

**IDA REGISTERED DIETITIAN EXAMINATION**

**NOVEMBER 2007**

**Paper I (Physiology, Microbiology, Biochemistry)**

Time : 2 Hrs

Answer All Questions

Marks : 100

**Section A (20 x1 = 20 marks)**

1. Of the following, which one acts as an antibacterial agent?
  - a. Lysosome
  - b. Lysozyme
  - c. Lysine
  - d. Lecithin
  
2. Internationally accepted generic name for antibody is:
  - a. Agglutinin
  - b. Opsonin
  - c. Immunoglobulin
  - d. Lysine
  
3. Coronary thrombosis leads to a :
  - a. Stroke
  - b. Heart block
  - c. Heart failure
  - d. Heart attack
  
4. The condition of hypothyroidism present from birth is:
  - a. Gigantism
  - b. Midget
  - c. Dwarfism
  - d. Cretinism
  
5. Number of nucleotides present in a codon are:
  - a. Three
  - b. Four
  - c. Five
  - d. Six
  
6. Pasteurization is designed to:
  - a. Kill all living organisms present in the material being treated
  - b. Make material almost sterile
  - c. Reduce the number of potentially harmful organisms
  - d. All of the above
  
7. Cellulose is not digested in the human gastro-intestinal tract because of absence of
  - a. Alpha amylase
  - b. Beta amylase
  - c. Cellulase
  - d. Xylanase

8. Generally heating food for 10 minutes at the following temperature kills nonspore forming pathogens
- 50 degree centigrade
  - 60 degree C
  - 70 degree C
  - 80 degree C
9. Aflatoxins M1 and M2 are found largely in:
- Vegetable products
  - Dairy products
  - Cereal products
  - Poultry products
10. Two substances that are classified as polysaccharides are:
- Amylose and Glucose
  - Amylopectin and sucrose
  - Insulin and glycogen
  - Maltose and starch
11. Malonyl CoA is produced from the condensation of acetyl CoA and a carbonate molecule. This reaction requires:
- Free CoA
  - Biotin
  - Oxygen
  - Molecular Hydrogen
12. A ketogenic amino acid among the following is:
- Leucine
  - Alanine
  - Glycine
  - Serine
13. The amino acid precursor of niacin is:
- Lysine
  - Tryptophan
  - Arginine
  - Tyrosine
14. A dietary deficiency of the following factor can lead to Wernicke-Korsakoff syndrome:
- Niacin
  - Biotin
  - Thiamine
  - Riboflavin
15. Humans are unable to synthesize glucose from fatty acids because they cannot carry out which conversion?
- Phosphoenolpyruvate -> oxaloacetate
  - Oxaloacetate -> pyruvate
  - Pyruvate -> phosphoenolpyruvate
  - Acetyl CoA -> oxaloacetate

16. Which of the following metabolic pathways is most active in the liver of an untreated diabetic patient relative to a well fed, treated diabetic?

- a. Gluconeogenesis
- b. Lipolysis
- c. Glycolysis
- d. Glycogen synthesis

17. Which of the following does NOT decrease the rate of blood coagulation?

- a. Antithrombin 111
- b. Heparin
- c. Ethylene diamine tetraacetic acid (EDTA)
- d. Calcium ions

18. Which one of the following processes is stimulated by insulin in muscle but not in liver?

- a. Protein synthesis
- b. Glucose transport
- c. Fatty acid synthesis
- d. Glycogen synthesis

19. The major source of Salmonella is:

- a. Marine products
- b. Poultry products
- c. Procine products
- d. Bovine products

20. The causative agent of tetanus is:

- a. Salmonella
- b. Clostridium
- c. Mycobacterium
- d. Culex

### Section B (50 marks)

1. Fill in the blanks: (5x1 =5 marks)

- a. In abeta lipoproteinemia, chylomicrons are -----
- b. An example of an osmophile is -----
- c. ----- is a ketogenic amino acid
- d. ----- plays an important role in muscular contraction
- e. ----- is an inhibitor of glycolysis

2. Match the following (5x1=5 marks)

- |                         |                         |
|-------------------------|-------------------------|
| a. Alkaptanuria         | a. Pseudomonas          |
| b. Alkaline phosphatase | b. Tyrosine             |
| c. Psychrophile         | c. Cl.perfringens       |
| d. Neutrophils          | d. Obstructive jaundice |
| e. Enterotoxin          | e. Schilling Index      |

3. Explain the following (5x2 =10 marks)

- a. Two enzymes of clinical importance
- b. Reverse cholesterol transport
- c. Oxidation – reduction potential of food
- d. Changes in milk fat due to spoilage
- e. Combined acidity

