# End Semester Examination, Dec. 2022 B.Sc. (FS&T) - First Semester COMMUNICATION SKILLS (BFST-101)

Time:	3 h	rs.		Ma	ix Marks: <b>100</b>
Note:	Att fro qu	tempt <b>FIVE</b> questions in all; <b>Q</b> om <b>PART-A</b> and <b>TWO</b> question estion.	. <b>1</b> s fr	is compulsory. Attempt any 1 fom PART-B. Marks are indicate	<i>Two questions</i> <i>ad against each</i>
Q.1	a)	<ul> <li>We (wait) for th (not arrive) yet so I don't meeting on time.</li> <li>i) Waited, not arrived, have I</li> <li>ii) Have been waiting, not arriviii) Were waiting, had not arriviiv) Had been waiting, not arrivial</li> </ul>	e b thir bee ive ved ved	bus for nearly half an hour, bunch where the second second second second second mathematical second second second second mathematical second second second second second mathematical second second second second second second second mathematical second second mathematical second second mathematical second second second second second second second second second second second second second second second second secon	it it o) attend the [CO1][L1]
	b)	Joanfour window i) Broke iii) Break	s si ii) iv)	ince she was born. Had broken Has broken	[CO1][L1]
	c)	Neither her parents nor her si i) Is iii) Have	ster ii) iv)	r going to sell the hou Are Had	use. [CO1][L1]
	d)	is the only compone	ent	of attitude which is visible and	can be observed directly. [CO1][L1]
	e)	What is not preferred in socks i) white socks	ll) (fc b)	or men) in formal attire? matching with the trousers	
	f)	<ul> <li>iii) cotton socks</li> <li>Sarah for the mo</li> <li>i) Left</li> <li>iii) had left</li> </ul>	iv) vie ii)	socks of sufficient length before Ram arrived office. have left	[CO1][L1] [CO2][L1]
	g)	<ul> <li>i) have been present</li> </ul>	iv) ii) iv)	for the presentation today. is present had been present	[CO2][L1]
	h)	Frank the whole p i) had eaten iii) ate	izza ii) iv)	a before we arrived. has eaten was eating	[CO2][L1]
	i)	A pound of cookies a) costs	ii) ii)	rupees one hundred.	[CO1][L1]
	j)	Neither of my two suitcases _ i) are	ii)	is [C(	p. D1][L1] <b>2×10</b>
		<u> </u>	<u>'A</u>	<u>K/-A</u>	

Q.2 What do you understand by courtesy and politeness? How do you implement courtesy and politeness at workplace? Explain with examples. [CO1][L1] **20** 

- Q.3 Write a short note on 'non verbal communication'. What is the perfect attire for men and women in formal interviews? [CO1][L1] 20
- Q.4 What is inter-cultural communication? Explain diversity and inclusion. [CO2][L1] 20

- Q.5 In April 2015, Supreme court on Tuesday recognized the transgender community as a third gender along with male and female and ordered the government to treat them as "socially and economically backward classes" and provide them reservation in government jobs and admissions.
  - a) Why do ordinary people show negative attitude towards transgender? Examine the reasons and suggest remedies to change their attitude.
  - b) Someone in your team is a member of the LGBTQ community. Discuss the impact on the change in communication style toward the individual.
  - c) Suppose you are the dean of a government institute wherein a transgender has availed admission. List the steps you'll initiate to ensure she doesn't face discrimination. [CO3][L1] 20
- Q.6 Write a short note on 'group discussion'. What are the do's and don't of group discussion? [CO3][L1] 20
- Q.7 Write your self introduction. What are the do's and don't of self introduction? [CO3][L1] 20

### End Semester Examination, Dec. 2022 B.Sc. (FS&T) - First Semester MATHEMATICS (BFST-DS-101)

Time: 3 hrs.

Max Marks: 100

No. of pages: 2

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Answer the following:
  - a) Find the Surface area and volume of the sphere having radius 8 cm.

(CO: 1,4)

- b) Find:  $\frac{C(24, 19)}{P(12, 9)}$  (CO:1)
- c) How many arrangements can be made with the letters of the word MATHEMATICS? (CO:1)
- d) Find the value of a and b, if  $y = a \ln(x) + bx^2 + x$  has extreme values at x = 1and x = 3. (CO: 1,3)
- e) Find the approximate value of f(1.02), where  $f(x) = 4x^3 + 2x + 10$

(CO: 1,3) 4×5

### <u>PART-A</u>

- Q.2 a) A sweet contains sugar syrup up to about 40% of its volume. Find approximately how much syrup would be found in 40 sweets, each shaped like a cylinder with two hemispherical ends with length 6 cm and diameter 3.5 cm.
   (CO: 1,4) 10
  - b) The diameter of a sphere is 14 cm. It is melted and drawn into a cylindrical wire of diameter 2.1 cm. Find the length of the wire. (CO: 1,4) **10**

Q.3 a) If 
$$y = \sin^2 6x + 2x^7 + \ln(4x) + e^{-5x}$$
, find  $\frac{dy}{dx}$  (CO: 1,3) 7

b) If 
$$y = \cos 3x \sin 2x + \ln(4x)e^{-6x}$$
, find  $\frac{dy}{dx}$  (CO: 1,3) 7

c) If 
$$y = \frac{\sin 6x + 3x^8}{e^{8x}}$$
, find  $\frac{dy}{dx}$  (CO: 1,3) 6

- Q.4 a) The probability that a person visiting a hospital to have routine checkup is 0.54, the probability that he will have a viral fever is 0.25. The probability that he will have routine checkup or a viral fever is 0.70. What is the probability that a person visiting a hospital will have his routine checkup and viral fever?
  - b) If C(25, x) = C(25, x+5), find C(x, 5) (CO:1) 7
  - c) The probability of solving the specific problem independently by the persons' P and q are 1/4 and 1/3 respectively. In case, if both the persons try to solve the problem independently, then calculate the probability that the problem is solved?

#### **P.T.O.**

Q.5	a) Find the maximum or minimum value of $f(x) = x^3 - 4x$	(CO: 1,3) <b>10</b>
	b) Using differentials, find the approximate value of $\sqrt{16.02}$	(CO: 1,3) <b>10</b>
Q.6	a) Evaluate: $\int e^{2x} \sin(4x) dx$	(CO: 1,3) <b>10</b>
	b) Evaluate: $\int \frac{6x+13}{3x^2+13x-10} dx$	(CO: 1,3) <b>10</b>
Q.7	a) Evaluate: $\int_{0}^{\frac{\pi}{2}} \frac{\sin^4 x}{\sin^4 x + \cos^4 x} dx$	(CO: 1,3) <b>10</b>
	b) Evaluate: $\int_{0}^{\frac{\pi}{2}} \log(\sin x) dx$	(CO: 1,3) <b>10</b>

# End Semester Examination, Dec. 2022 B.Sc. (FST) - First Semester LIFE SCIENCES (BFST-DS-102)

Time: 3 hrs. Max Marks: 100 No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question. Q.1 Draw a well labeled diagram of DNA and discuss it in detail. [CO-2][L-2] 20 <u>PART-A</u> Analyze the role of various methods of transport of nutrients across the cell Q.2 membrane. [CO-1][L-4] **20** Q.3 Classify the pigments present in plants. Write a short note on each pigment. [CO-1][L-4] 20 [CO-1][L-2] **20** Q.4 Discuss the cell organelles and their functions in detail. PART-B Q.5 What is amitosis? How it happens in a living organism. [CO-2][L-1] **20** Q.6 Classify bacteria on the basis of shape and composition and throw some light on bacterial growth curve. [CO-3][L-4] **20** 

Q.7Summarize the role of various enzymes in the digestion of<br/>carbohydrate.CO-4][L-3] 20

B.Sc. (FST) - First Semester

# PRINCIPLES OF FOOD SCIENCE AND TECHNOLOGY (BFST-DS-103)

Time: 3 hrs

Max Marks: 100

No. of pages: 1

[CO-3][L-1] **20** 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 What is the food science and relate it with the industry? Discuss the present scenario of food processing industry in the India.
   20

### <u>PART-A</u>

- Q.2 Discuss the nutritional composition of cereals, milk, fruits, vegetables and eggs. [CO1][L2] 20
- Q.3 Write short notes on the following:
  - a) Sensory room.
  - b) Sensory tastes.
  - c) Sensory tests.
- Q.4 Discuss the microbial spoilage of fruits, cereals, milk and egg. [CO-2][L-2] 20

- Q.5Describe the importance of packaging in food industry. Discuss various types of<br/>packaging material with their characteristics.[CO-3][L-4] 20
- Q.6 Explain primary and secondary processing in food industry. Write a note on 3D printed foods, fabricated foods, extruded foods and fortified foods. [CO-2][L-1] **20**
- Q.7 What do you mean colloidal systems? Explain sol, gel, foam and emulsion with examples. What is the role of emulsifying agent in foods, explain? [CO-4][L-2] **20**

# End Semester Examination, Dec. 2022 B. Sc. (FST) – First Semester PRINCIPLES OF FOOD PROCESSING AND PRESERVATION (BFST-DS-104)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Explain the importance of Historical perspective of food processing & preservation in India.
   20

# <u>PART-A</u>

Q.2 Explain the Principles and methods involved in processing of food in detail.

[CO-3] [L-3] **20** 

- Q.3 Give the classification of food based on their shelf life with example. [CO-2] [L-2] 20
- Q.4 Explain the term food spoilage and throw some light on the factors affecting the food contamination [CO-4] [L-1] 20

- Q.5 Why food preservation is important in the field of food industry? Also discuss the types of preservation in detail. [CO-2] [L-2] **20**
- Q.6Write down the principle of Processing and Preservation by High temperature. Explain<br/>all methods in detail.[CO-2] [L-3] 20
- Q.7Explain the term Irradiation, Sources of radiations, Radiation units and doses for foods<br/>in detail with example.[CO-4] [L-3] 20

B.Sc. (FS&T) - Third Semester

# **TECHNOLOGY OF FRUITS AND VEGETABLES (BFST-DS-301)**

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 What is the current scenario of fruit and vegetable production and processing in India? Discuss pre and post-harvest changes occur in fruits and vegetables. **20**

### <u>PART-A</u>

- Q.2What do you mean by post harvest losses? Give classification and composition of<br/>different fruits and vegetables.[CO-1][L-2] 20
- Q.3 Write short notes on the following (any two):
  - a) Modified atmospheric storage.
  - b) Controlled atmospheric storage.
  - c) Factors affecting fruit and vegetable storage.

