

**FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2021**

(CBCSS)

Home Science (Nutrition and Dietetics)

HND 1C 05—RESEARCH METHODS AND STATISTICS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend all questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

Answer any four questions, each in one-paragraph.

Each question carries a weightage of 2.

1. Define Research. State its objectives.
2. Why a measure of dispersion is called as the average of second order ?
3. What is meant by sample design ?
4. State the empirical relationship among mean, median and mode ?
5. What is meant by scaling ? How is nominal scale different from interval scale ?
6. How is statistics misused ?
7. What do you mean by standard deviation ?

(4 × 2 = 8 weightage)

Part B

Answer any four questions, each within one page.

Each question carries a weightage of 3.

8. State the general rules for constructing diagrams and graphs.
9. Write a note on Tests of significance with an example.
10. Brief on following :
 - i) Exploratory research ;
 - ii) Applied research ;
 - iii) Qualitative research ; and
 - iv) Pure research.
11. Discuss on different methods for collecting primary data ?
12. Explain the objectives and qualities of a good research design.
13. Define Hypothesis. What are Type I and Type II errors ?
14. Explain census and sampling methods. State its differences.

(4 × 3 = 12 weightage)

Part C

Answer any two questions.

Each question carries a weightage of 5.

15. Explain Research Process.
16. Discuss about the functions and applications of statistics.
17. Identify a Research problem and prepare a primary synopsis.
18. Elaborate on the various methods of studying correlation.

(2 × 5 = 10 weightage)

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HND 1C 04—MACRO NUTRIENTS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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Part A

*Answer any **four** questions, each in **one** paragraph.*

Each question carries a weightage of 2.

1. Classify lipids and tabulate the sources.
2. What is meant by ketosis ?
3. Illustrate glycogenesis.
4. How is Resting energy expenditure determined ?
5. What is meant by deamination ? How is it classified ?
6. Illustrate the beta- oxidation of fatty acids.
7. What are the metabolic consequences of starvation ?

(4 × 2 = 8 weightage)

Part B

Answer any four questions, each within one-page.

Each question carries a weightage of 3.

8. Brief on dietary protein digestion in human body.
9. How is water distributed in human body ? What are its functions ?
10. Briefly on the following metabolic reactions :
 - a) Transamination.
 - b) Decarboxylation.
11. Illustrate and explain the energetics and regulation of TCA Cycle.
12. What is the interrelationship between protein and carbohydrate metabolism ?
13. Discuss about the following inborn errors :
 - a) Galactosemia.
 - b) Fructosuria.
14. What is meant by physiological value of food ?

(4 × 3 = 12 weightage)

Part C

Answer any two questions.

Each question carries a weightage of 5.

15. "Pancreas play a major role in blood glucose regulation". Explain.
16. Explain on the following methods to determine protein quality :
 - a) Protein Efficiency ratio.
 - b) Net protein Utilization.
 - c) Biological value of protein.
17. Elaborate on the biosynthesis of cholesterol.
18. Explain the following methods to estimate energy requirements :
 - a) Direct calorimetry.
 - b) Indirect calorimetry.
 - c) Doubly labelled water technique.

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HND 1C 03—ADVANCED FOOD SCIENCE

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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Part A

Answer four questions, each in one paragraph.

Each question carries a weightage of 2.

1. Emulsion.
2. Dextrinisation.
3. SCP.
4. Fat soluble pigments.
5. Spoilage of fish.
6. GM foods.
7. Probiotics.

(4 × 2 = 8 weightage)

Part B

*Answer any **four** questions, each within **one** page.*

Each question carries a weightage of 3.

8. Discuss briefly on sensory method for food evaluation.
9. Write on non starch poly saccharides.
10. Explain the factors affecting gluten formation.
11. Discuss the antinutritional factors of pulses.
12. What is pasteurisation ? Explain the different methods of pasteurisation.
13. Describe the methods used to know the quality of egg.
14. Discuss briefly on food fortification.

(4 × 3 = 12 weightage)

Part C

*Answer any **two** questions.*

Each question carries a weightage of 5.

15. What is HACCP ? Explain the principles of HACCP.
16. What are food additives ? Write briefly on the food additives mentioned below : a) Antioxidants ; b) Colouring agents ; c) Anticaking agents ; and d) Leavening agents.
17. What are nutraceuticals and discuss briefly on its importance and classification.
18. Write on the changes occurring during cooking of meat.

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HND 1C 02—NUTRITION THROUGH LIFE CYCLE

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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Part A

Answer four questions, each in one paragraph.

Each question carries a weightage of 2.

1. Comment on the importance of pre-conceptual nutrition.
2. What is let down reflex ?
3. What is ARF ? Enlist the points to be considered in introducing weaning foods.
4. What is Binge eating disorder ?
5. Enlist any three diet modifications required for elderly.
6. What are the types of PEM ?
7. What is the RDA of protein for adults (ICMR, 2020) ?

(4 × 2 = 8 weightage)

Part B

Answer any four questions, each within one page.

Each question carries a weightage of 3.

8. Elaborate on physiology of lactation.
9. Bring out the role of iron and iodine in mental development of children.
10. Describe the types of space foods.
11. Explain the energy systems of the human body in relation to Sports.
12. Elaborate on low birth weight babies under : (a) Causes ; and (b) Complications.
13. What are the dietary changes needed to prevent malnutrition among pre-school children.
14. Comment on points to be considered during menu planning to ensure a balanced diet..

(4 × 3 = 12 weightage)

Part C

Answer any two questions.

Each question carries a weightage of 5.

15. Describe the nutritional requirements of Sports persons. Add a note on fluid requirements also.
16. Justify increased nutritional requirements during pregnancy.
17. Write an essay on aetiology and management of any three common nutritional problems of adult women.
18. Elaborate on Geriatric nutrition : (a) Physiological changes ; and (b) Nutritional requirements.

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HND 1C 01—HUMAN PHYSIOLOGY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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Part A

*Answer any **four** questions, each in **one** paragraph.
Each question carries a weightage of 2.*

1. Composition of urine.
2. Angiogram.
3. Differentiate artery and veins.
4. Bradycardia.
5. Portal circulation.
6. Blood pressure.
7. Functions of Lymphatic system.

(4 × 2 = 8 weightage)

Part B

*Answer any **four** questions, each within **one** page.
Each question carries a weightage of 3.*

8. Briefly explain cardiac cycle.
9. Role of kidney in maintaining acid base balance in our body.

Turn over

10. Transmission of nerve impulse.
11. ABO system of blood grouping.
12. Phases of gastric juice secretion.
13. Hormones secreted by parathyroid glands.
14. Chemical regulation of respiration.

(4 × 3 = 12 weightage)

Section C

Answer any two questions.

Each question carries a weightage of 5.

15. Discuss the hormones secreted by pituitary glands.
16. Discuss selective reabsorption of various constituents by kidney.
17. Discuss the regulation of secretion of pancreatic juice.
18. Discuss the various phases in menstrual cycle.

(2 × 5 = 10 weightage)