

REGISTERED DIETITIAN EXAMINATION QUESTION PAPER

November 2012

Paper I (Physiology, Microbiology, Biochemistry)

Time : 2 Hrs

Answer All Questions

Marks : 100

Section A

I. Multiple Choice Questions (10 x 2 = 20 marks)

1. Gastric atrophy leads to
 - a. Iron deficiency anemia
 - b. Peptic ulcer
 - c. Pernicious anemia
 - d. Aplastic anemia
2. In Polycythemia
 - a. ESR is decreased
 - b. Cyanosis commonly occurs
 - c. PCV is decreased
 - d. Blood viscosity is decreased
3. Salivary secretion is stimulated by the following factors **EXCEPT**
 - a. Parasympathetic stimulation
 - b. Thought of food
 - c. Pregnancy
 - d. Anxiety
4. Which of the following chromatographic techniques is based on molecular size?
 - a. Ion exchange
 - b. Paper
 - c. Gel filtration
 - d. Affinity
5. The normal pH of plasma is maintained by **ALL** of the following **EXCEPT**
 - a. Heat mechanism
 - b. Lung's mechanism
 - c. Plasma buffer
 - d. Renal mechanism
6. Respiratory acidosis results from
 - a. Diabetes mellitus
 - b. Starvation
 - c. Obstruction to respiration
 - d. Hyperventilation
7. Which of the following vitamins does NOT participate in the oxidative decarboxylation of pyruvate acetyl Coenzyme –A
 - a. Biotin
 - b. Niacin
 - c. Riboflavin
 - d. Thiamine
8. Muscle glycogen is NOT available for maintenance of blood glucose concentration because
 - a. Muscle lacks glucose-6-phosphatase activity
 - b. There is insufficient glycogen in muscle
 - c. Muscle lacks glucose transporter GLUT-4

- d. Muscle lacks glucagon receptors
9. Plate count of bacteria in foods generally use the plating medium consisting of
- a. Peptone, yeast extract, glucose, sodium chloride, agar and distilled water
 - b. Yeast extract, glucose, sodium chloride, agar and distilled water
 - c. Peptone, glucose, sodium chloride, agar and distilled water
 - d. Peptone, yeast extract, glucose, sodium chloride and distilled water
10. Which of the following is **NOT** true for the thermal resistance of the bacterial cells?
- a. Cocci are usually more resistant than rods
 - b. Higher the optimal and maximal temperatures for growth, higher the resistance
 - c. Bacteria that clump considerably or form capsules are difficult to kill
 - d. Cells low in lipid content are harder to kill than other cells

Section B

I. State Whether the Following Statements are 'TRUE' or 'FALSE' (5 x 1=5 marks)

1. Diffusion co-efficient of CO₂ is 20 times that of O₂
2. The rate of lipogenesis is high in case of a diet containing high proportion of fat
3. Sympathetic discharge is decreased during fasting and increased by feeding
4. Vitamin B12 is associated with the growth of the bacterium *Klebsiella pneumonia* during fermentation
5. Ketoacidosis may be induced by myocardial infarction

II. Fill in the blanks (5 x 1 =5 marks)

1. Lipogenesis is higher when _____ is fed instead of glucose
2. Campylobacters are non-spore forming, oxidase-positive and gram _____ rods
3. The location, step or procedure at which some degree of control can be exercised over a microbial hazard is known as _____
4. Glucose, salts, water and amino acids are reabsorbed into the blood capillaries through the _____
5. The hormone that is involved in producing concentrated urine is _____

III. Match the Following (5 x 1 = 5 marks)

- | | |
|----------------|-----------------------------|
| a. Sweating | 1. Hyperpnoea |
| b. RIA | 2. Factor IX |
| c. Neutropenia | 3. Asympathetic cholinergic |

- d. Respiratory Alkalosis
- e. Christmas Disease
- 4. Radio Immune Assay
- 5. Bone marrow depression

IV. Explain the following terms (5 x 2 =10 marks)

- 1. Lambert's Law
- 2. Infective dose
- 3. Plasmin
- 4. Succus entericus
- 5. Dye reduction tests

V. Write the name of the condition / disorder caused by the following (5 x 1 =5 marks)

- 1. Bacillus cerus
- 2. Mycotoxins of Asperigillus
- 3. Carbamyl-phosphate synthetase (CPS) deficiency
- 4. Insulin resistance
- 5. Hyperuricemia

VI. EXPAND the following and write one significance of the same (5 x 2 =10 marks)

- 1. ELISA
- 2. PDH
- 3. CSF
- 4. ERH
- 5. HTST

VII. Write the outcome of the following in brief (5 x 2 =10 marks)

- 1. Hypervitaminosis D
- 2. Esophageal varices
- 3. Type I Von Gierke's Disease
- 4. Alimentary toxic Aleukia
- 5. Infection with Giardia lamblia

Section C

I. Answer ANY TWO Questions (2 x 15 = 30marks)

1. Define taste. List the different types of food taste. Describe with the help of a diagram, the taste Pathway
2. Discuss the structure, classification, functions and properties of Immunoglobulins
3. Discuss the etiology, pathogenesis, laboratory diagnosis and prophylaxis of viral gastroenteritis

**IDA REGISTERED DIETITIAN EXAMINATION
NOVEMBER 2012**

Paper II-(Nutrition, Dietetics and Food Service Management)

Time: 2 Hours

Marks: 100

Answer All Questions

SECTION A (10×2=20)

1. Explain Oxidative Stress.
2. What is PTCA and explain briefly.
3. Describe failure to thrive (F T T)
4. What is the meaning of dyspnea?
5. What is GVHD ?
6. What is NRA in a Nutritional Screening Tool?
7. What is Kanawati Index?
8. Which of the following is an obesity-related disorder with dark, warty growths in skin folds like armpits, groin and around the neck?
 - a) Intertrigo
 - b) Vertigo
 - c) Acanthosis
 - d) Candidiasis
9. Expand ISO, NABH, NABL, JCI
10. What is Huntington's chorea Disease?