[CO-2][L-1] **10x2** 

Q.4 Classify fruits and vegetables on the basis of moisture removal method and discuss the processing of candied fruits, dehydrated fruits and fermented vegetables. [CO-3][L-2] **20** 

- Q.5 Enlist various products of tomato processing. Give detailed manufacturing process of tomato puree and enumerate types of spoilage defects occur in it. [CO-3][L-4] **20**
- Q.6 Explain the processing methods of fruit juice, carbonated beverages and fruit juice powder. [CO-3][L-1] 20
- Q.7What do you mean by canning processing? Give detailed production of jams, canned<br/>products and spoilage defects occur in them.[CO-4][L-2] 20

# End Semester Examination, Dec. 2022 B.Sc. (FS&T) - Third Semester FOOD MICROBIOLOGY AND FOOD SAFETY (BFST-DS-302)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART A and TWO questions from PART B. Each question carries equal marks.
- Q.1Explain the importance of microbiology and classification of microbes based on<br/>morphological structure and staining characteristics.20

# <u>PART-A</u>

- Q.2 Explain growth curve: Stages, characteristics and factors affecting microbial growth. [CO1][L2] 20
- Q.3Explain the importance and sources of food spoilage causing microbes in milk, meat,<br/>fish and canned products.[CO2][L3] 20
- Q.4 Define fermentation, types, application of fermentation and health benefits of fermented foods. [CO2][L2] 20

# <u>PART-B</u>

Q.5 Explain the method of production: sauerkraut, cheese, yoghurt and temper.

[CO4][L3] **20** 

- Q.6 Explain about food borne diseases, food infection and food intoxication. [CO3][L3] 20
- Q.7 Explain about GMP, GHP and HACCEP. [CO4][L3] 20

# End Semester Examination, Dec. 2022 B.Sc. (FS&T) - Third Semester FOOD CHEMISTRY-I (BFST-DS-303)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 What are various macro and micro nutrients of food? Explain the importance of these nutrients in diet in detail. 20

### <u>PART-A</u>

- Q.2 What do you mean by saccharides? Discuss various physical and chemical properties monosaccharides and polysaccharides in detail. [CO-1][L-2] 20
- Q.3 Write short notes on the following in context of proteins:
  - a) Physical properties.
  - b) Texturization.
  - c) Functional properties.
  - d) Animal proteins.

[CO-2][L-1] 5×4

Q.4Classify enzymes on the basis of reaction and discuss theory of enzyme catalysis. What<br/>is the effect of processing on enzymes present in foods?[CO-3][L-2] 20

- Q.5Enlist various minerals found in food. How minerals are stable during food processing?<br/>Explain with examples.[CO-4][L-4] 20
- Q.6 Define 'Browning Reactions'. Explain maillard reaction, caramelization and ascorbic acid oxidation. [CO-3][L-1] 20
- Q.7Give details of nutritional changes occurring in foods during canning, irradiation and<br/>dehydration.[CO-4][L-2] 20

B.Sc. (FS&T) - Third Semester

### **TECHNOLOGY OF SPICES, HERBS AND PLANTATION CROPS (BFST-DS-306)**

Time: 3 hrs. Max Marks: 100 No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question. Q.1 Discuss the scope and importance of spices, herbs and plantation crops in India. 20 PART-A Q.2 Give a detailed classification of spices, herbs and plantation crops. [CO-1][L-2] 20 Q.3 Write short notes on the processing of the following: a) Turmeric. b) Black pepper. [CO-4][L-1] **10×2** Q.4 Outline the procedure involved in processing and storage of ajowan, coriander, parsley, mustard. [CO-3][L-4] **20** <u>PART-B</u> Q.5 Throw some light on value added products of spices. [CO-4][L-3] 20 Q.6 Justify the functional role of herbs by giving suitable examples. [CO-2][L-5] 20 Q.7 Summarize the steps involved in harvesting and processing of coffee. [CO-1][L-5] **20** 

# End Semester Examination, Dec. 2022 B.Sc. (FST) - Third Semester FOOD PLANT HYGIENE, SANITATION AND WASTE MANAGEMENT (BFST-DS-307)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Food industry sector requires application of hygiene and sanitation. Explain the basic principles of hygiene and sanitation as applicable in a food industry set up.20

### <u>PART-A</u>

- Q.2 Describe in detail the different physical, chemical and biological methods of sanitation as applicable in a food industry with well defined examples. [CO-1][L-1] **20**
- Q.3 Describe different rules and standards pertaining to hygiene, sanitation and waste management of food. [CO-2][L-3] 20
- Q.4 The sanitary design of food process equipment is dependent on number of factors. What are these and discuss their relevance in food industry set up. [CO-1][L-4] **20**

- Q.5 Waste water treatment requires all the primary, secondary and tertiary levels of treatment. Elaborate all the three levels. [CO-4][L-2] 20
- Q.6 What are the six main indicators of water quality? Explain the relevance of each of the indicators. [CO-3][L-4] 20
- Q.7 What are the different methods of waste water treatment? Discuss in detail the thermal and biological methods of treatment. [CO-4][L-2] **20**

B.Sc. (FS&T) - Fifth Semester

**INSTRUMENTATION AND ANALYTICAL TECHNIQUES (BFST-DS-501)** 

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Explain the following:
  - a) Sampling techniques.
  - b) Biosensors.
  - c) Ultracentrifugation.
  - d) Ion exchange chromatography.

[CO-1][L-4] 5×4

- 0.2 Draw schematic diagram of apparatus used for fat and protein estimation in food. Also, write a brief note on principle and working of it. [CO-3][L-2] **20** 0.3 Explain ICP-OES and AAS. [CO-4][L-3] **20** Q.4 Explain Beer's-Lambert law in relation with UV-VIS spectroscopy. [CO-2][L-3] **20** PART-B Q.5 a) Differentiate between Agarose and PAGE. [CO-1][L-1] **10** b) Explain the working of PAGE. [CO-2][L-1] 10 Q.6 Explain the principle, instrumentation, working and application of HPLC. [CO-4][L-1] 20
- Q.7 Give a brief note on Principle and types of Chromatography. Explain thin layer chromatography in detail. [CO-4][L-2] 20

# End Semester Examination, Dec. 2022 B.Sc. (FS&T) - Fifth Semester TECHNOLOGY OF MEAT, POULTRY, SEAFOODS AND HONEY (BFST-DS-502)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Each question carries equal marks.
- Q.1 What are different egg-white and egg-yolk proteins explain each in detail? Explain grading, quality inspection of eggs and the products made from egg with and without shell, foam products along with the nutritive value and composition of egg.

[CO-2][L-2]**20** 

### <u>PART-A</u>

- Q.2 Explain slaughtering of goat and poultry with the help of flowchart. [CO-3][L-4] 20
- Q.3Explain quality evaluation, nutritional composition and adulteration test of honey. Also<br/>explain value addition of honey.[CO-3][L-2] 20
- Q.4 What are various types of spoilages in fish? Draw the flow chart of dry rendering method for fish meal production. Explain fish oil processing and different methods used to preserve fish.
  [CO-3][L-2] 20

### <u>PART-B</u>

Q.5 Define Abattoir, Stunning and Evisceration. Draw the structure of muscle and classify muscle proteins. Explain the parameters used to analyse the quality of meat.

[CO-4][L-2] **20** 

- Q.6 Define 'Smoking, Meat WHC and curing'. Explain role of each curing agent. Enlist bi-products generated from meat industry and their utility. [CO-3][L-2] **20**
- Q.7 Explain in detail the structure of egg with the help of a diagram. Explain all the methods used for preservation of eggs (refrigeration, freezing, thermal processing and coating).
   [CO-3][L-3] 20

B. Sc. (FS&T) - Fifth Semester

# **EMERGING FOOD PROCESSING TECHNOLOGIES (BFST-DS-504)**

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART A and TWO questions from PART B. Marks are indicated against each question.

- Q.1 a) Describe hurdle technology and its principle and significance.
  - b) What are the different potential hurdles in food preservation? Explain with an example the usage of hurdle technology in food preservation. [CO-1][L-4] **10x2**

# <u>PART-A</u>

- Q.2Define PEF and explain main processing parameters of PEF and what are the<br/>mechanisms of microbial inactivation on using PEF.[CO-1][L-2] 20
- Q.3 Explain in detail the various non destructive methods for food evaluation? [CO-3][L-2] 20
- Q.4Describe microwave and ohmic heating and also explain thin principle, mechanism,<br/>advantages and disadvantages.[CO-3][L-2] 20

- Q.5 What are the fundamentals and mechanism of ultrasound treatment for food preservation? What are its on food properties? [CO-2][L-1] **20**
- Q.6 Explain ultrafileration and various designs of different modules of membranes along with the applications of ultra filtration used in food industries. [CO-3][L-2] **20**
- Q.7 Define HPP and explain its processing, application and physico-chemical effect on foods. [CO-2][L-2] 20

B.Sc. (FS&T) - Fifth Semester

FOOD PLANT EQUIPMENT AND PROCESS DESIGN (BFST-DS-505)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Screw feeder.

- Q.1 Draw different symbols used while designing a plant layout:
  - a) Storage tank.b) Belt conveyer.
- f) Ribbon blender.
- g) Propeller.h) Open tank.

i)

- c) Elevator.
- d) Cyclone separator.
- e) Centrifuge.
- j) Crusher.

[CO-1][L-1] 2×10

# <u>PART-A</u>

- Q.2 What is plant layout and mention its importance and advantages? What are general plant design considerations? [CO-1][L-2] 20
- Q.3 What is break even analysis? Illustrate BEP with the help of a graph and also explain how to calculate BEP? [CO-4][L-1] 20
- Q.4 What are flow patterns? Draw and explain different types of flow patterns. [CO-1][L-2] 20

- Q.5
   Explain food processing equipment and its goal. Also describe a detailed classification of food processing equipment.

