Roll No. ☐☐☐☐☐☐☐☐☐☐☐

Total No. of Questions : 09   Total No. of Pages : 02

B.Sc. (Nutrition and Dietetics) (Sem.–2)

ENVIRONMENTAL SCIENCE

Subject Code : EVS-102-18

M.Code : 77762

Date of Examination : 14-07-22

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer all parts of the question :

   a) List any four scientific disciplines with could offer solutions to environmental pollution.

   b) Define ecological succession.

   c) Differentiate between renewable and non-renewable resources.

   d) List any four methods to check soil erosion.

   e) How does the phenomenon of *'Eutrophication'* occur?

   f) What is meant by thermal pollution?

   g) List any two mitigation measures of an earthquake.

   h) What is meant by *'Urban Heat Island'*?

   i) Why is environmental protection considered as an issue of human rights?

   j) Define *'Acid Rain'*.

SECTION-B

2. What are the causes and effects of air pollution?

3. Explain the in-situ and ex-situ conservation of biodiversity.

4. Discuss the energy flow in typical desert ecosystem.

5. With the help of a flow diagram, explain important components of an urban solid waste management system.

6. Explain the phenomenon of Global climate change. Discuss its impacts.

SECTION-C

7. Discuss the salient features of various environmental laws in India.

8. a) How does deforestation occur? What are its impacts?

   b) Discuss the effects of nuclear hazards.

9. Explain how environmental movements play major role in environmental conservation. Consider any case studies from India.

C-6

Total No. of Questions : 09

B.Sc. (Nutrition & Dietetics) (Sem.–2)

BASICS OF COMPUTERS
Subject Code : BSND128-18
M.Code : 77763
Date of Examination : 18-07-22

Time : 3 Hrs.   Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.
2. SECTION-B contains FIVE questions carrying TWO AND A HALF marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying FIVE marks each and students have to attempt any TWO questions.

SECTION-A

1. Please answer the questions given below in brief :

   a) What is Data and how it is useful?

   b) What are output devices in computer?

   c) What is the difference between RAM and ROM?

   d) What are the limitations of computers?

   e) What is ALU?

   f) Distinguish between Machine Language and Assembly Language?

   g) How can we classify computers?

   h) What is the role of computers in research?

   i) What is GUI?

   j) What are super computers and where are they used?

SECTION-B

2. What are different categories of digital computers?

3. Describe the similarities and dissimilarities between a Compiler and an Interpreter.

4. What is OS and what are its functions?

5. Differentiate between system software and application software.

6. What is MS-DOS? List and explain five commands of MS-DOS.

SECTION-C

7. Discuss about the advancement in the computers across various generation since its starting. How computers have become a part of our day-to-day life?

8. Draw a block diagram to illustrate the basic organization of a computer system and explain the functions of various units.

9. How GUI based operating system is different from command-based Operating System? Do a comparative analysis and suggest which operating system is better in which scenario?

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Total No. of Pages : 02

Total No. of Questions : 09

B.Sc. (Nutrition and Dietetics)　　(Sem.–2)
BASICS OF COOKING
Subject Code : BSND-121-18
M.Code : 77755
Date of Examination : 04-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN Multiple Choice questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1) Write briefly :

   a) What is boiling?

   b) What are hot plates?

   c) What is pressure cooking?

   d) What is stewing?

   e) What is braising?

   f) What are binding agents?

   g) What are flavoring stocks?

   h) What is garnishing?

   i) What is roasting?

   j) What is essence?

SECTION-B

2. Pen down the precautions and care to be taken in handling hot plates and refrigeration equipment.

3. Describe the principles and practices of boiling and baking for different food groups.

4. Write short notes on :

   a) Microwave cooking

   b) Grilling.

5. Pen down the combined methods of cooking for different food groups.

6. Differentiate between sauces and gravies. Give examples.

SECTION-C

7. Discuss in detail about aims and objectives of cooking food. Enlist & explain various methods of cooking food.

8. What do you understand by kitchen equipment's? Write in detail about :

   a) Various types of knives.

   b) Cooking ranges.

   c) Food holding equipment.

