

AU-1142

M.Sc. (Home Science) (Food Science and Nutrition) Semester-I Examination

113HP46 : HUMAN PHYSIOLOGY

Time : 2.30 Hours]

[Maximum Marks : 60

Note :—(1) All questions are compulsory.
(2) All questions carry equal marks.

1. Solve the following :

1.1 Define :

- | | |
|--|---|
| 1.1.1 Free radicals and aging. | 2 |
| 1.1.2 Calorie restriction and lifespan | 2 |
| 1.1.3 Dietary antioxidants. | 2 |

1.2 Choose and write correct answer.

1.2.1 The most common external signs of aging involve :

- | | |
|--------------------------|---|
| (a) Skin | |
| (b) Hair | |
| (c) Nails | |
| (d) All (a), (b) and (c) | 1 |

1.2.2 Basic functional unit of life is :

- | | |
|---------------|---|
| (a) Cell | |
| (b) Muscle | |
| (c) Intestine | |
| (d) Brain | 1 |

- 1.2.3 Increase in life span may result due to :
- (a) Caloric restriction with adequate nutrition
 - (b) Crash dietings
 - (c) Binge eatings
 - (d) Fasting and feasting
- 1.2.4 Beta carotene is a precursor of :
- (a) Vitamin E
 - (b) Vitamin K
 - (c) Vitamin D
 - (d) Vitamin A
- 1.2.5 Pigments in fruits and vegetables which exhibit antioxidant activity are called as :
- (a) Nutritive antioxidant
 - (b) Non-nutritive antioxidant
 - (c) Body enzyme antioxidant
 - (d) Environmental antioxidants
- 1.2.6 Physical growth refers to :
- (a) Increase in body size
 - (b) Increase in size of organs
 - (c) Both (a) and (b)
 - (d) None of the above

2. 2.1. Define enzymes. Give nomenclature and classification of enzymes with examples. 12

OR

- 2.2 Discuss role of enzymes and coenzymes in metabolism. 12

3. Answer the following :

- 3.1 Match the pair :

A	B	
3.1.1 Pancreas	(a) Sodium regulation	1
3.1.2 Master gland	(b) Endocrine and exocrine function	1
3.1.3 Aldosterone	(c) Hunger regulation	1
3.1.4 Calcium regulation	(d) Thyroid gland	1
3.1.5 Leptin	(e) Hypothalamus	1
3.1.6 Iodine	(f) Parathyroid hormone	1
	(g) Pituitary gland	

- 3.2 Write briefly :

3.2.1 Hormones.	2
3.2.2 Insulin and diabetes.	2
3.2.3 Estrogen and women's health.	2

4. Solve the following :

- 4.1 State true or false :

4.1.1 Nutrigenomics is highly personalized.	1
4.1.2 Individuals within the same family have exactly same genetic make up.	1

- 4.1.3 Nutrigenomics studies the interaction between dietary components of food and genes. 1
- 4.1.4 Micronutrient deficiencies can not be related to genome damage. 1
- 4.1.5 Modifying the dietary intake can prevent some type of monogenic diseases. 1
- 4.1.6 Nutrigenomics will not help in designing personalized right diets. 1
- 4.2 Write in sentence :
- 4.2.1 Bioactive food component. 1
- 4.2.2 Gene. 1
- 4.2.3 Genotype. :
- 4.2.4 Proteome. 1
- 4.2.5 Metabolome. 1
- 4.2.6 DNA. 1
5. Attempt any **one** :
- 5.1 Define homeostasis and discuss various methods of measuring body fluids. 12
- OR**
- 5.2 Describe body fluids and explain their role in maintaining body homeostasis with suitable examples. 12