PH 811.1

Reg. No. | | | | | | |

St Aloysius College (Autonomous)

Mangaluru

Semester I – P.G. Examination – M.Sc Food Science Nutrition and Dietetics

November - 2019

FOOD MICROBIOLOGY

Time: 3 hrs. **Max Marks: 70**

I. Answer any SIX of the following: **(6x3=18)**

1. Write short notes on fluorescent antibody.
2. Write a note on microscope.
3. Microbiological enumeration of food sample.
4. Write a note on PCR.
5. What is Chemical Intoxication?
6. Write in brief about survival and growth conditions of coliforms.
7. Indicator Microorganisms.

II. Answer any FOUR of the following: **(4x7=28)**

8. Explain rapid methods for detection of microorganisms.
9. Discuss the principles of HACCP and its applications.
10. Discuss about different sources of microorganism in foods.
11. Explain phenotypic methods for identification of microorganism.
12. Explain the historical development in Microbiology.

III. Answer any TWO of the following: **(2 x12=24)**

13. Explain bacterial food borne infections? Discuss typhoid as an example.
14. Explain the microbial spoilage of fish and meat products.
15. What is ELISA? Discuss its different types.

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St Aloysius College (Autonomous)

Mangaluru

Semester I – P.G. Examination – M.Sc Food Science Nutrition and Dietetics

November - 2019

PRINCIPLES OF FOOD PROCESSING AND PRESERVATION

Time: 3 hrs. **Max Marks: 70**

I. Answer any SIX of the following: **(6x3=18)**

1. Write the various factors affecting food spoilage.
2. Write a short note on various heat processing techniques.
3. Write a short note on food frying.
4. Differentiate between Quick and slow freezing.
5. Define a) thermal death curve?
   b) z-value
   c) f-value
6. Write a note on IMF? Mention any two advantages of IMF?
7. How food is processed using ohmic heating? Explain the principle.

II. Answer any FOUR of the following: **(4x7=28)**

8. Explain different methods of concentration of liquid products.
9. Discuss on types, functions and permissible limits of food additives.
10. Explain principle and stability of emulsification in food processing.
11. Explain the class I and Class II preservatives and its effect in foods.
12. Explain the preservation methods used in household.

III. Answer any TWO of the following: **(2 x12=24)**

13. Explain in detail the principle and food applications of High pressure processing.
14. Explain drying curve with labelled sketch and discuss on any three advanced dryers and its purpose in food materials.
15. Discuss in detail about canning process and its application in food preservation.

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St Aloysius College (Autonomous)

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Semester I – P.G. Examination – M.Sc Food Science Nutrition and Dietetics

November - 2019

FOOD CHEMISTRY

Time: 3 hrs. **Max Marks: 70**

I. Answer any SIX of the following: **(6x3=18)**

1. Define hydrolysis of lipids. What is texturised proteins?
2. What is food fortification?
3. Briefly describe classification of carbohydrates.
4. Write a short note on fat substitute.
5. Write a short note on dietary fibers.
6. Write a note on food colorants.
7. Define Protein efficiency ratio (PER) and Biological value (BV).

II. Answer any FOUR of the following: **(4x7=28)**

8. Discuss on the properties of enzymes.
9. Write short notes on water activity, moisture sorption isotherm, molecular mobility and food stability.
10. Discuss on the Browning reaction in food and give their applications.
11. Discuss on functional properties of starch.
12. Describe the physical properties of Lipids.

III. Answer any TWO of the following: **(2 x12=24)**

13. Explain in detail proteins structure.
14. Discuss on macro minerals and their Bioavailabity.
15. Explain in detail rancidity and factors affecting rancidity.

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St Aloysius College (Autonomous)
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Semester I – P.G. Examination - M.Sc. Food Science, Nutrition and Dietetics

November - 2019

BASICS OF HUMAN PHYSIOLOGY

Time: 3 Hours **Max. Marks: 70**

I. Answer any SIX of the following. (6x3=18)

1. What is para sympathetic nervous system?
2. What are the factors that control blood flow in human body?
3. List down any three properties of cardiac muscle.
4. Write a short note on functional unit of kidney.
5. Give the composition of blood.
6. Write a short note on thyroid gland.
7. Write a short note on hypertension.

II. Answer any FOUR of the following. (4x7=28)

8. What is a synapse? Explain its importance with a neat labeled diagram.
9. Explain the mechanism of blood coagulation.
10. Discuss the events of cardiac cycle.
11. Explain the structure of neuron with a neat labeled diagram. List down the steps in action potential.
12. What is the role of hemoglobin and buffer systems in respiratory system? Explain.

III. Answer any TWO of the following: (2x12=24)

13. Explain the role of pancreatic enzymes in gastrointenstinal digestion.
14. Draw a neat labeled diagram of a typical human cell. Explain the functions of any four cell organelles.
15. Explain formation of urine in kidney.