   [CO-2][L-3]
   20
- Q.6 What are the types of plant layout and explain factors involved in plant layout? [CO-1][L-1] 20
- Q.7 Give detailed note on steps in product design and process development. [CO-3][L-4] 20

# End Semester Examination, Dec. 2022 B. Sc. (Nutrition and Dietetics) – First Semester BIOCHEMISTRY – 1 (BN&D-103)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Elaborate different biomolecules which are considered to be polymers. Also, indicate the types of monomer units making up these biomolecules. 20

### <u>PART-A</u>

- Q.2 Diagrammatically differentiate a prokaryotic cell from eukaryotic cell. Tabulate the important differences between the two cells. [CO-3] [L-3] **20**
- Q.3 Benedicts and Fehlings tests are conduced to distinguish between type of sugars. Explain the principle of these tests. Name the two sugars with well defined definition and their structure. [CO-2] [L-3] 20
- Q.4 Essential fatty acids are an important part of our diet. What category go fatty acids do they fit in. What are the other types of fatty acids present. Give well defined classification of fatty acids. Also draw the structure of the different types of fatty acids.

[CO-3] [L-1] **20** 

- Q.5 Primary, secondary, tertiary and quaternary levels of protein structural organization exist. What are these structural levels of protein organization? Elaborate. [CO3][L-2] **20**
- Q.6 Differentiate between a fat and water soluble vitamins. Give detailed description of any two fat and water soluble vitamins along with their structures. [CO-1] [L-1] **20**
- Q.7 How is water and electrolyte balance regulated in human body. Explain in detail the involvement of Renin-angiotensin system in regulating the water and electrolyte balance.
  [CO-4] [L-2] 20

# End Semester Examination, Dec. 2022 B. Sc. (Nutrition and Dietetics) – Second Semester BIOCHEMISTRY – II (BN&D-203)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 What is understood by the word 'Metabolism' in the field of Biochemistry? Explain the metabolism of carbohydrates and proteins in brief. [CO-1] [L-3] **20**

### <u>PART-A</u>

- Q.2 Glycolysis can occur in the presence and absence of oxygen. What are these termed as?
   Explain the difference between the glycolysis occurring in the absence and presence of oxygen. Also write down the irreversible steps of glycolysis. [CO-3][L-2] 20
- Q.3Define the term beta-oxidation of fatty acids. Also, give detailed reactions explaining<br/>the different steps occurring in this.[CO-1] [L-1] 20
- Q.4How is ammonia converted to urea? Explain in detail give the reactions explaining the<br/>formation of urea from ammonia.[CO-1] [L-4] 20

### <u>PART-B</u>

- Q.5Discuss the role of insulin and glucagon hormone in both carbohydrate and lipid<br/>metabolism.[CO-2][L-3] 20
- Q.6 B-form of DNA is made up of different nucleotides. Explain how they are important in forming the double helical structure in Watson-crick model of DNA structure.

[CO-1] [L-2] **20** 

Q.7 What is Michaelis-Menten constant in enzyme catalyzed reactions? Indicate the significance of Michaelis-Menten constant in predicting the rate of enzyme catalyzed reactions with the help of suitable diagram. [CO-1] [L-1] **20** 

# End Semester Examination, Dec. 2022 B. Sc. (Nutrition and Dietetics) – Fifth Semester FOOD HANDLING AND PACKAGING (BN&D-504)

Time: 2 hrs.

Max Marks: 50

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Define the following:
  - a) Food packaging.
  - b) Tetra packs.
  - c) Semi-rigid packaging.
  - d) Flexible containers.
  - e) Modified atmospheric packaging.

2×5

Q.2	What are the functions of packaging materials for different foods?	[CO-1] [L-2] <b>10</b>
Q.3	What is the purpose of using packaging materials? Explain the packaging material.	characteristics of [CO-2] [L-2] <b>10</b>
Q.4	Describe the general methods for establishing radiation stabilization.	[CO-2] [L-2] <b>10</b>
	<u>PART-B</u>	
Q.5	How is packaging of finished goods done? Explain in detail.	[CO-2] [L-3] <b>10</b>
Q.6	Discuss about the types of modern packaging materials and forms	by using relevant

- examples. [CO-2] [L-3] **10**
- Q.7Differentiate between bags, pouches, wrappers and tetra packs. State their usage in<br/>terms of packaging different products.[CO-2] [L-3] 10

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - First Semester BASICS OF FOOD & NUTRITION (BND-DS-101)

Time: 3 hrs

Max Marks: **100** *No. of pages: 1* 

[CO-2][L-3] 20

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss the role of nutritionist in community and hospitals.

### <u>PART-A</u>

- Q.2 Write short notes on the following:a) BMI.
  - b) Food guiae pyramid.

[CO-1][L-2] **10×2** 

- Q.3 Define any ten terms used in the study of nutrition. Describe the functions of food with suitable examples. [CO-2][L-4] **20**
- Q.4 Explain the signs of good nutrition with examples in context to balance diet. [CO-3][L-2] 20

- Q.5 Classify Vitamins. Explain the functions, RDA and dietary sources of vitamin-D. [CO-3][L-2] 20
- Q.6What are the principles of cooking? Explain the different methods of cooking with<br/>suitable examples.[CO-2][L-3] 20
- Q.7 Discuss the importance of functional foods for healthy living. [CO-4][L-5] 20

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - First Semester FUNDAMENTALS OF BIOCHEMISTRY (BND-DS-102)

Time: 3 hrs

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Bio-molecules have important biochemical significance in the body. Name the different bio-molecules along with their biochemical significance and composition in the body.
  [CO-2][L-3] 20

# <u>PART-A</u>

- Q.2 A cell without a nucleus is different from a cell with a well defined nucleus and organelles. Discuss in detail the structure and functions of different organelles present in a eukaryotic cell. Elaborate your answer with the help of a well defined diagram. [CO-3][L-3] 20
- Q.3 Hexose sugars include different aldoses and ketoses. Draw the open chain and cyclic structures of any two aldose sugar and any one ketose sugar. [CO-2][L-3] **20**
- Q.4 Essential fatty acids are different from non-essential fatty acids. Discuss the different examples of the Fats are made up of different fatty acids and glycerol. Give well defined classification of lipids and the different types of fatty acids present in a molecule of fat. Also give suitable structures of different fatty acids with examples. [CO-3][L-1] 20

- Q.5 Differentiate between alpha helix and beta pleated sheet structures of secondary levels of protein organization. Give the detailed illustration of these two secondary structures of protein organization. [CO-3][L-2] **20**
- Q.6 There are four different types of fat soluble vitamins. Give detailed description of any two fat soluble vitamins indicating the RDA, dietary sources, biochemical functions and structures.
  [CO-1][L-1] 20
- Q.7 What are micro and macro minerals? Give suitable examples of these two types of minerals. Discuss their functions in the body. Also indicate their RDA, dietary sources and deficiency diseases.
  [CO-4][L-2] 20

### End Semester Examination, Dec. 2022 B.Sc. (N&D) - First Semester HUMAN ANATOMY AND PHYSIOLOGY I (BND-DS-103)

Time: 3 hrs

Max Marks: 100

No. of pages: 1

[CO-1][L-1] 4×5

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Define the following:
  - a) Pericardium.
  - b) Thoracic cavity.
  - c) Bronchioles.
  - d) Mitral valve.
  - e) Lub and Dub.

# <u>PART-A</u>

- Q.2 Draw a well labeled and neat diagram of human heart. [CO-1][L-1] **20**
- Q.3 What are the factors affecting blood pressure? [CO-3][L-2] 20
- Q.4 Classify blood cells into different categories on the basis of their structure and functions and discuss them in detail. [CO-2][L-4] 20

- Q.5 Discuss any five parts of respiratory system. [CO-2][L-2] 20
- Q.6 How respiration is regulated in human body? Please discuss in detail. [CO-2,3][L-3] 20
- Q.7 What do mean by electrical activity of heart? Discuss the phenomenon in detail. [CO-4][L-3] 20

### End Semester Examination, Dec. 2022 B. Sc. (N&D) - First Semester COMMUNICATION AND EXTENSION EDUCATION (BND-DS-106)

Time: 3 hrs

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Relate the role of extension educator in social and nutritional upliftment of society. 20

# <u>PART-A</u>

- Q.2 Define the concept of communication and discuss the functions of communication. [CO-1][L-1] **20**
- Q.3 Explain the model of communication and describe the barriers of communication.

[CO-2][L-2] **20** 

Q.4 What is audiovisual aid? Write the nature, characteristics and classification of audiovisual aids. [CO-3][L-2] 20

- Q.5 Write in detail the Philosophy, concept and principles of extension education. [CO-4][L-4] 20
- Q.6 Write short notes on the following:
  - a) Role of extension worker.
  - b) Extension worker as a communicator.
- [CO-2][L-3] **10×2**
- Q.7Discuss the role of extension education in development of nutrition and dietetics.[CO-4][L-4] 20

# End Semester Examination, Dec. 2022 B. Sc. (Nutrition and Dietetics) - Second Semester BIOCHEMISTRY AND METABOLISM (BND-DS-201)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Enzymes in different metabolic pathway have specific role to play in a reaction. List the different enzymes involved in both carbohydrate and fat metabolism. **20**

# <u>PART-A</u>

- Q.2 Glycogen metabolism involves both glycogenesis and glycogenolysis. Explain the pathway of glycogen breakdown in liver and muscle cells. [CO-1] [L-3] **20**
- Q.3 UREA cycle is a final pathway for the metabolism of amino acids. Explain how it is involved in the amino acid metabolism giving well defined reactions.

[CO-1] [L-2] **20** 

Q.4 What is the significance of Km in an enzymatic reaction? Also draw well defined diagram explaining the effect of substrate concentration on the rate of enzyme catalyzed reactions. [CO-3] [L-3] **20** 

# <u>PART-B</u>

- Q.5 How are fatty acids oxidized in the body, give detailed reactions of the beta oxidation of fatty acids leading to the formation of acetyl CoA. [CO-1][L-3] **20**
- Q.6 Nucleotides make up DNA and RNA. Give suitable examples of the different nucleotides in the DNA and RNA molecule. Also discuss the structure of DNA molecule in detail.
   [CO-3] [L-3] 20
- Q.7 Epigenetics and Nutrigenomics are important in the field of Nutrition. Give detailed notes on:
  - a) Epigenetics in the field of nutrition.
  - b) Nutrigenomics.

[CO-3][L-3] **10×2** 

### B. Sc. (Nutrition and Dietetics) – Second Semester HUMAN ANATOMY AND PHYSIOLOGY-II (BND-DS-203)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following in brief:
  - a) Which is the master gland of the human body?
  - b) Which hormone is secreted by thyroid?
  - c) What are neurotransmitters?
  - d) What is corpus luteum?
  - e) What is diabetes insipidus?