9. Discuss the effects of cooking on food and its nutritive value.

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B.Sc. (N&D).   (Sem.–2)
FOOD PROCESSING AND PRESERVATION
Subject Code : BSND-122-18
M.Code : 77756
Date of Examination : 06-07-22

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write brief on the following :

   a) Types of Foods

   b) Principle of Food preservation

   c) Microorganism growth curve.

   d) Role of low temperature in food preservation.

   e) Commercial sterilization

   f) Food dehydration

   g) Drying curve.

   h) Mode of action of irradiation action

   i) pH

   j) Class II Preservative

SECTION-B

2. Give the classification of microorganisms based on temperature and pH.

3. Discuss the perishable and semi perishable foods. Give the principle of food preservation.

4. How freezing helps in food preservation? Differentiate between slow freezing and fast freezing.

5. Discuss the role of blanching and thermal processing in food preservation.

6. Discuss the process and kind of ionizing radiation used in food processing.

SECTION-C

7. Define various types of food. How microorganisms can spoil the food? Discuss in detail the various processes used for preservation of food.

8. Define thermal processing. Discuss all the steps involved in canning of food. Give the effect of thermal processing on the life of microorganisms.

9. How chemical helps in food preservation. Discuss the detail role of chemical in preservation of all kind of beverages.

C-2

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Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. (Nutrition and Dietetics)   (Sem.–2)

FOOD CHEMISTRY

Subject Code : BSND-123-18

M.Code : 77757

Date of Examination : 08-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. **Answer briefly :**

   a) Write about water type present in food system.

   b) Write relationship of water activity with food shelf life.

   c) What is simple lipid? Draw its structure.

   d) Write definition of refractive index, specific gravity and peroxide value.

   e) Write about taste perceptions by tongue.

   f) Define hydrogenation and inter-esterification.

   g) Draw primary structure of protein.

   h) What is amphoterism in protein?

   i) Draw structure of glucose and sucrose.

   j) Draw structure of vitamin A and its rich sources.
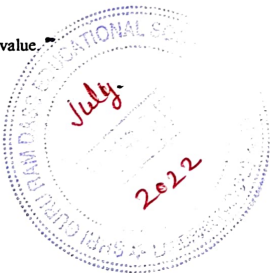
SECTION-B

2. Explain the phenomenon of sorption isotherm. (5)

3. Define Iodine value, Peroxide value and Saponification value and their purpose of determination. (5)

4. What is Electrophoresis? Explain its method of analysis. (5)

5. a) Draw structure of any two homo polysaccharides and their applications. (3)

   b) Write a note on flavor enhancers. (2)

6. Name various qualitative tests used to check the presence of carbohydrates. Explain any two. (5)

SECTION-C

7. a) Write about existence of different water systems in food and their role in food processing. (5)

   b) Write the purpose of melting point, softening point and specific gravity determination of fats and oils and write complete procedure of anyone. (5)

8. a) What is sedimentation value of protein? How it is determined? (4)

   b) Write about protein functional properties. How we determine the organoleptic characteristics of protein. (6)

9. a) Write about mono-, oligo- and poly saccharides with examples. Write their requirements as human nutrients. Draw structure of any two disaccharides. (2+2+1)

   b) Write importance of vitamins. What are different water soluble vitamins? Write function of any two of them. (5)

B.Sc. (Nutrition and Dietetics) (Sem.–2)

FOOD PACKAGING

Subject Code : BSND-124-18

M.Code : 77758

Date of Examination : 12-07-22

Time : 3 Hrs.　　　　　　　　　　　　　　Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

   a) Write about packaging needs.

   b) What are different types of closures?

   c) Write advantages of CFB boxes.

   d) What is rejection molding and its two uses?

   e) Write applications of tin free cans.

   f) What are lacquers and their uses?

   g) What is packaging requirement of flesh food?

   h) What is packaging requirement of frozen and beverage foods?

   i) What is tensile strength and puncture resistance?

   j) What include shelf life studies?

SECTION-B

2. Write composition of glass and its ingredient properties.

3. a) Differentiate injection and blow molding.

   b) Write a note on laminates.

