

**Avinashilingam Institute for Home Science and Higher Education for Women  
(Deemed to be University) Coimbatore-641043.**

**Master's Degree Examination – November 2018  
III-Semester**

**Class : II PG  
Major : Food Science and Nutrition**

**Time: 3 hours  
Max. Marks: 60**

**17MFNC14 Macronutrients**

**Part A**

**10 x 1/2 = 5**

**Choose the correct answer**

1. The physical activity level values proposed by ICMR for sedentary work is -----

- a.1.53      b. 1.83      c.2.3      d.2.4

2. The following factors decrease total energy requirement except

- a. hypothyroidism      b.sleep      c.ageing      d.fever

3. ----- is a soluble fibre

- a. cellulose      b.hemi cellulose      c. pectin      d.lignin

4. Unripe banana is a -----starch

- a. rapidly digestible      b.resistant      c.slowly digestible      d.indigestible

5. ----- is an incomplete protein

- a. zein      b.rice protein      c.egg albumin      d.milk casein

6. PDCAAS value of egg white is -----

- a. 1.0      b.0.92      c. 0.73      d.0.40

7. ----- is rich in MUFA

- a.groundnut oil      b.rice bran oil      c. sesame      d.olive oil

8. Most stored body fat is in the form of

- a.triglycerides      b.cholesterol      c.fatty acid      d.phospholipid

9. The major extra cellular cation is -----

- a.K<sup>+</sup>      b.Na<sup>+</sup>      c.Ca<sup>+</sup>      d.Mg<sup>+</sup>

10. Water content is least in

- a. adipose tissue      b.bones      c.muscles      d.Nervous tissue

**Part B**

**5 x 4 = 20**

**Answer ALL questions**

**Each answer should not exceed 200 words or one page**

- 11.a. Write short notes on carbohydrate loading  
(Or)
- 11.b. Give the energy requirement for strenuous physical activity
- 12.a. Brief on the components of dietary fibre  
(Or)
- 12.b. Define resistant starch? Give the sources for different types of resistant starches
- 13.a. Compute the factorial estimates of protein requirement for 0-18 years  
(Or)
- 13.b. Classify proteins based on their chemical composition
- 14.a. Discuss about absorption of fats  
(Or)
- 14.b. Write short notes on lipotropic factors
- 15.a. Brief about distribution of body water  
(Or)
- 15.b. What is metabolomics? Write the extrinsic factors influencing human nutrition

**Part C**

**5 x 7 = 35**

**Answer ALL questions**

**Each answer should not exceed 600 words or three pages**

- 16.a. Write about the homeostasis of blood glucose  
(Or)
- 16.b. Brief on the energy metabolism during physical activity
- 17.a. Elaborate on glycogen storage disease  
(Or)
- 17.b. Discuss the impact of lack of insulin on carbohydrate metabolism
- 18.a. Describe any 3 methods to evaluate protein quality  
(Or)
- 18.b. Explain about absorption and factors affecting utilisation of proteins
- 19.a. Discuss about the generation of free radicals  
(Or)
- 19.b. Bring about the role of antioxidant enzymes in mammalian cells
- 20.a. Elaborate the role of hormones in maintenance of water balance  
(Or)
- 20.b. Highlight the hazards of hypo and hyper hydration with examples