elevated w/ increased conc. coconut oils.
- d. Lowered w/ increased conc. of animal fat. ✓
- e. Could be lowered by a high dose of niacin.

**11- Regarding Leptin:**

- a. Produced by db gene.
- b. Secreted by hypothalamus.
- c. Binding to Leptin receptor at adipose tissue.
- d. Its plasma level in obese human is usually normal for their fat mass. ✓
- e. Daily injection of leptin causes mice to gain weight and become obese.

**12- Trans fatty acid:**

- a. Are chemically classified as saturated fatty acid.
- b. Have no effect in serum cholesterol level.
- c. May reduce the risk of coronary heart disease.
- d. Are formed during the manufacture of margarine. ✓
- e. Occur naturally in plant.

**13- Regarding to biological value, Incorrect:**

- a. It is low for plant.
- b. Mixing b/w wheat and kidney beans may improve the biologic value.
- c. The biological value of milk protein is 100. ✓
- d. It is low for gelatin.
- e. It is a measure of its ability of a protein to provide the essential amino acid.

**14- As regards the carbohydrate of the diet:**

- a. The absence of it leads to degradation of body proteins. ✓
- b. They are essential.
- c. They yield about 9 kcal/g.
- d. Dietary rich in sucrose may lead to DM.
- e. The energy content of carbohydrate is more than twice that of fat.

**15- Marasmus:**

- a. Occur in children when protein deprivation is relatively greater than reduction in total calories.
- b. Usually occur in children after weaning.
- c. It characterized by marked edema.
- d. Occur in children when mother's milk supplemented with dietary deficient in protein and calories. ✓
- e. It characterized by marked lowering of plasma albumin concentration.

**16- Which the following amino acid is essential:**

- a. Glycine.
- b. Serine.
- c. Phenylalanine. ✓
- d. Tyrosine.
- e. Glutamic acid.

**17- As regards Vitamin B6, all the followings are true EXCEPT:**

- a. All forms of Vitamin B6, are derivatives of pyridine.
- b. Some of Vitamin B6 form found in food obtained from animal.
- c. Deficiency of Vitamin B6 may caused by isoniazid.
- d. All forms of Vitamin B6 function as coenzymes for catalyze. ✓
- e. The active form is required for formation of histamine from histidine.



- 18- Which of the following cofactors must be present during conversion of pyrovalate to acetyl CoA:**
- a. Ascorbic Acid.
  - b. Biotin
  - c. Thiamine pyrophosphate. ✓
  - d. NADP+.
  - e. Methylcobalamine.
- 19- Dietary fiber:**
- a. Provides greater amount of energy.
  - b. It is digestible carbohydrate.
  - c. Delays gastric motility. ✓
  - d. Decrease bowel emptying.
  - e. Increased absorption of dietary cholesterol.
- 20- Vitamin B2 is a required for synthesis one of the following is:**
- a. NADP+.
  - b. FAD. ✓
  - c. Methylcobalamine.
  - d. Pyridoxal phosphate.
  - e. Coenzyme A.
- 21- All the following are true for niacin, EXCEPT:**
- a. Its deficiency lead to Pellagra.
  - b. It may inhibit Lipolysis in adipose tissue.
  - c. Its coenzyme is important in oxidation-reduction reaction.
  - d. It is pyridine derivative.
  - e. Its major source is tryptophan. ✓
- 22- All the following are true for pernicious anemia, EXCEPT:**
- a. It is mainly caused by deficiency of dietary cobalamins. ✓
  - b. It is accompanied with impaired DNA pyrimidine.
  - c. The disease may show neuropsychiatric symptoms.
  - d. It is treated by cyanocobalamin injection for life.
  - e. Abnormal fatty acid may be accumulated.
- 23- Metabolic syndrome may include all the following, EXCEPT:**
- a. Obesity
  - b. High serum trigacylglycerols.
  - c. Glucose intolerance.
  - d. High serum HDL. ✓
  - e. Insulin resistance.