# <u>PART-A</u>

Q.2 Differentiate between the sympathetic and parasympathetic nervous system.

[CO-2] [L-2] **20** 

 $4 \times 5$ 

- Q.3 Draw a labeled diagram of the ling bone and discuss its structure. [CO-1] [L-4] 20
- Q.4Illustrate the role of alpha, beta and gamma cells of pancreas in our daily life through<br/>detailed discussion and anatomical diagram.[CO-3] [L-4] 20

- Q. 5 Draw a labeled diagram of kidney and discuss about the functions of each part. [CO-1] [L-1] **20**
- Q.6 Analyse the role of hormones in maintaining a normal menstrual cycle in females. [CO-4] [L-4] **20**
- Q.7 Summarize the importance of female internal reproductive system through a well<br/>labeled diagram and also describe them.[CO-1][L-5] 20

B.Sc. (N&D) – Second Semester

### FOOD LAWS AND REGULATION (BND-DS-205)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Explain the following:
  - a) Food.
  - b) Primary objective behind an acting PFA Act.
  - c) Preservative.
  - d) Contaminants.

5×4

#### <u>PART-A</u>

- Q.2List the important features of PFA Act, 1954.Describe briefly the 3-tier system for<br/>Administration of PFA Act, 1954.[CO-1] [L-2] 20
- Q.3 Write short notes on:
  - a) Essential commodities Act.
  - b) Food Product Order.
  - c) Edible packaging order.
  - d) Milk and milk product order. [CO-2] [L-4] 5×4
- Q.4 Discuss main features of BIS. Explain legal metrology. [CO-3] [L-3] 20

# <u>PART-B</u>

- Q.5 Discuss the role of:
  - a) WHO
  - b) FAO

[CO-4] [L-5] **10×2** 

- Q.6 What do you mean by HACCP? Give the importance and application of food safety [CO-1] [L-1] **20**
- Q.7 Write short notes on:
  - a) Codex alimentarious commission.
  - b) FSSAI.

[CO-1] [L-4] **10×2** 

### End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester FUNDAMENTALS OF FOOD SCIENCE (BND-DS-301)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

[CO-1][L-1] 4×5

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Define *any five* of the following:
  - a) Paushtic atta.
  - b) Blanching.
  - c) HFCS.
  - d) Pasteurization.
  - e) Marbling.
  - f) Rancidity.

# <u>PART-A</u>

Q.2 Discuss in detail about classification and nutritive value of millets. [CO-2][L-2] 20

Q.3 Classify the vegetables and discuss nutritive value of each type of classification. [CO2][L-5] 20

Q.4 Discuss in detail about crystallization of sugars and factors affecting them. [CO- 4][L-2] 20

- Q.5 Write in detail about any five types of market milk along with their composition.[CO-4][L-1] 20
- Q.6Egg is known as complete food due to its composition. Justify the statement with<br/>detailed description.[CO-2][L-5] 20
- Q.7 What are the methods of converting fat in different forms of industrial use? Discuss them in detail. [CO-3][L-2] 20

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester COMMUNITY HEALTH NUTRITION (BND-DS-302)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss about current nutritional problems in India and state one nutrition problem and the steps involved in preventing it planning execution and evaluation. [CO-4][L-4] **20**

### <u>PART-A</u>

- Q.2
   Define 'community nutrition'. What is role of community nutritionist and write one community nutrition assessment method?
   [CO-1][L-3] 20
- Q.3Discuss about different strategically approaches for improving health and nutrition in<br/>the community.[CO-2][L-2] 20
- Q.4 Explain in detail about strategic national health policy. [CO-2][L-3] 20

# <u>PART-B</u>

- Q.5 Write the NNP, aim scope and different intervention methods. [CO-3][L-2] 20
- Q.6Describe the concept of national food security act 2013 and role of international NGO's<br/>in food and nutrition security.[CO-3][L-5] 20
- Q.7 Write a note on ICDS, mid day meal program and vitamin A prophylaxis program.

[CO-4][L-6] **20** 

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester HEALTH, FITNESS AND SPORTS NUTRITION (BND-DS-303)

Time: 3 hrs.

Max Marks: 100 No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1 Explain various components of physical fitness. Discuss all the components in detail. 20

# PART-A

- 0.2 Kin anthropometry is a technique to measure human body composition. Comment on the statement and explain the body composition analysis process in detail. [CO-2][L-5] **20**
- Q.3 Discuss the effect of micronutrients on physical fitness. [CO-1][L-2] 20
- Q.4 Discuss different types of carbohydrate loading. Differentiate between pre game, during game and post game meal nutritional requirements. [CO-3][L-4] **20**

### PART-B

- Q.5 Parul is a marathon runner she is 29 year old. She runs more than 17km every day. Discuss the role of carbohydrate and fat metabolism during his activity. [CO-4][L-5] 20
- Q.6 Discuss the mechanism of hydration and types of sports drinks in detail. [CO-2][L-2] 20
- Q.7 Differentiate between the various meditation and chakras. [CO-5][L-4] **20**

# End Semester Examination, Dec. 2022 B. Sc. (N&D) - Third Semester PREVENTIVE MEDICINE AND PROMOTIVE HEALTH (BND-DS-304)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss the concept of health. Explain various indicators of health in context to human development. 20

# <u>PART-A</u>

- Q.2 Apply the concept of web of causation theory of epidemiology in defining causes of Diabetes. Discuss the public health approaches to deal with its current situation. [CO-2][L-3] **20**
- Q.3 Discuss the concept of epidemiology and its importance in public health. [CO-1][L-2] 20
- Q.4 Explain the epidemiology and principles of prevention and control of malaria. [CO-3][L-2] 20

- Q.5 Critically evaluate the factors causing the change in the pattern of disease occurrence. [CO-1][L-4] 20
- Q.6 Discuss the public health approaches to prevention and control of communicable diseases. Explain the universal immunization program for communicable diseases. [CO-4][L-2] **20**
- Q.7 Evaluate various levels and modes of preventing and control diseases. [CO-1][L-5] 20

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester BASICS OF FOOD MICROBIOLOGY (BND-DS-308)

Time:	3 hrs	Max Marks: <b>100</b>				
Note:	Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWC PART-A and TWO questions from PART-B. Marks are indicated against e	or pages: T questions from each question.				
Q.1	Explain current research in microbial science.	[CO-4][L-4] <b>20</b>				
	<u>PART-A</u>					
Q.2	Discuss morphology and cell structure of bacteria.	[CO-1][L-3] <b>20</b>				
Q.3	Illustrate in detail about microbial taxonomy.	[CO-2][L-2] <b>20</b>				
Q.4	What is the importance of microbes in food preservation?	[CO-2][L-3] <b>20</b>				
	<u>PART-B</u>					
Q.5	Write short notes on: a) Spoilage of bread.	00 010 01 <b>10 00</b>				
	b) Milk and milk products.	UU-3][L-2] <b>IUX2</b>				
Q.6	Discuss about chemical preservation and irradiation.	[CO-3][L-5] <b>20</b>				

Q.7 What is fermentation and list out traditional fermented food and their health benefits? [CO-4][L-6] 20

### End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester INTRODUCTION TO FIRST AID AND NURSING (BND-DS-309)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

20

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Define the nursing process and its importance in patients care.

- Q.2 Discuss the importance of bed making in the hospital setting and household setting for the therapeutic patients. [CO1][L2] **20**
- Q.3 Describe in details various phases of nurse and patient relationship. [CO2][L3] 20
- Q.4 Analyze the strategies of first aid in a flood and famine affected state. [CO-1][L-4] **20 PART-B**
- Q.5 Ethics and principles are integral part of any profession. Discuss it with respect to nursing.
  [CO2][L2] 20
- Q.6 "Patient first interaction with nurse". Critically evaluate this and justify that caring is an important part of nursing profession. [CO2][L2] 20
- Q.7Discuss the factors affecting the nursing care. What are the different types of care<br/>provided to the patients?[CO1][L1] 20

# End Semester Examination, Dec. 2022 B.Sc. (N&D) - Third Semester

# INTRODUCTION TO HERBAL SCIENCE (BND-DS-310)

Time:	3 hrs	Max Marks: <b>100</b> <i>No. of pages: 1</i>				
Note:	Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO PART A and TWO questions from PART B. Marks are indicated against ea	questions from the question.				
Q.1	<ul><li>a) Classify herbs.</li><li>b) Explain the nutritional attributes of herbs.</li></ul>	[CO-4][L-4] <b>20</b>				
	<u>PART-A</u>					
Q.2	Discuss the history of herbs and their roles in daily life.	[CO-1][L-3] <b>20</b>				
Q.3	Write the properties of calotropis gigantea.	[CO-2][L-2] <b>20</b>				
Q.4	Describe about rosa centifolia.	[CO-2][L-3] <b>20</b>				
<u>PART-B</u>						
Q.5	Explain culinary herbs with example.	[CO-3][L-2] <b>20</b>				
Q.6	Enumerate the health promoting properties of herbal remedies.	[CO-3][L-5] <b>20</b>				
07	What are borbal remodies used for skip and bair care? Write the	importance of				

Q.7 What are herbal remedies used for skin and hair care? Write the importance of herbal products/remedies in skin and hair care. [CO-3][L-2] 20

# End Semester Examination, Dec. 2022 B. Sc. (N&D) - Fourth Semester INSTRUMENTATION FOR FOOD ANALYSIS (BND-DS-403)

Time: 3 hrs.

Max Marks: 100

20

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question:

Q.1 Explain the physicochemical and biochemical analysis of food in detail.

