Term End Examinations, May 2018

Programme: MSc Nutrition Biology Session: 2017-18

Semester: 2nd Max. Time: 3 Hours

Course Title: Bioinformatics Max. Marks: 70

Course Code: SIAL NB 01 02 03 GEC 0303

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three and half Marks.

2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

Question No1. Briefly define the following terms

(4X3.5=14)

- a. PDB
- b. Pubmed
- c. Input devices in computer organization
- d. Rooted tree
- e. Genome & proteome
- f. KEGG
- g. Protpram

Question No.2

(2X7=14)

- a. Outline the steps of protein structure downloading from PDB.
- **b.** Write down the following with respect to nucleotide sequence: similarity, identity, homology, alignment
- c. Write down about the historical back ground of Bioinformatics.

Ouestion No.3

(2X7=14)

- a. Differentiate between the rooted and unrooted tree along with their construction.
- b. Outline the steps of multiple sequence alignment using CLUSTALW.
- c. Discuss various levels of protein structure.

Question No.4

(2X7=14)

- a. Differentiate between maximum parsimony and maximum likelihood.
- b. Differentiate between local and global alignment.
- c. Discuss BLAST and CLUSTAL.

Question No.5

(2x7=14)

- a. Explain the role of bioinformatics in genomics and computer added drug designing.
- b. Differentiate among primary, secondary and composite databases.
- c. Discuss about structure viewers and molecular file formats.

Term End Examinations May /June 2018

Programme: M.Sc. (Nutrition Biology)

Session: 2017-18

Semester: Second

Max. Time: 3 Hours

Course Title: Nutritional Biochemistry II

Max. Marks: 70

Course Code: SIAL NB 01 02 05 C4004

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three and half Marks.

2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

Question No. 1 Write Short notes on the following:

(4X3.5=14)

- a) Fluoride Toxicity
- b) Second Messengers
- c) Growth hormone disorders
- d) Metabolic Acidosis
- e) Chloride Shift
- f) Vitamin K cycle
- g) Vitamin E as antioxidant

Question No. 2. Explain in detail on the following with examples wherever necessary: (2X7=14)

a) Hormonal control of fluid and electrolyte homeostasis.

b) Functions of potassium. How are its levels maintained in the body? What are the causes and consequences of disturbance in its level?

c) Functions, distribution and normal levels of sodium in various fluid compartments. How is absorbed and transported in the body. What are the causes of hypernatremia?

Question No. 3. Discuss on the following:-

(2X7=14)

- a) Biochemical basis of the role of vitamin A in vision. Discuss its deficiency manifestations beside night blindness.
- b) Vitamin D deficiency disorders. Explain the mechanism of action of vitamin D and justify its role as a hormone.
- c) Sources, biochemical functions and daily requirements of Vitamin B₁₂. What are causes and consequences of its deficiency?

Ouestion No. 4. Explain on the following with suitable examples:-

(2X7=14)

- a) Overview of iron homeostasis in the body. What are the disorders of iron deficiency?
- b) Physiological functions of calcium. Discuss about its deficiency disorders and the factors which affect its absorption levels in the blood.
- c) Copper containing enzymes and as well as daily requirement of this metal. Briefly discuss about the diseases associated with abnormal metabolism of copper.

Question No. 5.

(2X7=14)

- a) Explain the mechanism of insulin action with special reference to carbohydrate metabolism. Why uncontrolled diabetes mellitus is associated with ketonuria and ketoactodosis?
- b) Give an overview of biosynthesis, release and mechanism of action of thyroid hormone.
- c) Describe the disorders associated with glucocorticoid hormone deficiency and excess.

How is this hormone synthesized and transported?

Afternation of the second second

the fact returned of the second of

I allowed and leaves with wind around

AND A SECOND SEC

And in con-

the state of the second st

- - - V

The state of the s

the second of the

The state of the s

The Control of the Co

and the same of th

Committee and the second of the behalf of the order of the behalf and the second of th

and the second of the second

the first that the same of the

Term End Examinations, May 2018

Programme: MSc Nutrition Biology Session: 2017-18

Semester: 2nd Max. Time: 3 Hours

Course Title: Nutraceutical & Functional Foods Max. Marks: 70

Course Code: SIAL NB 01 02 01 DCEC 5005

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three and half Marks.

2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

Question No1. Briefly define the followings

(4X3.5=14)

- a. Functional Foods
- **b.** Prebiotics
- c. Synbiotics
- d. Benefits of probiotics
- e. Examples of probiotic microorganisms
- f. Examples of synbiotics food products
- g. Fortified foods

Question No.2 (2X7=14)

- a. Write down the scope and relevance of nutraceuticals and dietary supplements.
- **b.** Explain the applications of nanotechnology in functional food.
- c. Write down the ICMR guidelines for probiotics.

Question No.3 (2X7=14)

- **a.** Write down the classification of nutraceuticals with respect to probiotic, prebiotic and synbiotic.
- **b.** Discuss about the International regulations for nutraceuticals & functional foods.
- **c.** Explain the applications of probiotics in risk reduction of disease.

Ouestion No.4 (2X7=14)

- a. Discuss the various mechanism of action of probiotics.
- **b.** Explain the use of probiotics in non-milk products.
- c. Discuss the various methods generally used for the extraction and isolation of nutraceuticals.

Ouestion No.5 (2x7=14)

- a. Discuss the cellular and molecular mechanism of action of nutraceuticals.
- **b.** Write down the importance of prebiotics in functional foods.
- **c.** Explain the characteristics of an ideal probiotics.

the later to a make the party of the

والمروسيسة والمراس المراس والمراس والمراس المراس والمراس والمر

of Court and Cou

Political and Service special interest in least manager of the land of the lan

THE RESERVE OF THE PARTY AND ADDRESS.

