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63/2 (SEM-3) ZOO 306E

2021

ZOOLOGY

(Theory Paper)

Paper : ZOO-306E (New)

(Nutrition, Health And Diseases)

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following multiple choice questions :

1×6=6

(i) Which of the following has the highest value
of Thermic Effect of Food (TEF) ?

- (a) fat
- (b) carbohydrate
- (c) protein
- (d) alcohol

[Turn over

(ii) Which of the following is not a useful measurement for evaluating the nutritional status in humans ?

- (a) Body mass index
- (b) Blood protein levels
- (c) Blood lipid levels
- (d) None of the above

(iii) Factors that influence the energy needs of a given individual depends on

- (a) Physical size and body composition
- (b) Level of physical activity
- (c) Age
- (d) All of the above

(iv) Beri-beri is a disease of

- (a) The skin
- (b) The nervous system
- (c) The intestinal and mouth
- (d) The bone and heart.

(v) Excess intake of which of the following may lead to urinary lithiasis ?

- (a) Vitamin E
- (b) Vitamin K
- (c) Vitamin D
- (d) Vitamin A

(vi) Which of the following is true about Sugar Alcohols (polyols) ?

- (a) they are forms of carbohydrate with sweetening power.
- (b) they add only 0.2 to 3.0 kcal/g when compared with other sugars
- (c) poorly absorbed in the small intestine and, if absorbed, are poorly metabolized
- (d) All of the above

2. Answer the following short questions : $2 \times 5 = 10$

- (i) What is the meaning of acceptable macro nutrient distribution range (AMDR) in nutritional biology ? Give example.
- (ii) What are trans fat ? What are their health implications ?

(iii) Write the difference between nutrigenomics and nutrigenetics.

(iv) What is the role of beta carotene and where is its source ?

(v) Elaborate the term ketonemia and hyperglycemia.

3. Answer any *six* of the following questions :

5×6=30

(a) What is Basal Metabolic Rate ? Explain the different factors that influence the BMR.

2+3=5

(b) Compare between the causes and symptoms of Rickets and Osteomalacia.

2½+2½=5

(c) What do you understand by Glycemic Index of a food ? What are the factors that influence the glycemic index ?

2+3=5

(d) Write the physiological functions of vitamin B12 and vitamin C.

5

(e) Explain the functional role of proteins in humans. What are the factors influencing protein requirements of our body ?

3+2=5

(f) Explain the functions of any two fat soluble vitamins and two trace elements in our body.

5

(g) What is glomerulonephritis ? What changes in diet are made to meet it ?

2+3=5

(h) Discuss role of nutrition in HIV investigation.

5

(i) Write about the nutrition related risk factors in pregnancy.

5

4. Answer any *two* of the following long answer type questions :

10×2=20

(i) Describe the function of essential fatty acids in our body. How are lipids digested and absorbed in our body ? Explain in detail.

5+5=10

(ii) Explain the factors that influence 'bioavailability' of nutrients in our body. What is meant by 'calcium-phosphorous balance' in our body ? Explain in detail the metabolism of calcium in our body.

(iii) Discuss the different types of hypertension. Mention the possible causes of malignant hypertension. Mention the management of hypertension.

10

5. Answer any *one* of the following very long type questions :

14×1=14

- (a) What is meant by *protein-sparing effect*? Explain how carbohydrates can exhibit antiketogenic and protein sparing effect? What happens to protein requirements in poorly planned weight-loss diets that are inappropriately low in carbohydrate?

2+6+6=14

- (b) Why Diabetes mellitus is termed as metabolic disorder? Compare the major distinguishing features of NIDDM and IDDM. Add a note on the complications and preventive measures for the treatment of disease.

2+4+8=14