- 24- All the following are true for Folic acid, EXCEPT:**
- a. It can be synthesized by human cell. ✓
  - b. It is required for synthesis of purine.
  - c. Its deficiency leads to megaloblastic anemia.
  - d. NADPH is required for the synthesis of active form.
  - e. Women in child-bearing age should consume 0,4 mg/day of folic acid.
- 25- ???**
- 26- Ascorbic acid**
- a. Can be synthesized by intestinal bacteria.
  - b. Is an oxidizing agent
  - c. Is required for hydroxylation of glutamic acid residues in collagen.
  - d. Is a fat soluble vitamin.
  - e. Deficiency leads to defective in connective tissue. ✓
- 27- The coenzyme required for carboxylation reactions is:**
- a. NAD<sup>+</sup>.
  - b. Biotin. ✓
  - c. FMN.
  - d. Methylcobalamine.
  - e. Pyridoxal phosphate.
- 28- Obesity is inherited as:**
- a. X-linked dominant.
  - b. X-linked recessive.
  - c. Autosomal dominant.
  - d. Autosomal recessive.
  - e. Complex Polygenic. ✓
- 29- Vitamin K2 ( menaquinone ) is:**
- a. Present in egg yolk.
  - b. Present in plants.
  - c. Present in red meat.
  - d. Produced by intestinal bacteria. ✓
  - e. Synthesized in liver cells.
- 30- Pantothenic acid is a constituent of the coenzyme involved in:**
- a. Carboxylation.
  - b. Transfer of acyl groups. ✓
  - c. Transamination.
  - d. Reduction.
  - e. Deamination

- 31- As for vitamins A. all the followings are true, EXCEPT:
- a. Retinol can be converted to Retinal in the body.
  - b. Retinoic acid is involved in the promotion of growth.
  - c. 13-cis Retinoic acid may help to reduce the risk of coronary heart disease. ✓
  - d. Retinol is used in treatment of night blindness.
  - e. All trans Retinal is isomerized to 11-cis Retinal for regeneration of rhodopsin.
- 32- Which one of the following is appetite-stimulating hormone:
- a. Adiponectin
  - b. Ghrelin. ✓
  - c. Cholecystokinin.
  - d. Resistin.
  - e. Insulin.
- 33- All the following statement are true for Vitamins, EXCEPT:
- a. ???
  - b. ???
  - c. ???
  - d. Folic acid ... spina bifida.
  - e. Cheilosis may be a symptom of riboflavin deficiency.
- 34- All the following statement are true for CSF, EXCEPT:
- a. Albumin is the main protein in CSF.
  - b. CSF glucose conc. is higher than that in plasma. ✓
  - c. Chlorides are present in a higher conc. than in plasma.
  - d. Potassium is present in a lower conc. than in plasma.
  - e. In TB meningitis, protein conc. in CSF is increased.
- 35- Vitamin K deficiency, all the following statement are true, EXCEPT:
- a. It is commonest in newborn.
  - b. It may lead to hypoprothrombinemia.
  - c. It may caused by ingestion of oral antibiotic.
  - d. It may lead to hemorrhagic disorder.
  - e. It may lead to a deficiency of Platelets. ✓

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## PART II\ True & False

### 1- As regards Vitamins:

- a. Pyridoxamine is the active form of vitamin B6. F
- b. Retinoic acid is active in maintaining of reproduction. F
- c. Vitamins B12 is present in plant. F
- d. Methylcobalamine contain cyanide. F
- e. Nicotinic acid nutritionally equivalent to nicotinamide. T

### 2- As regards nutrition:

- a. Pregnancy may cause positive nitrogen balance. T
- b. Increased sucrose intake is correlated with dental caries. T
- c. An oil of diet rich in n-3 fatty acids may increase platelet aggregation. F
- d. It is recommended that children consumption of protein should be 2g/Kg/day. T
- e. Beriberi is caused by deficiency of thiamine. T

### 3- As regards the following statements:

- a. fructosuria may be alimentary. T
- b. Biotin can be synthesized by intestinal bacteria. T
- c. Bilirubin may appear in urine in cases of intrahepatic obstruction of bile ducts. T
- d. Prevention is better than treatment of obesity. T
- e. The recent epidemic of obesity is mainly due to sedentary lifestyle with eating high diet. T

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Double Jـ

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... ولا تنسوننا من دعائكم ...

أبو عمر

Dr.ytk@w.cn

