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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(Ag)-Hons-2021/B.Sc.(Ag)-Hons-2023

Course Name – Principles of Food Science and Nutrition

Course Code - CC-BAG601

(Semester VI)

Full Marks : 50

Time : 2:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 20=20

1. Choose the correct alternative from the following :

(i) Which is sweetest of all sugars ?

- a) Glucose
- c) Sucrose

- b) Galactose
- d) Fructose

(ii) How much kilo calories are obtained from each gram of carbohydrate, as starch or sugar ?

- a) 5
- c) 9

- b) 4
- d) 1

(iii) How much kilo calories are obtained from each gram of fat ?

- a) 5
- c) 9

- b) 4
- d) 1

(iv) In which form carbohydrates act also as reserve fuel supply in animal?

- a) Glycogen
- c) Cholesterol

- b) Starch
- d) Glucose

(v) Which among the following proteins yield only amino acids as an end product on complete hydrolysis ?

- a) Conjugated Proteins
- c) Derived Proteins

- b) Simple Proteins
- d) Complex Proteins

(vi) Identify the proteins which are attached to non- protein substances or prosthetic group ?

- a) Conjugated Proteins
- c) Derived Proteins

- b) Simple Proteins
- d) Complex Proteins

(vii) Which of the following is not fat soluble vitamin ?

- a) A
- c) E

- b) B
- d) K

(viii) Which of the following is not an active form of vitamin A in the body?

- a) Retinol
c) Retinoic acid
- b) Retinal
d) β -carotene
- (ix) Which of the following is caused due to the Deficiency of Niacin ?
- a) Xerophthalmia
c) Pellagra
- b) Beriberi
d) Osteomalacia
- (x) Which of the following Fatty acids contain no double bonds between carbon atoms ?
- a) Polyunsaturated
c) Monounsaturated
- b) Saturated
d) Triglycerides
- (xi) Select the option which basically the composition of Starch ?
- a) Unbranched amylose and branched amylopectin
c) Unbranched amylose and unbranched amylopectin
- b) Branched amylose and branched amylopectin
d) None of these
- (xii) Relate the statement with the options-Process of breeding crops to increase their nutritional value.
- a) Mass fortification
c) Targeted fortification
- b) Biofortification
d) Market driven fortification
- (xiii) Infer the best option related to golden rice.
- a) Mass fortification
c) Targeted fortification
- b) Biofortification
d) Market driven fortification
- (xiv) Show the correct option: alternate name of Acetic acid.
- a) Vinegar
c) Sodium benzoate
- b) Citric acid
d) Acetal
- (xv) Show the correct option: 1 gm of glucose produces how much energy ?
- a) 9 Kcal.
c) 1 Kcal.
- b) 4 Kcal.
d) 100 Kcal.
- (xvi) Juice can be drastically wasted if proper temperature is not followed to store. Select the best way for preservation of juice.
- a) Drying
c) Sterilization
- b) Freezing
d) Pasteurization
- (xvii) Select the correct answer among the following, which method of preservation is the permanent method of preservation?
- a) Use of light preservatives
c) Pasteurization
- b) Deaeration
d) Dehydration
- (xviii) Select the actual temperature for pasteurization of vinegar.
- a) 82°C
c) 60°C
- b) 77°C
d) 55°C
- (xix) Select the suitable temperature for pasteurization of chutney.
- a) 82°C
c) 60°C
- b) 77°C
d) 55°C
- (xx) Which of the following is a biological factor affecting food safety?
- a) Chemical contamination
c) Physical hazards
- b) Pathogens
d) Mold growth

Group-B

(Short Answer Type Questions)

2.5 x
10=25

2. Briefly explain the importance of lipids in food science and classify them. (2.5)
3. Why are proteins crucial in Nutrition Science ? (2.5)
4. Define Fats. Give two examples of saturated fats. (2.5)
5. Build the linear and cyclic structure of glucose. (2.5)

6. Distinguish between saturated and unsaturated lipids? (2.5)
7. Discuss the importance of lipids in nutrition? (2.5)
8. Summarize the reason why mono-unsaturated fats are better than saturated fats? (2.5)
9. Create the differences between glucose and sucrose with clear structure. (2.5)
10. Figure out an outline on Zwitterions. (2.5)
11. Figure out why sucrose is a non reducing sugar but not maltose. (2.5)

OR

Infer the importance of Glycemic Index. (2.5)

Group-C

(Long Answer Type Questions)

5 x 1=5

12. Classify amino acids according to their structure and give one example of each class. (5)

OR

Classify foods based on their shelf life. Explain with examples. (5)
