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SARDAR PATEL UNIVERSITY
M.Sc. (Home Science) I Semester (FN/FBT) (New CBCS and ATKT)
External Theory Examination
Date: 5/12/2012, Wednesday
10.30 a.m to 1.30 p.m

PH01CFDN03/PH01EFBT01: Food and Nutraceutical Chemistry

Total Marks: 70

(8)

Q.1 Choose the correct answer from the given options:

(i) Retrograded starch is the example of

- (A) RS₁
- (B) RS₂
- (C) RS₃
- (D) RS₄

(ii) The amino acid having highest water solubility is.....

- (A) Proline
- (B) Valine
- (C) Alanine
- (D) Arginine

(iii) The highest amount of omega -6 fatty acid is present in.....

- (A) Groundnut oil
- (B) Soy oil
- (C) Vegetable Ghee
- (D) Coconut oil

(iv) Proliferation of lymphocytes is brought about by peptides having

- (A) Antimicrobial activity
- (B) Immunomodulatory properties
- (C) Antithrombotic properties
- (D) Antipyretic properties

(v) The richest source of pectin is...

- (A) Wood apple
- (B) Tomato
- (C) Papaya
- (D) Apple

(vi) As the hydrogenation process increases

- (A) Iodine value decreases
- (B) Iodine value increases
- (C) No change in Iodine value
- (D) None of the above

(P.T.O)

(-2-)

(vii) The amino acid present in fewer amounts in cereal is

- (A) Glycine
- (B) Lysine
- (C) Aspartic acid
- (D) Methionine

(viii) Richest source of Betalin is...

- (A) Apple
- (B) Beet
- (C) Tomato
- (D) Amla

Q.2 Answer the following (any seven)

(14)

- a) Heat treatment to protein improves digestibility.
- b) Egg protein is considered as a complete protein.
- c) Define "functional foods".
- d) Fiber is considered as a functional ingredient.
- e) Enlist the health benefits of prebiotics.
- f) Food proteins vary in their quality.
- g) What are antithrombotic peptides?
- h) What are nutraceuticals?
- i) What are dietary supplements?

Q.3 Answer the following (any two)

(12)

- a) Write the mechanism by which fiber prevents a sharp rise in blood glucose.
- b) Write in detail about starch granule.
- c) Write sources and benefits of FOS as a prebiotic.
- d) Discuss the enzymatic hydrolysis of starch.
- e) Explain different types of resistant starch.

Q.4 (A) Enlist the functional properties of proteins and write in detail about dough formation and flavor.

(6)

OR

What is protein quality? Discuss any one method for evaluating the quality of food proteins.

(B) Explain the role of ACE inhibitory peptide.

(6)

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OR

Explain the role of mineral binding and antimicrobial peptides.

Q.5 Answer the following (any three)

(12)

- a) Write in detail about significance of fatty acids in food science.
- b) Write in detail about interesterification and its application in food industries.
- c) Discuss in detail about lipid oxidation in foods.
- d) Write the role of short chain fatty acid in the prevention of colon cancer.

Q.6 Write short note on (any four)

(12)

- a) Carotenoids
- b) Anthocyanin
- c) Modified starch
- d) Leavening agents
- e) Foaming
- f) Any two methods of sensory evaluation
- g) Classification of nutraceuticals
- h) Omega 3 fatty acids