4. Write briefly on (5x6= 30 marks)
- a. Spoilage of meat under aerobic conditions
  - b. Members of electron transport chain
  - c. Controlled Atmospheric storage
  - d. Factors affecting excitability and contractility of muscles
  - e. Composition of urine

**Section C (2x15 =30 marks)**

Answer any two questions

1. Write on cardiac output and its control
2. Explain food borne infections and intoxications with reference to causes for outbreak, food sources, toxins and its prevention
3. Describe the steps involved in beta oxidation of fatty acids

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**Paper II (Nutrition, Dietetics, Food Service Management)**

Time : 2 Hrs

Answer All Questions

Marks : 100

**Section A (10x2=20 Marks)**

Give the correct answer

1. The type of diet recommended for a person with calcium stone
  - a. Alkaline ash
  - b. Acid Ash
  - c. Low calcium
  - d. Low protein
  
2. Patient who have had resection of the ileum should be monitored for
  - a. Iron deficiency anemia
  - b. Fat soluble vitamin deficiency
  - c. Calcium and phosphorus deficiency
  - d. Vitamin B12 deficiency
  
3. Metabolic water refers to water
  - a. contained in foods
  - b. Moving from compartment to compartment
  - c. Absorbed from gastro intestinal secretions
  - d. Formed from oxidation of nutrients in the cells
  
4. GDM is detected during the gestational period
  - a. 10-20 weeks
  - b. 22-28 weeks
  - c. 26-32 weeks
  - d. At 40 weeks
  
5. What is Phylloquinone?
  - a. Vitamin E
  - b. Vitamin H
  - c. Vitamin K
  - d. Vitamin B9
  
6. "Salamander" used in the food production area refers to
  - a. A barbeque grill
  - b. A grill in the oven
  - c. A cabinet inside the cooking range
  - d. A rotisserie in the oven
  
7. What is the Dietary department space required per bed for 250 bed hospital recommended by CGHS?
  - a. 16sq.ft
  - b. 20sq.ft
  - c. 15sq.ft
  - d. 10sq.ft

8. What is Shakir's tape used for in Nutritional Assessment?
- To measure Mid Arm circumference
  - To measure the length of an infant
  - To measure skin fold thickness
  - To measure the head circumference
9. What is energy content of one gram of body fat
- 9.0 kcal
  - 7.7 kcal
  - 7.0 kcal
  - 9.9 kcal
10. Patient on HAART can partially compensate for redistribution syndrome by
- Taking medications as prescribed
  - Taking supplemental vitamins and minerals
  - Consuming low fat diet
  - Exercising

**Section B (50 marks)**

1. Match the following (5x1=5 marks)
- |                         |                           |
|-------------------------|---------------------------|
| a. Lithium (anti manic) | a. Metabolic disorders    |
| b. Curcumin             | b. Hyperthyroidism        |
| c. Bariatric surgery    | c. Free radical scavenger |
| d. Addison's disease    | d. Sodium and water       |
| e. Graves Disease       | e. For weight loss        |
2. Expand the following (5x1 =5 marks)
- NCHS
  - pH
  - HACCP
  - ICDS
  - SIADH
3. (5x2 =10 marks)
- Convert 3000 mg potassium into mEq
  - Convert 2500 K calorie of energy to Mega joules
  - Give the normal serum levels of creatinine and urea
  - Give the commercial formula for ORS
4. Define (5x2=10 marks)
- Toned milk
  - Phyto nutrients
  - GM foods
  - Dietetics
  - Osmolality
5. Write briefly on (4x5=20 marks)
- Tools of management
  - ABC analysis
  - Nalgonda Technique used for de-fluoridation of water
  - Composition and preparation of space foods

**Section C (2x15=30 marks)**

Answer any two questions

1. Parab Vandana 56 years old is admitted in ICU with carcinoma of ovaries, metastasis. She is a known case of diabetes mellitus and hypertension. She is on mechanical ventilation, into renal failure and has been prescribed R.T. 1.5 Liters 30 gram protein, 2000 k calories, no salt. Plan with calculations a tube feeding with a feeding chart giving timing and quantity of each feed. Use a combination of kitchen feeds and a suitable formula.

2. a. What is cystic fibrosis? What are the clinical features?

b. Plan and calculate the diet you would recommend for a 5 year old child admitted with cystic fibrosis, weighing 12 kg and having severe breathing problems. Give a brief outline of the diet counseling you would give the mother. (5+10 marks)

3. Mrs. Lata Agarwal is a house wife who has undergone hysterectomy two months back.

Age: 42 years

Height: 150 cms

Weight: 96 kg

a. Give the objectives and goals of nutritional management of this patient.

b. Plan and calculate the diet you would recommend.