### <u>PART-A</u>

- Q.2 Explain sampling techniques. What are food standards and regulations? [C-4] [L-2] 20
- Q.3 Explain differential scanning calorimetry and electrophoresis. [C-2] [L-3] **20**
- Q.4 Explain working principles and applications of atomic absorption spectrometer and inductively coupled plasma-atomic emission spectroscopy. [C-3] [L-3] **20**

- Q.5Explain HPLC and gas solid chromatography.[C-1] [L- 3] 20
- Q.6 Explain about infrared spectrometry and flame photometry in detail. [C-3] [L- 2] 20
- Q.7What do you mean by Ion exchange chromatography and Gel permeation<br/>chromatography?C-3] [L-3] 20

# End Semester Examination, Dec. 2022 B. Sc. – Fourth Semester PUBLIC HEALTH NUTRITION (BND-DS-405)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Describe the impact of malnutrition on National development. [CO1] [L-2] 20

# <u>PART-A</u>

- Q.2Describe the importance of nutrition assessment in public health sector. Discuss ABCD<br/>of nutritional assessments in detail.[CO 2] [L-2] 20
- Q.3 Discuss the etiological factors, public health implications, preventive strategies of protein energy malnutrition. [CO3] [L-3] **20**
- Q.4Discuss the etiological factors, symptoms and preventive strategies of lodine<br/>deficiency disorders.CO-2] [L-4] 20

- Q.5Discuss the etiological factors of obesity. What behavioral modifications would you<br/>suggest for achieving weight loss?[CO-3] [L-3] 20
- Q.6. Discuss the public health implications and preventive strategies of coronary heart diseases. [CO-1] [L-3] 20
- Q.7 Discuss the two major types of diabetes commonly present in people. Also, describe the preventive strategies used for diabetes. [CO-2] [L2] **20**

B. Sc. – Fifth Semester

# **TECHNIQUES OF SCIENTIFIC WRITING (BND-DS-406)**

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. Marks are indicated against each question.
- Q.1 Discuss the different type of scientific writing. Highlight research misconduct and plagiarism in detail 20

# <u>PART-A</u>

Q.2 Illustrate the various steps of writing a book chapter and research article.

[CO-2] [L-3] **20** 

- Q.3 Differentiate between:a) Review Article and systematic review article.
  - b) Meta-analysis and Monograph. [CO-2] [L-4] **10×2**
- Q.4 Discuss the following:
  - a) CONSORT for trials.
  - b) QUORUM for Meta-analysis.

[CO-3] [L-2] **10×2** 

- Q.5 Discuss the different kinds on outlines and explain how to draft titles, sub titles, tables, and illustrations. [CO-1] [L-1] 20
- Q.6 Explain the different steps required to form a research project. [CO-3] [L-3] 20
- Q.7 Create objectives and define hypothesis on the following topic "Effect of kalonji on Hyperlipidemia". Explain different methods to select a journal and submit a research paper in journal.
   [CO-3] [L-6] 20
## End Semester Examination, Dec. 2022 B.Sc. (N&D) - Fourth Semester INDIAN TRADITIONAL FOODS (BND-DS-407)

Tir	me: 3 hrs.	Max Marks: <b>100</b>
No	ote: Attempt <b>FIVE</b> questions in all; <b>Q.1 is compulsory</b> . Attempt <b>PART-A</b> and <b>TWO</b> questions from <b>PART-B</b> . Marks are indica	any <b>TWO</b> questions from ated against question.
Q.	.1 Discuss the traditions associated with Indian foods and how status.	they impact our nutritional <b>20</b>
	<u>PART-A</u>	
Q.,	.2 What do you understand by spiritual heath? Explain in detail.	[CO-1] [L-2] <b>20</b>
Q.	.3 What are Indian food ethics?	[CO-2] [L-1] <b>20</b>
Q.	.4 Discuss the medicinal quality of traditional foods as per your u	understanding. [CO-3] [L-2] <b>20</b>
	<u>PART-B</u>	
Q.	.5 What are various Indian ethnic cuisines? Explain.	[CO-2] [L-2] <b>20</b>
Q.	.6 Describe in detail about the traditional food beliefs.	[CO-3] [L-2] <b>20</b>
Q.	.7 Differentiate between Rajasik and Satavik foods.	[CO-4] [L-4] <b>20</b>

### End Semester Examination, Dec. 2022 B. Sc. – Fourth Semester HUMAN HEALTH PSYCHOLOGY (BND-DS-408)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 What are the eating disorders? Elaborate different types of eating disorders. **20**

## <u>PART-A</u>

- Q.2 Explain the factors affecting patient adherence to medication or treatment. Use an appropriate model to improve the patient adherence. [CO-2] [L-2] **20**
- Q.3 To what extent does the gate control theory of pain depart from biomedical models of pain? What are the implications of the GCT of pain for the mind–body debate?

[CO-4] [L-4] **20** 

Q.4 Evaluate theories of stress to provide rational picture of human behavior.

[CO-3] [L-5] **20** 

- Q.5 Apply health belief model to treat population addicted to alcohol and tobacco consumption [CO-2] [L-4] 20
- Q.6 Define 'health psychology and its goals'. Discuss its application in modern day disease. [CO-2] [L-1] **20**
- Q.7 State the emergence of health psychology and the change in medical perspective towards this field. How doctor-patient communication is important to treat illness? [CO-1] [L-2] **20**

B.Sc. (N&D) - Fifth Semester

### STATISTICS AND RESEARCH METHODOLOGY (BND-DS-502)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

20

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Describe the process and scope of research in nutrition.

#### <u>PART-A</u>

- Q.2Differentiate between questionnaire and interview method of data collection. Discuss<br/>various secondary data collection methods.[CO-2][L-3] 20
- Q.3 Discuss the scales of measurements used in data collection. Differentiate between rating and attitude scale. [CO-1][L-2] 20
- Q.4 Prepare a frequency distribution table using the class interval of 5 units from the following data. Draw frequency polygon and histogram using the same data:

110	108	126	132	149	136	125	112	116	104
138	155	125	138	136	130	120	148	132	148
140	125	119	111	154	147	165	137	145	162
145	132	150	137	142	135	125	126	120	132
155	110	143	127	139	122	130	111	110	160

[CO-3][L-4] **20** 

### <u>PART-B</u>

- Q.5Explain the concept of normal probability distribution in statistics. Differentiate<br/>between pie chart and bar chart.[CO-1][L-2] 20
- Q.6 Calculate the value of mean median and mode from the following distribution. Discuss the merits and demerits of all three measures of central tendency:

Wages (Rs.)	No. of worker	Wages (Rs.)	No. of worker
20-25	40	40-45	140
25-30	60	45-50	110
30-35	90	50-55	60
35-40	170	55-60	50

[CO-4][L-2] 20

Q.7 Define mean and standard deviation used in statistics. Find the standard deviation of the numbers given (3, 8, 6, 10, 12, 9, 11, 10, 12, and 7). [CO-4][L-2] **20** 

### End Semester Examination, Dec. 2022 B.Sc. (N&D) - Fifth Semester FUNCTIONAL FOODS (BND-DS-504)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Justify the statement "Nutraceuticals are a blessing from nature". [CO-2][L-5] 20

## <u>PART-A</u>

- Q.2 Illustrate the benefits of functional food with suitable examples. [CO-1][L-4] 20
- Q.3 What is the difference between prebiotic and probiotic? Discuss the mechanism of action in detail. [CO-2][L-4] 20
- Q.4 What do you understand by the term probiotic? Discuss the various milk and non-milk based probiotics available. [CO-3][L-3] **20**

- Q.5 How is the safety and quality of probiotics is ensured? [CO-2][L-2] 20
- Q.6 Explain in detail the dietary fibers and its types. Also discuss the benefits of each type of fiber. [CO-3][L-1] 20
- Q.7 What are flavonoids? Also, discuss the different types and sources of flavonoids in diet. [CO-4][L-3] 20

## End Semester Examination, Dec. 2022 B.Sc. (N&D) - Fifth Semester NUTRITION AND FOOD SECURITY (BND-DS-505)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART -B. Marks are indicated against each question.
- Q.1Discuss the concept of food and nutrition security. Elaborate on the factors affecting the<br/>food security.[CO-4][L-4] 20

#### <u>PART-A</u>

- Q.2 What is the relationship between population growth and food security? Discuss about demographic trend: implications of future food demand. [CO-1][L-3] **20**
- Q.3 Critically analyze the agricultural revolutions occurred in India since Bengal Famine in 1943.
   [CO-2][L-2] 20
- Q.4 Discuss about food security system at the national level and household level? [CO2][L-3] 20

- Q.5 Evaluate the government initiatives to discuss the factors and challenges to food and nutrition security among adult and children. [CO-3][L-5] **20**
- Q.6 Discuss the opportunities for linkages and synergies between public private sector to achieve food and nutrition security. [CO-4][L-3] 20
- Q.7 Discuss the role of women in food and nutrition security. [CO-3][L-2] 20

#### End Semester Examination, Dec. 2022 B.Sc. (Nutrition & Dietetics) - Fifth Semester HEALTH AND WEIGHT MANAGEMENT (BND-DS-506)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Explain in detail about the nutrition management provided in underweight and obesity. [CO-2][L-2] 20

### <u>PART-A</u>

- Q.2 a) Define BMI and provide the classification for Asians and Non-Asians. [CO-1][L-2] 10
   b) Write in detail about energy balance. [CO-1][L-2] 10
- Q.3 Discuss the leptin, ghrelin insulin and glucagon in weight management. [CO-4][L-3] 20
- Q.4a) Classify types of eating disorders.[CO-2][L-1] 10b) Explain medical and nutrition therapy in eating disorders.[CO-2][L-1] 10

- Q.5Explain the health hazards of 'underweight'. Write in your own words about the<br/>strategies to control malnutrition situation in our country.[CO-2][L-6] 20
- Q.6 Explain in detail about the surgical procedures followed for obesity. [CO-3][L-2] 20
- Q.7 What are the advantages and disadvantages of nutrition supplements? Write in detail about weight cycling. [CO-4][L-4] 20

B. Sc. (N&D) - Fifth Semester

HOSPITAL AND HEALTH CARE MANAGEMENT (BND-DS-508)

Time: 3 hrs

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Describe the concept of management in hospital set up. Elaborate your answer with the help of well-defined examples. Also, discuss the role of management in a hospital set up.
   20

### <u>PART-A</u>

- Q.2 Indoor accommodation, ward design and bed wise planning in hospital set up would involve a system of management. What would be required in context to hospital management in setting up of indoor patient services? [CO-2][L-3] **20**
- Q.3 How can the process of management be applied in defining special requirements for setting up of ICU and OT ward in a hospital? [CO-2][L-3] **20**
- Q.4 What are the various statuary requirements in the hospital designing set up? Also, explain the structural organization of hospital set up. Discuss why it is important to maintain structural set up of management in health care industry. [CO-2][L-4] **20**

- Q.5 National health policy is important and has different direct and indirect intervention programs. Discuss their relevance in a health care set up. [CO-3][L-3] **20**
- Q.6 There are different national health programs in context to a country. List down the different National health programs being run in India and discuss some of the important national programs pertaining to both communicable and non-communicable diseases. [CO-3][L-2] **20**
- Q.7 A set of different management strategies are required for proper hospital and health care set up. Discuss the different strategies for job analysis, job description and specifications for hospital staff.
  [CO-4][L-3] 20

### End Semester Examination, Dec. 2022 B. Tech. – First Semester SEMICONDUCTOR PHYSICS (BPH-104/BSC-PH-101)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

2x10

[CO-1] [L-2] 3

[CO-1] [L-2] **3** 

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from Part-A and TWO questions from Part-B. Each question carries equal marks.