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St Aloysius College (Autonomous)
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Semester I – P.G. Examination – M. Sc. Food Science, Nutrition and Dietetics

November - 2018

FOOD MICROBIOLOGY

Time: 3 Hours **Max. Marks: 70**

I Answer any SIX of the following: **(6x3=18)**

1. Robert Koch and Louis Pasteur.
2. Briefly mention the classification of microorganisms.
3. Microbiological enumeration of food sample.
4. Differential media and enriched media.
5. What is chemical intoxication?
6. PCR
7. ELISA

II Answer any FOUR of the following: **(4x7=28)**

8. Explain rapid methods for detection of microorganisms.
9. Explain the pathogenesis and clinical features of infection caused by salmonella.
10. Factors affecting the growth of microorganism.
11. Describe the role of indicator microorganisms for monitoring the microbial quality of milk.
12. Explain the historical development in microbiology.

III Answer any TWO of the following: **(2 x12=24)**

13. Explain in detail on bacterial food borne diseases, causative organism and symptoms.
14. Explain the spoilage micro flora of milk, fish and meat and their products.
15. Describe the functions and regulations of HACCP.

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St Aloysius College (Autonomous)
Mangaluru

Semester I – P.G. Examination – M. Sc. Food Science, Nutrition and Dietetics

November - 2018

PRINCIPLES OF FOOD PROCESSING AND PRESERVATION

Time: 3 Hours **Max. Marks: 70**

I Answer any SIX of the following: **(6x3=18)**

1. Write the principles of refrigeration.
2. Difference between deep and shallow frying.
3. Write a short note on effect of a_w on microorganisms.
4. Explain the functions of food additives.
5. Define rate of dehydration.
6. Factors affecting freezing rate.
7. What are intermediate moisture foods?

II Answer any FOUR of the following: **(4x7=28)**

8. Explain the types and uses of class I and class II chemical preservatives in foods.
9. What is drying curve? Explain the principle involved in drying of foods.
10. Define food spoilage. Explain the factors affecting food spoilage.
11. Explain on the factors affecting oil uptake during frying.
12. Explain different unit operations in canning of fruits.

III Answer any TWO of the following: **(2 x12=24)**

13. Explain the methods of freezing and write a note on freeze drying process.
14. Explain the method used in concentration of liquid food using evaporators. Add a note on changes of food during concentration.
15. Explain the applications of Hurdle technology in food processing.

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Semester I – P.G. Examination – M. Sc. Food Science, Nutrition and Dietetics

November - 2018

FOOD CHEMISTRY

Time: 3 Hours **Max. Marks: 70**

I Answer any SIX of the following: **(6x3=18)**

1. List the characteristic of bonded water.
2. Explain the gel formation in protein.
3. Physical properties of carbohydrates.
4. What is resistant starch?
5. Comment on the stability of thiamin, riboflavin and niacin.
6. Fat substitutes.
7. Write a short note on sweetners.

II Answer any FOUR of the following: **(4x7=28)**

8. Explain the implication of water activity in food preservation.
9. Discuss the browning reaction in foods.
10. Explain the functionality of starch in foods.
11. What are lipids? Explain the physical and chemical properties of lipids.
12. Explain the chemical and functional properties of food proteins.

III Answer any TWO of the following: **(2 x12=24)**

13. Explain auto-oxidation, thermal decomposition and modification of fats and oils.
14. How is protein content in food determined? Elaborate on the determination of its quality.
15. Discuss on the source and properties of enzymes.

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St Aloysius College (Autonomous)
Mangaluru

Semester I – P.G. Examination – M.Sc. Food Science, Nutrition and Dietetics

November - 2018

BASICS OF HUMAN PHYSIOLOGY

Time: 3 Hours **Max. Marks: 70**

I Answer any SIX of the following: **(6x3=18)**

1. Draw a neat labeled diagram of cell.
2. List down the hormones of the endocrine glands.
3. What is synapses? Brief its importance.
4. What is Erythropoesis?
5. What is water base balance of kidney?
6. List down the hormones, released from pituitary gland.
7. List the disorders of musculo skeletal system.

II Answer any FOUR of the following: **(4x7=28)**

8. Discuss on the cell membrane transport across a cell.
9. Explain in detail the mechanism of human digestion.
10. Discuss the multiplication of eukaryotic cells.
11. Discuss the role of hypothalamus and its role in various body functions like obesity.
12. Draw a neat labeled diagram of neuron. Explain the mechanism of signal conduction.

III Answer any TWO of the following: **(2 x12=24)**

13. Explain the formation and clotting of blood.
14. Draw a neat diagram of functional unit of kidney and explain formation of urine.
15. What is the role of hemoglobin and buffer systems in respiratory system? Explain.

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