- - there is supplied to be a present or the companion for the present of the Contract of the Cont

Committee that we would have been a fairly and an arrange of

- ales i la maramala a
 - no other d
 - The state of the s

- And the last training to express 1
 - and the firm I are

(National Plants)

- the service of the se
 - A Principle of the Control of the Co
 - market and a second property of the second and the

(Martin Control Contro

- - وران المحمود والمدار الرح ويوميون ومراز وجويات والمرازي وواسته والمراز والماسية والمراز والمرازع المحالية

(AT-DE)

- - and the second of the second o
- م. الأسيسي والدروس بروزي المروزي والمروزي ويها (m) الله ووروزوروس المراوزورة والمراوزة والمراوزة والمروزية والم

والمتعاوض الأمراء المتعارض الم

Term End Examinations, May/June 2018

Programme: M.Sc. Nutrition Biology

Semester : II Session: 2017-18
Course Title : Food Microbiology and Food Safety Max. Time: 3 Hours

Course Code: SIAL NB 01 02 07 C 4004 Max. Marks: 70

Instructions:

1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three and half Marks.

2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

Question No. 1. Briefly define the following:-

(4X3.5=14)

- a. Bacterial toxins
- **h.** Disinfection and sterilization
- c. Health benefits of fermented foods
- d. Antimicrobial substances in foods
- e. Total Quality management (TQM)
- f. Total Viable Count (TVC) technique
- g. Microbiological Risk Assessment (MRA)

Question No.2. Discuss in detail about the following:-

(2X7=14)

- a. Food Safety Management Tools
- b. Extrinsic factors affecting the growth of microorganisms in food
- c. Sources of microbial contamination in foods

Question No.3. Explain on the following questions with suitable examples:-

(2X7=14)

- a. Bacteria and fungi involved in spoilage of fruits and vegetables
- b. General symptoms of food borne illnesses
- c. Difference between food borne infection and food borne intoxication

Question No.4. Write detailed notes on the following with suitable example:-

(2X7=14)

- a. Chemical methods for controlling microorganisms in food
- b. Microorganisms involved in production of vinegar, yoghurt and wine
- c. Microorganisms associated with oriental fermented foods

Question No.5. Discuss on the following statements: (2x7=14)

- a. Bio-preservation of food
- b. Conventional and rapid methods of enumeration of microorganisms from food
- c. Various types of hazards associated with food manufacturing industries

AND DESCRIPTION OF SAME

PAL make raid meaning of had mean

Programmed 14.5c, Street, and Bladen

II witnesself

Title 1 to 1 hour grandalities with hour to 1 to 100 more con-

Compact Code of State (NY State Code Compact)

Alma America 272

- I distribution on a large of the second of t
- A Commission of the party of the contract of t

Complete State of Sta

- of Direction and mailing to
- the Charles of the Control of the Co
- almit of consender for the product of
- DATE THE PARTY OF THE PARTY OF
- manufact 1 2 (7) compared to 2 (may all
- (Ad Ed) Immunitaria de la constitución de la consti

Consider that Docume in datable short that fallowings

- alor I become profit and 2 local
- high in antition presents to prove the principle received amount of the
 - Committee of Alexander of the Committee of the Committe

Guestian Static States on the Indicator processors with sales the correspon-

- managing remainder to stormed for managed from personal forms
 - and the state of the best to the
- prominents and dead has properly program for the company of the

Continue but, a Weign despited notice on the Influencing with auditable accomplisa-

- a Cheypari peature for controlling systematers in Band
- the effective regarders to commence in the large commence of
 - about house of the house on the property of

Quantum No.1. Dworm on the following maintained:

- to all the property of the same of the sam
- free and analysis to mineral to design the second section of
 - remotal security and the last section is a second section of the second section of the second section is a second section of the second section of the second section is a second section of the section of the second section of the second section of the second section of the section of the second section of the section of the second section of the section of the second section of the section of the

Term End Examinations, May/June 2018

Programme:

M.Sc (Nutrition Biology)

Session: 2018-19

Course Title: Biostatistics and Research Methods

Max. Marks: 70

Course Code: SIAL NB 01 02 06 C 4004

Max. Time: 3 Hours

Semester: II

Instructions:

- 1. Question no. 1 has seven sub parts and students need to answer any four. Each sub part carries three
- 2. Question no. 2 to 5 have three sub parts and students need to answer any two sub parts of each question. Each sub part carries seven marks.

Question No. 1. Briefly explain:

(4X3.5=14)

- a) Regression
- b) SPSS
- c) Schedule method
- d) Ttest
- e) Dispersion
- f) Z test
- g) Skewness & Kurtosis

Question No. 2. Discuss the following Statement:-

(2X7=14)

- a) Functions of statistics
- b) Complex random sampling design
- c) Measurement scales

Question No. 3. Describe the following in detail:

(2X7=14)

- a) Why tabulation & coding is considered essential in a research study.
- b) Questionnaire & interview method
- c) Graphic representation of data

Question No. 4. Write on the following along with suitable examples

(2X7=14)

- a) Measures of central tendency
- b) Basics concepts concerning testing of hypotheses.
- c) State the uses and application of X2

Question No. 5. Write detailed notes on:

(2X7=14)

- a) Qualitative and quantitative research tool
- b) Design of the research project.
- c) Social responsibility and ethics in research