Section – B

1. Fill in the blanks: (5×1=5 Marks)

- a). Gynecomastia/ testicular atrophy is due to altered -----and ----- metabolism.
- b). ----- scale is widely used in the structural and metabolic disorders of brain function to determine the level of consciousness.
- c) Pancreatic `Delta` cells produce ----- hormone.
- d) Antioxidants found in tea are ----- and -----.
- e) An unintentional weight loss greater than _____ percent during the last six months is termed severe weight loss.

2. Multiple choice (5× 1=5 Marks)

1. What is the energy content of 1 g of body fat? .
 - a) 9.0 k.cal
 - b) 7.7 k.cal
 - c) 7.0 k. Cal
 - d) 9.9 k.cal
2. What is Croquette ?
 - a] A mixture of chopped or minced food coated with egg & crumbs & deep fried .
 - b] Small diced & fancy shape of toasted or fried bread used for garnishing soups
 - c] Thin clarified soup
3. Coconut is an excellent source of :
 - a. Manganese b. Zinc c. Calcium d. Magnesium

4. The Father of industrial catering is –
a) Robert Bruce, b) Birks, c) Robert Owen, d) Hiltons.

5. The protein content of 100ml human milk is –
a) 3.2gms, b) 1.1gms, c) 2.1gms, d) 4.3gms.

3. Explain/Answer the following (5× 2=10 Marks)

- What is PET Scan and its use?
- What are the methods used for controlling food cost?
- Determine the energy requirement for a 30 year old male weighing 70 kg with 35% TBSA burned using the Curreri Formula.
- What are different types of bonemarrow transplantations and explain briefly.
- Expand ARDS, PTCA, HAART, TNF

4. Write true or —false for the following statements (5× 1=5 Marks)

- The current IDA President is a member of the RD Board *True/False*.
- Probiotics are not live strains of 'good' bacteria, *True/False*.
- Chowder – powdered crackers added to milk. *True/False*.
- The amino acid containing hydroxyl group is Theonine.– *True/False*.
- 180 - 195 is the osmolality of normal serum. *True/False*.

5. Answer all the questions and explain the following: (5×5= 25 marks)

- Symptoms and signs of celiac disease other than the classical malabsorptive syndrome?
- What is chronic kidney disease and stages?
- i) Symptoms and management of hypoglycemia. ii) Somogyi Phenomenon
- What are the different steps in food distribution and types of hazards found in foods with two examples of each.
- i) Benefits of glutamine supplementation in the critically ill patients. ii) What is transitional feeding?

Section C:

ANSWER ANY 2 OF THE FOLLOWING: (2 × 15 = 30 Marks)

- Mr. A, a 50 year old senior executive was diagnosed with gastric ulcer a few years back. After conservative treatment with drugs and antibiotics failed, he had to undergo partial gastrectomy with gastroduodenostomy. In his rehabilitation phase, he is, now, on an oral diet but frequently experiences GI discomfort 30-60 minutes post meal.
 - Name the syndrome, the accompanying symptoms and the reason Mr. A experiences them. 3 marks
 - What are the objectives of dietary treatment? Define anastomosis? 2 marks
 - Suggest suitable dietary and lifestyle modifications for relief of symptoms. 3 marks
 - Plan and calculate a day's diet for Mr. A. 7 marks
- Mrs. B, a 50 year old house wife presented with the following blood parameters in the out-patient clinic of a hospital:

Total Cholesterol	- 255 mg/dL	S. Triglycerides	- 280 mg/dL
LDL Cholesterol	- 190 mg/dL	VLDL Cholesterol	- 30 mg/dL
HDL Cholesterol	- 45 mg/dL	FBS	- 90 mg/dL
Weight	- 60 kg	Height	- 150 cm

No family history of premature CHD, not on drugs yet.

- a) List five important interventions that could delay drug therapy in this case. 4 marks
- b) What are the target values? 2 marks
- c) Give the nutrient composition of the diet you would recommend for Mrs. B. 2 marks
- d) Plan and calculate a day's diet. 7 marks

3. Mr. C, a 70 year old male (weight 55 kg, height 165 cm) is undergoing maintenance hemodialysis.

BUN	-	70 mg/dL	S. Creatinine	-	3.8 mg/dL
Sodium	-	155 mEq/L	Potassium	-	5.2 mEq/L
Phosphorus	-	6.5 mg/dL			

- a) Calculate his GFR using Cockroft-Gault equation. 2 marks
- b) Give the normal blood levels for BUN, creatinine, sodium, potassium and Phosphorus. 2 marks
- c) How much weight gain is generally permissible between two successive dialysis treatments? 1 mark
- d) What measures are required to control elevated phosphorus levels in the patient? 3 marks
- e) Plan and calculate a day's diet for Mr. C. 7 marks