- a) Differentiate between metals, semiconductor and insulators on the basis of band 0.1 gap.
  - b) Describe density of states?
  - c) At OK, where is the Fermi level located in n-type semiconductor?
  - d) Draw the energy band diagram for a pn-junction diode in an unbiased condition.
  - e) What is meant by Exciton.
  - f) Differentiate between spontaneous and stimulated emission.
  - q) Explain radiative recombination.
  - h) Discuss important applications of LED.
  - i) Draw a labeled diagram of p-n junction photodetector.
  - i) What for DLTS is used?

PART-A

- a) Outline the free electron model of metals. What are it's limitations? [CO-1] [L-2] 10 Q.2 b) Write short notes on the following: [CO-1] [L-3] 4
  - i) Effective mass
  - ii) Occupation probability
  - iii) Density of states
- Q.3 a) Derive an expression for the intrinsic carrier concentration in an intrinsic semi-conductor. Under what conditions will Fermi level is in the middle of the forbidden gap? [CO-2] [L-3] 14
  - b) Differentiate between direct band semiconductor and Indirect band gap [CO-2] [L-2] 6 semiconductors.
- Q.4 a) Write short note on photovoltaic effect. [CO-3] [L-4] 6 b) Elucidating the terms Absorption, Spontaneous emission and Stimulated emission, establish the relation between Einstein's coefficients. [CO-3] [L-4] 14

## PART-B

- a) Discuss homojunction LED giving the reasons for losses of emitted photon. O.5
  - [CO-4] [L-2] 10 b) In a LED the active material used is AlGaN with a band gap of 4.5 eV. Find out the wavelength of light emitted. [CO-4] [L-4] 4
  - c) Differentiate SLED and ELED and give one applications of each of these.

[CO-4] [L-2] 6

- a) Using a labeled diagram discuss the working principle, construction and working of Q.6 PIN photodetector. [CO-4,5] [L-4] 10
  - b) Discuss the principle, construction and working of a solar cell. Draw its characteristics and find out the fill factor. [CO-4,5] [L-2,3] 10

- Q.7 a) How the carrier concentration of p-type semiconductor can be measured using Hotprobe measurement technique. [CO-6] [L-4] **10** 
  - b) Derive suitable expression and explain the Vander Pauw and Four-point probe measurement for carrier density, resistivity and Hall mobility. [CO-6] [L-3] **10**

## Annual Examination, Dec. 2022 Bachelor of Physiotherapy — First Year ANATOMY (BPT 101)

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

Attempt EIGHT questions in all; PART-A is compulsory. Attempt any FIVE questions from PART-B and TWO questions from PART-C. Marks are indicated against each question.

### <u>PART-A</u>

- Q.1 Answer the following questions:
  - a) Explain ball and socket joints.
  - b) Which nerve is called as laboure's nerve and why?
  - c) Enumerate the cranial nerves.
  - d) Enumerate all features of clavicle.
  - e) Name any four types of bones.

2×5

Q.2	Discuss in detail the anatomy of lungs its relationships and the segments with suitable diagrams.	e bronchopulmonary [CO-1][L-3] 8
Q.3	Explain Axilla in detail.	[CO-3][L-2] <b>8</b>
Q.4	Explain Bursa around knee joint in detail.	[CO-3][L-2] <b>8</b>
Q.5	Discuss in detail the types of muscles with suitable diagrams.	[CO-1][L-3] <b>8</b>
Q.6	Discuss the posterior compartment of thigh and it relationships.	[CO-4][L-2] <b>8</b>
Q.7	Explain types of cartilages with examples.	[CO-4][L-2] <b>8</b>
	<u>PART-C</u>	

- Q.8 Write origin, insertion, nerve supply and action of following muscle:
  - a) Trapezius.
  - b) Rectus femoris.
  - c) Teres major. [CO-3][L-2] **15**
- Q.9 Explain detailed anatomy of brachial plexus and applied anatomy. [CO-3][L-3] 15
- Q.10 Discuss in detail the muscle, nerve supply, structure and function of Hip joint? Draw a table diagram. [CO-4][L-2] **15**

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy — First Year ELECTROTHERAPY-I (BPT104)

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

- Note: Attempt **Eight** questions in all; **Q.1 is compulsory**. Attempt any **FIVE** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following questions:
  - a) Define "Condenser" and classify condensers. [CO-1][L-1]
  - b) What is fluidotherapy?
  - c) Explain various techniques of galvanic current.
  - d) Define "Contrast bath". Also explain contrast technique in brief. [CO-2][L-2]
  - e) Elaborate and explain cryotherapy and various methods of its application.

[CO-5][L-4] **2×5** 

[CO-2,3][L-2]

[CO-4][L-4]

## PART-A

Q.2 Classify 'nerve fibre' and explain seddon classification for a nerve injury.

[CO4,3][L-2] **8** 

- Q.3 Explain the 'faradism under pressure' with technique of its application. [CO-1,2][L-4] 8
- Q.4 Explain the principle of heat therapy and its physiological effects. [CO-3,4][L-5] 8
- Q.5 Discuss 'low frequency currents' and its therapeutic effects. [CO-1,2][L-2] 8
- Q.6 Explain 'iontophoresis' and principle of iontophoresis. [CO-3,4][L-2] 8
- Q.7 Elaborate and explain the methods of 'wax bath application'. [CO-2,3][L-2] 8

- Q.8 Explain the 'strength duration curve'. Briefly explain how to differentiate different nerve injury on SD curve and how to find rheobase and chronaxie and factors affecting them. [CO-3,4][L-2] 15
- Q.9 Explain the 'pain gate theory' and explain different modes of TENS with indication and contraindication. [CO-1,2][L-4] **15**
- Q.10 Elaborate NCV and procedure for NCV in detail. [CO-4][L-6] 15

Bachelor of Physiotherapy – First Semester

## ANATOMY-I (BPT-101)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt **FIVE** questions in all;**Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Each question carries equal marks.

Q.1	Describe the origin, insertion, nerve supply and action of following muscle: a) Subclavius. b) Pectoralis Minor	
	c) Pectoralis Major.	
	d) Serratus anterior.	5x4
	<u>PART-A</u>	
Q.2	Explain the course, branches and relation of radial nerve.	20
Q.3	<ul> <li>Discuss knee joint under following heading:</li> <li>a) Type of joint.</li> <li>b) Bursa around knee joint.</li> <li>c) Muscles and ligaments.</li> <li>d) Applied anatomy</li> </ul>	5 <b>x</b> 4
		UN I
Q.4	Describe Brachial plexus in detail. Also discuss the applied anatomy of Brachial Plexus.	20
	<u>PART-B</u>	
Q.5	Draw the labeled diagram of heart. Discuss in detail about the coronary circulation.	on. <b>20</b>
Q.6	Explain following: a) Shoulder joint.	

- b) Hip joint.
- Q.7 Discuss following:
  - a) Cubital fossa.
  - b) Popliteal fossa.
  - c) Lymphatic drainage of breast.
  - d) Arches of foot.

5x4

10x2

Bachelor of Physiotherapy – First Year PHYSIOLOGY (T) (BPT102)

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions: a) Name different types of cells in human body. [CO-1][L-2] b) Describe the blood-brain barrier. [CO-2][L-3] [CO-4][L-1] c) Define "Peripheral resistance". d) Differentiate between inspiration and expiration. [CO-5][L-2] e) What are the factors affecting cardiac output? [CO-1][L-1] f) Give the function of hormones that are stored in the posterior lobe of the pituitary [CO-1][L-1] gland. g) Differentiate between cortical and juxtamedullary nephrons. [CO-5][L-2] h) Explain the roles of insulin and glucagon on glucose in the blood. [CO-6][L-1] i) Describe the different Input to the cardiac center. [CO-3][L-1]
  - j) Describe erythropoiesis and hormonal controls. [CO-6][L-2] **2**×10

### <u>PART-A</u>

- Q.2Define different glands present in the skin. What is the role of the sebaceous and<br/>sudoriferous glands in the skin?[CO-1,2][L-2] 15
- Q.3 Describe the autonomic regulation of heart rate. Discuss the conduction system of the heart. [CO-2,3][L-3] 15
- Q.4 Elaborate different lung volumes and capacities. How changes in carbon dioxide levels affect the respiratory rate? [CO-4][L-2,4] **15**

- Q.5Explain preganglionic and postganglionic components of the autonomic nervous<br/>system and their secretions. Differentiate between the sympathetic and<br/>parasympathetic nervous system.[CO-5][L-1,2] 15
- Q.6Describe the mechanism of the renin-angiotensin-aldosterone system. Explain the<br/>processes of urine formation.[CO-4][L-1,3] 15
- Q.7 Which hormones are released from the testes and ovaries, and describe their functions? Also describe the ovarian cycle and ovulation. [CO-6][L-1,2] **15**

## Annual Examination, Dec. 2022 Bachelor of Physiotherapy – First Year BIOCHEMISTRY (BPT103)

Time: 3 hrs.

Max Marks: 80

 $2 \times 5$ 

No. of pages: 1

Note: Attempt EIGHT questions in all; Q.1 is compulsory. Attempt any FIVE questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Discuss inborn error of protein metabolism-Phenylketonuria.
  - b) What is the role of balanced diet in the body?
  - c) Explain role of buffers to maintain blood PH.
  - e) How diagnostic enzymes help to identify any disease. Explain with any two examples.
  - f) Explain role of different compound lipids.

Q.2	Explain glycolysis cycle and its significance in body.	8
Q.3	Discuss the role of vitamin D in calcium regulation.	8
Q.4	What is diabetes mellitus and its types? How blood sugar level is maintained in body?	the <b>8</b>
Q.5	Explain the role of mucopolysaccharides.	8
Q.6	What is the importance of proteins in our diet? Describe PEM in detail.	8
Q.7	Discuss Beta oxidation of fats and its significance.	8
	<u>PART-B</u>	
Q.8	Explain essential and non essential amino acid with examples, explain urea cycle detail.	; in 15

- Q.9 Discuss Iron absorption (Mucosal block theory) in detail. Describe its role and factors affecting its absorption.15
- Q.10 Write sources, functions, biochemical role and deficiency diseases of vitamin C. **15**

Bachelor of Physiotherapy – First Semester BIOCHEMISTRY (BPT-103)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt any **FIVE** questions in all. **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.

