

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(Second Semester)

Branch - NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS

PRINCIPLES OF NUTRITION

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

- 1 Match: Total energy needs = _____.
(i) Resting energy Expenditure + needs of activity
(ii) Resting energy expenditure - needs of activity
(iii) Resting energy expenditure (iv) Basal metabolic needs
- 2 State the physiological fuel value of 1g of carbohydrate
(i) 4 kcal (ii) 9 kcal
(iii) 5 kcal (iv) 6 kcal
- 3 Which of the following is an aldotriose?
(i) Dihydroxyacetone (ii) Glyceraldehydes
(iii) Ribose (iv) Glucose
- 4 Which of the following is intercellular buffer in our body?
(i) Bicarbonate buffer (ii) Phosphate buffer
(iii) Ammonia buffer (iv) All the above
- 5 Dietary fats are transported as
(i) Chylomicrons (ii) Liposomes
(iii) Lipid molecules (iv) Oil droplets
- 6 . Which of the following amino acid is a limiting amino acid in pulses?
(i) Leucine (ii) Lysine
(iii) Methionine (iv) Glutamine
- 7 Vitamin K is required for
(i) Cholesterol absorption in the intestine (ii) Blood clotting
(iii) Osteocalcin synthesis (iv) Vasodilation
- 8 Severe thiamin deficiency with advanced neuro muscular symptoms and extensive muscle wasting but no oedema is symptomatic to what condition?
(i) Dry beriberi (ii) Wet beriberi
(iii) Pellegra (iv) Wernicke korsakoff s syndrome
- 9 During rapid growth and calcification, the diet should have a calcium :
Phosphorus ratio of
(i) 1:1 (ii) 1:2
(iii) 2 : 1 (iv) 1 :4
- 10 Goitrogens are present in
(i) Tapioca and cassava (ii) Sorghum and finger millet
(iii) Lima beans and okra (iv) All the above

SECTION - B (25 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks (5 x 5 = 25)

11 a Outline the method of measurement of heat produced by the body using direct calorimetry.

OR

b Explain the concept of specific dynamic action of food.

12 a Discuss the role of carbohydrate in dental caries.

OR

b How does body maintain water balance?

13 a Write a note on sources and functions of proteins.

OR

b List the essential fatty acids and brief on their functions.

14 a Explain the deficiency of vitamin D in children and adults.

OR

b List the food sources and give the specific functions of folic acid.

15 a Discuss fluorine under sources, deficiency and toxicity.

OR

b Discuss the role of phosphorus in human nutrition.

SECTION -C (40 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks (5 x 8 = 40)

16 a How do you determine energy value of food using Bomb calorimeter?
Explain in brief.

OR

b Define total energy requirement and discuss the factors determining it.

17 a Discuss the process of digestion and absorption of carbohydrates.

OR

b Elaborate on the functions of water in the body.

18 a Elaborate on the aetiological factors of PEM.

OR

b Explain the term quality of protein. Discuss any 4 methods of determining the quality of protein.

19 a Discuss the functions and typical deficiency symptoms of vitamin C.

OR

b Discuss in detail the methods of prevent vitamin A deficiency.

20 a Elaborate on the factors affecting calcium absorption.

OR

b Write a detailed note on functions of iron and comment on its deficiency symptoms.