4. What is packaging design and its purpose?

5. Which tests are used to check the transport adequacy of CFB containing bread packets, oil bottles and confectionery unit packs?

6. How we check the tensile and puncture strengths for CFB boxes. Write their significance.

SECTION-C

7. Write about printing and barcoding usages in food packaging and labelling. How these systems are helpful in food handling, sale and distribution? (10)

8. a) Differentiate between biodegradable and non-bio-degradable plastics. (2)

   b) Write about disposable packaging wastes. (4)

   c) Elaborate different types of cans and their uses. (4)

9. a) Write about packaging design requirement for thermally processed foods. (3)

   b) Indicate how we check the compatibility of packaging material for any food. Write the compatibility requirements for oil and dehydrated foods. (4)

   c) Write a note on active and intelligent packaging system. (3)

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Total No. of Pages : 02

Total No. of Questions : 09

BHMCT (Sem–2)
FOOD SCIENCE AND NUTRITION-II
Subject Code : BH-102
M.Code : 14516
Date of Examination : 15-06-2023

Time : 3 Hrs.   Max. Marks : 30

INSTRUCTION TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE mark each.
2. SECTION-B contains FIVE questions carrying 2¹/₂ (Two and Half) marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying FIVE marks each and students have to attempt any TWO questions.

SECTION-A

1. Write short notes on :

   a) Food processing

   b) Triangle sensory evaluation

   c) Any 2 emulsifying agents

   d) Describe the food flavours in coffee

   e) RDA

   f) Name the three food groups in a three food group system

   g) Fast foods

   h) Which factors cause enzymatic browning?

   i) How does heat effect food constituents?

   j) Colloid.

SECTION-B

2. What are the objectives of food processing?

3. Throw light on the proximate analysis of food constituents.

4. Write a note on the types of emulsions.

5. Discuss any FIVE factors that affect menu planning.

6. Critically evaluate fast foods.

SECTION-C

7. What do you understand by enzymatic browning? How can you prevent it?

8. Discuss the different methods of sensory evaluation of food.

9. Why is there a dire need for introducing nutritionally balanced and health specific meals?

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B.Sc. Hons. (Nutrition and Dietetics)   (Sem.–2)

BASIC OF COOKING

Subject Code : BSND-121-18

M.Code : 77755

Date of Examination : 12-06-23

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

   a. Kitchen uniform

   b. Nutrition

   c. Diet

   d. Tempering

   e. Arrow route

   f. Essence

   g. Application of heat

   h. Conduction

   i. Braising

   j. Food production.

SECTION-B

2. Write short notes on :

   a) Microwave cooking

   b) Grilling

3. Pen down the precautions and care to be taken in handling hot plates and refrigeration equipment.

4. Write about thickening and binding agents.

5. Explain microwave cooking.

6. Write in detail about dry heat method cooking.

SECTION-C

7. What do you understand by kitchen equipments? Write in detail about :

   a) Various types of knives.

   b) Cooking ranges.

   c) Food holding equipment.

8. Write in detail about the Diet menus and nutritional requirement of different patients.

9. Describe the principle and practices of different cooking methods.

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Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. (Nutrition and Dietetics) (Sem–2)

FOOD CHEMISTRY

Subject Code : BSND-123-18

M.Code : 77757

Date of Examination : 05-06-2023

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

   a) Composition of Food

   b) Structure of water

   c) Water activity

   d) Hydrogenation in lipids

   e) Lipolysis

   f) Examples of plant proteins

   g) Gelation in proteins

   h) Monosaccharides

   i) Difference between water soluble and fat soluble vitamins

   j) Natural flavours.

SECTION-B

2. Define water in terms in food. Explain the different types of water.

3. Discuss auto-oxidation in lipids. How can it be prevented?

4. Define foaming. Explain it through its stages.

5. Explain oxidation and reduction with acid and alkali in carbohydrates through chemical reactions.

6. Write a note on any ONE water soluble vitamin and any ONE fat soluble vitamin.

SECTION-C

7. Explain the following :

   a) Reichert Meissel value and saponification value

   b) Refining of lipids

   c) Melting point and hydrogenation in lipids

   d) Effect of frying on fats

8. a) Discuss in detail the classification of carbohydrates.

   b) Explain in detail, denaturation of proteins.