- Q.1 Explain the following:
  - a) Monosaccharides.
  - b) Derived lipids.
  - c) Lactose.
  - d) Enzymes.
  - e) Define fatty acids and its types.
  - f) Role of calcium.
  - g) Sources and functions of Vitamin D.
  - h) Throw light on Mitochondria.
  - i) Define 'Polysaccharides.
  - j) Structure of glucose.

### <u>PART-A</u>

- Q.2 Which biomolecule is called building block of a cell? Explain its role, classification with examples of each class. 20
- Q.3 Calcium, Iron, Phosphate and Magnesium plays key role in maintaining ourbodily processes and functioning normal. Justify the statement by mentioning all of their roles and deficiency diseases.
   20
- Q.4 How DNA and RNA are different from each other? Explain the watson and Crick model of DNA and all types of RNA's. 20

### <u>PART-B</u>

- Q.5 Draw all the steps of glycolysis. Explain all the steps with enymes and coenzymes used in reactions.
   20
- Q.6 Which metabolic cycle is called ambhibolic in nature? Explain all its steps in detail. 20
- Q.7. What are enzymes? Explain various models of its working. Also explain six classes of enzymes with examples.
   20

2×10

#### Annual Examination, Dec. 2022 Bachelor of Physiotherapy – First Year

**ELECTROTHERAPY (BPT104)** 

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

- Note: Attempt EIGHT questions in all; O.1 is compulsory. Attempt any FIVE questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 a) Define 'modified direct current'. [CO-1] [L1] b) What is contrast bath? [CO-2,3] [L-2] [CO-4] [L-4]
  - c) Explain various technique of galvanic current.
  - d) Define Faradic foot Bath. Explain technique of Faradic foot bath. [CO-5] [L-4] **2×5**
  - e) Elaborate and explain transformers.

### PART-A

- Q.2 Classify Nerve and explain nerve injury in details with then classification. [CO3,4][L-2] 8
- Q.3 Explain Faradism under pressure with technique of application. [CO-1,2] [L-4] 8
- Q.4 Explain physiological effects of heat therapy along with various methods and technique of application. [CO-3,4] [L5] 8 Q.5 Discuss Faradic currents and its physiological effect. [CO-1,2] [L-2] 8
- Q.6 Explain Iontophoresis and principal of Iontophoresis. [CO-3,4] L-2] **8**
- Q.7 Elaborate and Explain methods of moist heat pack. [CO-2,3] [L-2] 8

## PART-B

- Explain strength duration curve. Explain how to differentiate among different nerve Q.8 injuries on SD curve and how to find rheobase and chronaxie and factors affecting them? [CO-3,4] [L-2] **15**
- Explain modes of TENS along with pain gate theory. [CO-1,2] [L-4] **15** Q.9
- Q.10 Elaborate IDC and discuss in detail physiological and indications for galvanic current. [CO-4] [L-6] **15**

## Annual Examination, Dec. 2022 Bachelor of Physiotherapy — First Year EXERCISE THERAPY-I (BPT105)

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

- Note: Attempt **Eight** questions in all; **Q.1 is compulsory.** Attempt any **FIVE** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following questions:
  - a) What is an assisted exercise?
  - b) Explain the uses of pulley.
  - c) Explain Grade 4.
  - d) Define "Resisted exercises".
  - e) What is suspension therapy?

2×5

## <u>PART-A</u>

Q.2	What is active and passive movement? Explain its principle with each.	an example of [CO-1][L-3] <b>8</b>
Q.3	Explain any two techniques of soft tissue manipulation in detail.	[CO-3][L-2] <b>8</b>
Q.4	What is relaxation? Explain the techniques of relaxation.	[CO-5][L-2] <b>8</b>
Q.5	Define massage and enumerate types of massage.	[CO3 L3] <b>8</b>
Q.6	Explain the convex-concave rule with an example.	[CO-3][L-2] <b>8</b>
Q.7	Explain the indications and contraindications of mobilization.	[CO-3][L-2] <b>8</b>
	<u>PART-B</u>	
Q.8	Explain detailed MMT of shoulder joint.	[CO-3][L-3] <b>15</b>
Q.9	Discuss in detail how to measure the range of motion of a wrist joint.	[CO-4][L-2] <b>15</b>

Q.10 Explain the procedure of relaxed passive movement of elbow joint in detail. [CO-3][L-2] 15

Bachelor of Physiotherapy – Second Semester ANATOMY-II (BPT-201)

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO

questions from PART-A and TWO questions from PART-B. Each question

Max Marks: **100** *No. of pages: 1* 

Time: 3 hrs.

carries equal marks.

Q.1	Fill in the blanks: a) Division of Trigeminal Nerve are,, and
	b) Terminal Branches of facial nerve are c) Fourth ventricle communications to 3rd ventricle through
	<ul> <li>d) All muscles of larynx are supplied by except</li> <li>which is by</li> </ul>
	<ul> <li>e) Thyroid gland is located at level.</li> <li>f) Cerebrum is supplied by arteries.</li> <li>g) Implantation is done at stage of development.</li> <li>h) Spinal cord terminates at level in adults.</li> <li>i) Lumbar puncture is done at space.</li> </ul>
	j) Genotype is Klinefelters Syndrome is 2×10
	<u>PART-A</u>
Q.2	Differentiate between the right and left lung. Discuss in detail the bronchopulmonary segments. [CO3, L3] <b>20</b>
Q.3	Describe Ventricular system of brain. Explain formation, absorption, circulation and function of CSF in detail. [CO2, L3] <b>20</b>
Q.4	Describe thyroid gland under following headings:
	<ul><li>a) Covering, borders, surfaces, lobes.</li><li>b) Blood supply and applied anatomy. [CO,L3] 20</li></ul>
	<u>PART-B</u>
Q.5	Enumerate the cranial nerves along with action and its testing. [CO2,L2] <b>20</b>
Q.6	Describe the functional anatomy of cerebellum. [CO2,L4] <b>20</b>
Q.7	Write in detail about: a) Down syndrome. b) Fertilization. [CO,L4] 10×2

Bachelor of Physiotherapy — Second Semester PHYSIOLOGY - II (BPT-202)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

2×10

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory.** Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following:
  - a) What is hypoxia?
  - b) Describe briefly pressure and volume changes during respiratory cycle.
  - c) List the functions of growth hormone.
  - d) Differentiate between functions of external intercostal and internal intercostal muscles.
  - e) Write about the endocrine functions of kidney.
  - f) List the functions of LH and FSH.
  - g) Define vital capacity and its volume.
  - h) Classify various sensory receptors.
  - i) Differentiate between pyramidal and extrapyramidal tracts.
  - j) Write the functions of spinal cord

PART-A

Q.2	Discuss the factors affecting glomerular filtration.	20
Q.3	Explain the transport of $O_2$ and $CO_2$ in blood.	20
Q.4	Discuss the various stages of labour.	20
	<u>PART-B</u>	
Q.5	Describe the mechanism of action of hormones secreted by pancreas.	20
Q.6	Explain the functional areas of cerebral lobes and their functions.	20

Q.7 Describe briefly the functional divisions of cerebellum and their functions. **20** 

Bachelor of Physiotherapy –Second Semester EXERCISE THERAPY-I (BPT-204)

Time: 3 Hours

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all. **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and any **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Write short notes on the following:
  - a) Muscle action of posterior deltoid.
  - b) Muscle work in sitting.
  - c) Name the flexors of Knee.
  - d) Grade 3 MMT of ankle plantarflexors.
  - e) Normal ROM and end feel of shoulder flexion.
  - f) Tools for applying mechanical resistance.
  - g) 1 RM.
  - h) De Lorme's technique.
  - i) Stretching of hamstring.
  - j) Effects and uses of kneeling.

### <u>PART-A</u>

- Q.2 What is walk standing? Explain its effects, uses and muscle work involved. 20
- Q.3Explain the physiological effects, indications and contraindications of ROM exercises.<br/>Demonstrate active assisted ROM exercises for shoulder joint.20
- Q.4 Demonstrate the procedure for limb girth measurement of thigh. Differentiate between the types of end feel. 20

## <u>PART-B</u>

- Q.5 Define Stretching. Explain the determinants and guidelines for applying stretching. 20
- Q.6 Compare delorme's and oxford's protocol of resistance exercise. 20
- Q.7 Describe the principles of MMT. How will you determine the strength of his abductors?

20

2×10

## Bachelor of Physiotherapy — Third Semester PATHOLOGY AND MICROBIOLOGY (BPT-302/ BPT-DS-302)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory.** Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following in briefly:
  - a) Various types of necrosis.
  - b) Define "Granuloma".
  - c) Differentiate between healing by primary and secondary union.
  - d) Describe "Shock".
  - e) Define "Osteosarcoma".
  - f) List any two methods of bacterial culturing.
  - g) Illustrate agglutination reaction with the help of a flow chart.
  - h) What is a gram positive bacteria? Support your answer citing two examples.
  - i) Classify the microbes based on the grams staining: Pneumococci, Salmonella Typhii, Meningococci, and Staphylococcus aureus.
  - j) Justify the requirement of safranin as a counter stain in grams staining. **2**×10

## <u>PART-A</u>

- Q.2 Define "Inflammation". Discuss in detail the vascular and cellular events. [CO-4][L-3] 20
- Q.3 Define "Metastasis". Discuss the routes and mechanism of metastasis. [CO-3][L-3] 20
- Q.4 Define and classify anemia. Discuss Iron deficiency anemia in detail. [CO-3][L-3] 20

- Q.5 Illustrate the virulent mechanism of the hepatitis as briefly as possible. [CO-4][L-3] 20
- Q.6 State the symptoms, causative agent and suitable treatment for amoebiasis. [CO-4][L-3] 20
- Q.7 A patient is suffering from candidiasis. Develop a suitable protocol for precautions and safety measures to provide support to that patient given that you are the healthcare worker to help that patient.
   [CO-4][L-3] 20

Bachelor of Physiotherapy – Fifth Semester ORTHOPEDICS (BPT-DS-501)

Time: 3 hrs

Max Marks: 100

10×2

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 IS COMPULSORY. Attempt any TWO questions from PART A and TWO questions from PART B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Clinical diagnostic tests of rotator cuff injury.
  - b) Define clinical features for ankylosing spondylitis.
  - c) Differentiate between OA and RA.
  - d) Define "Myositis ossificans".
  - e) Define pathology for rickets.
  - f) Define pathology for carpal tunnel syndrome.
  - g) Define "Saturday night palsy".
  - h) Differentiate between arthrodesis and osteotomy.
  - i) Differentiate between guillotine and closed amputation.
  - j) Describe assessment of scoliosis.