9. Define flavour and basic tastes. Discuss in detail the different food flavours.

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B.Sc. Honours (N&D) (Sem–2)
FOOD PROCESSING AND PRESERVATION
Subject Code : BSND-122-18
M.Code : 77756
Date of Examination: 30-05-2023

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTION TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. **Write Briefly :**

    a. Shelf Life

    b. Food Infection

    c. Slow Freezing

    d. Blanching

    e. Sterilization

    f. Perishable food

    g. Refrigeration

    h. Radiation

    i. Food Intoxication

    j. Conduction.

SECTION-B

2. Explain the importance of Bacteria, Yeast and Molds in Food Microbiology.

3. In brief explain about the various factors that affect the rate of drying.

4. In short explain about HTST and LTH.

5. Explain the usage of Class II preservatives in preservation of food.

6. Explain the different changes that occur in food during Thawing. What is the effect of thawing on food?

SECTION-C

7. With examples give the differences between refrigeration and freezing. In brief explain about the different types of equipments that are used for freeze drying of food products.

8. What is food processing? What are the historical developments of food processing industry?

9. Give the classification of microorganisms based on temperature, pH, water activity and nutrition and oxygen requirement.

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Total No. of Questions : 09

Total No. of Pages : 02

B.Sc. Hons. (Nutrition & Dietetics) (Sem–2)
BASICS OF COMPUTER
Subject Code : BSND-128-18
M.Code : 77763
Date of Examination : 07-06-2023

Time : 3 Hrs.

Max. Marks : 30

INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying ONE marks each.
2. SECTION-B contains FIVE questions carrying TWO and HALF marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying FIVE marks each and students have to attempt any TWO questions.

SECTION-A

l. **Write briefly :**

a) Differentiate between system software and application software.

b) Differentiate amongst EPROM, PROM and ROM.

c) How characters are represented in computers?

d) Discuss the working mechanism of Inkjet printer.

e) What is the difference between compiler and interpreter?

f) Why multitasking is required?

g) What is the difference between impact and non-impact printer?

h) What are the various features of computers?

i) Differentiate between internal and external commands of MS-DOS.

j) What are the different types of Windows OS?

SECTION-B

2. Draw and explain the block diagram of computer.

3. Explain any five external commands of MS-DOS.

4. Discuss the various generations of computers.

5. Discuss the use of computer languages in development of software's. What are the advantages of high level languages?

6. Write a note on the Bubble Memory.

SECTION-C

7. What are input and output devices? Discuss any three input and output devices.

8. Define an Operating System. Discuss the various types of operating systems in detail.

9. **Explain the working of the following memories :**

a) RAM

b) Cache memory.

B.Sc. Hons. (Nutrition and Dietetics) (Sem–2)

FOOD PACKAGING

Subject Code : BSND-124-18

M.Code : 77758

Date of Examination : 09-06-2023

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION-B** contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. **SECTION-C** contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. **Answer briefly :**

   a) List the requirements in food packaging

   b) Barcodes

   c) CFB

   d) TFC

   e) Package designing

   f) Points to be kept in mind while packaging animal foods

   g) Explain Thickness in terms of testing for packaging

   h) Shelf life

   i) Disposal of plastic waste

   j) Vacuum packaging.

SECTION-B

2. Throw light on the printing and marking in terms of food packaging.

3. Explain the different types of plastics used.

4. Explain the package designing for fresh produce as well as frozen foods.

5. **Explain any two :**

   a. Tensile strength

   b. CO_2 permeability

   c. Seal strength

6. Discuss any TWO packaging machinery.

SECTION-C

7. Discuss in detail, the different types of closures used in packaging industry.

8. Give a detailed insight about food packaging laws to make sure that the correct methods are being' followed.

9. Discuss the various methods with respect to packaging systems.

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