## <u>PART-A</u>

- Q.2Describe the surgical treatment of shaft of femur fracture. Also describe the precautions<br/>and complications for the same.[CO-2][L-1] 20
- Q.3 Discuss the stages of PIVD. Explain the conservative and surgical management for the same. [CO-3][L-2] 20
- Q.4 Classify fractures. Identify the components of musculoskeletal assessment of a patient. [CO-2][L-1] 20

- Q.5Classify peripheral nerve injuries. Explain the possible causes and treatment options for<br/>the median nerve injury.[CO-6][L-5] 20
- Q.6 What are the surgical principles for performing amputation? Describe the parts of patellar tendon bearing prosthesis for below knee amputation. [CO-4][L-4] **20**
- Q.7 What do you understand by rotator cuff injury? Describe the surgical management along with contract-indications and precautions. [CO-2][L-3] **20**

### End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Fifth Semester ORTHOPEDICS (BPT-DS-501/BPT-501)

#### Time: 3 hrs.

#### Max Marks: 100

No. of pages: 1

10×2

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Clinical diagnostic tests of rotator cuff injury.
  - b) Define clinical features for ankylosing spondylitis.
  - c) Differentiate between OA and RA.
  - d) Define "Myositis ossificans".
  - e) Define 'pathology for rickets'.
  - f) Define 'pathology for carpal tunnel syndrome'.
  - g) Define "Saturday night palsy".
  - h) Differentiate between 'arthrodesis' and 'osteotomy'.
  - i) Differentiate between guillotine and closed amputation.
  - j) Describe assessment of scoliosis.

#### <u>PART-A</u>

- Q.2Describe the surgical treatment of shaft of femur fracture. Also describe the precautions<br/>and complications for the same.[CO-2][L-1] 20
- Q.3 Discuss the stages of PIVD. Explain the conservative and surgical management for the same. [CO-3][L-2] 20
- Q.4 Classify fractures. Identify the components of musculoskeletal assessment of a patient. [CO-2][L-1] 20

- Q.5Classify peripheral nerve injuries. Explain the possible causes and treatment options for<br/>the median nerve injury.[CO-6][L-5] 20
- Q.6 What are the surgical principles for performing amputation? Describe the parts of patellar tendon bearing prosthesis for below knee amputation. [CO-4][L-4] **20**
- Q.7 What do you understand by rotator cuff injury? Describe the surgical management along with contract-indications and precautions. [CO-2][L-3] **20**

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Fifth Semester ORTHOPEDICS PHYSIOTHERAPY (BPT-DS-502)

Time: 3 hrs

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 IS COMPULSORY. Attempt any TWO questions from PART A and TWO questions from PART B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Clinical diagnostic tests of tennis elbow.
  - b) Define "Bamboo spine".
  - c) Differentiate between ligament tear and meniscal tear.
  - d) Define "Sudeck's atrophy".
  - e) Define "Upper cross syndrome".
  - f) Define "Pathology" for carpal tunnel syndrome.
  - g) Define "Crutch palsy".
  - h) Differentiate between arthrodesis and osteotomy.
  - i) Differentiate between open and closed amputation.
  - j) Define "Cobb's angle".

2×10

### <u>PART-A</u>

- Q.2Describe the pre and post immobilization PT treatment of fractures. Also describe the<br/>precautions for the same.[CO-2][L-2] 20
- Q.3 Differentiate between congenital and acquired deformities. Describe the signs, symptoms and physiotherapy management options for CTEV. [CO-3][L-3] **20**
- Q.4Describe the diagnostic criteria for RA. Explain the conservation management for the<br/>same.[CO-3][L-2] 20

- Q.5 Describe the stages of adhesive capsulitis. Explain the possible causes and treatment options for the same. [CO-6][L-5]**20**
- Q.6 Discuss the components for pre-prosthetic evaluation. Also describe the parts of above knee prosthesis. [CO-4][L-4] 20
- Q.7 What do you understand by TKR? Describe the rehabilitation procedure along with contra-indications and precautions. [CO-3][L-2] **20**

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Fifth Semester ORTHOPEDICS PHYSIOTHERAPY (BPT-DS-502/BPT-502)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Clinical diagnostic tests of tennis elbow.
  - b) Define "Bamboo spine".
  - c) Differentiate between ligament tear and meniscal tear.
  - d) Define "Fat embolism".
  - e) Define "Upper cross syndrome".
  - f) Define "Pathology" for carpal tunnel syndrome.
  - g) Define "Crutch palsy".
  - h) Differentiate between arthrodesis and osteotomy.
  - i) Differentiate between open and closed amputation.
  - j) Define "Cobb's angle".

2×10

### <u>PART-A</u>

- Q.2Describe the pre and post immobilization PT treatment of fractures. Also describe the<br/>precautions for the same.[CO-2][L-2] 20
- Q.3 Differentiate between 'congenital' and 'acquired deformities'. Describe the signs, symptoms and physiotherapy management options for CTEV. [CO-3][L-3] **20**
- Q.4Describe the diagnostic criteria for RA. Explain the conservation management for the<br/>same.[CO-3][L-2] 20

- Q.5 Describe the stages of adhesive capsulitis. Explain the possible causes and treatment options for the same. [CO-6][L-5] 20
- Q.6 Discuss the components for pre-prosthetic evaluation. Also describe the parts of above knee prosthesis. [CO-4][L-4] 20
- Q.7 What do you understand by TKR? Describe the rehabilitation procedure along with contra-indications and precautions. [CO-3][L-2] **20**

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy — Fifth Semester APPLIED BIOMECHANICS, KINESIOLOGY AND ERGONOMICS (BPT-503/BPT-DS-503)

Time: 3 hrs.

Max Marks: 100

[CO-1][L-4]

[CO-2][L-3]

 $5 \times 4$ 

No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Explain the following:
  - a) Angle of inclination and angle of torsion.
  - b) Active insufficiency and passive insufficiency. [CO-1,3][L-2] [CO-1,5][L-5]
  - c) Subtalar neutral foot.
  - d) Lumbo-pelvic rhythm.

## PART-A

- Discuss in details about inter-vertebral disc and its mechanics. Discuss the kinematics Q.2 and kinetics of L3-L4 movement. [CO-2,5][L-2] **20**
- Q.3 Explain the mechanism of load transfer in hip joint during unilateral stance. Elaborate factors contributing for its stability. [CO-5,1][L-3] **20**
- Describe in detail about the biomechanics of subtalar joint, supination and pronation in Q.4 weight bearing foot. [CO-2,5][L-3] **20**

## PART-B

- Q.5 Compare the biomechanical characteristics and causes during increased and decreased lumbar lordosis. [CO-2,5][L-5] **20**
- Write the angle changes at hip and knee joint during different gait phases with Q.6 schematic diagram. [CO-4,5][L-2] **20**
- Compare the kinematics and kinetics of stoop lifting and squat lifting. [CO-5,6][L-5] 20 Q.7

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Fifth Semester CONSULTATION AND SCREENING (BPT-504/BPT-DS-504)

Time: 2 hrs.

Max Marks: 50

2×5

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Write short note on referral system. [CO-1][L-1]
    b) Define "Yellow Flag". [CO-4][L-3]
    c) While examining the patient it is important to note the age and gender of the patient. Justify your answer with one example. [CO-2][L-3]
    d) Discuss the role of documentation. [CO-2][L-1]
    e) Enumerate the rights of the patient. [CO-2][L-3]

## <u>PART-A</u>

- Q.2Define "Consultation and Screening". Discuss its role in physical therapy assessment<br/>and treatment in any musculoskeletal condition.[CO-4][L-4] 10
- Q.3 Discuss in detail the WCPT guidelines for physical therapy services. [CO-2][L-5] **10**
- Q.4 Enumerate the detailed assessment of a patient with knee pain. [CO-4][L-4] **10**

- Q.5 List down the detailed guidelines for physician referral. [CO-3][L-2] **10**
- Q.6 Write in detail about various critical signs and symptoms that signal appropriateness for physical therapy examination. [CO-5][L-6] **10**
- Q.7 How would you interpret the screening findings? What would be the plan of care for a patient with knee osteoarthritis? Write in detail. [CO-5][L-6] **10**

Bachelor of Physiotherapy – Sixth Semester

## RESEARCH METHODOLOGY AND BIOSTATISTICS (BPT-604/BPT-DS-603)

Time:	3 hrs.	Max Marks: <i>No. of pages:</i>	<b>100</b> 1
Note:	Attempt FIVE questions in all; Q.1 IS COMPULSORY. Attempt any PART-A and TWO questions from PART-B. Marks are indicated again	<b>TWO</b> questions st each question.	from
Q.1	<ul> <li>Answer the following questions:</li> <li>a) Define "Research designs".</li> <li>b) What are the methods of collecting qualitative data?</li> <li>c) Define "Primary and Secondary data".</li> <li>d) What are the methods of data representation?</li> <li>e) Define "Median".</li> <li>f) Define "Positive co-relation".</li> <li>g) Differentiate between open and closed questionnaire.</li> <li>h) Define "Confounding variables".</li> <li>i) Difference between samples and population.</li> <li>j) Mention two measures of variability in distribution.</li> </ul>	2	×10
	<u>PART-A</u>		
Q.2	Compare and contrast between qualitative and quantitative stud their advantages and disadvantages.	dy designs. Exa [L-5,3]	mine [] <b>20</b>
Q.3	Describe the various factors which threaten the internal val study.	idity of a rese [L-2	arch ] <b>20</b>
Q.4	Calculate mean, median and mode of the following data: Marks Range No. of Students 0-5 7		

0-5	7
5-10	10
10-15	16
15-20	30
20-25	24
25-30	17
30-35	10
35-40	5
40-45	1

Also decide on the type of distribution.

[L-3,5] **20** 

- Q.5 Design a research proposal for your study on a topic of your choice. [L-6] **20**
- Q.6Describe the characteristics of a hypothesis.Classify different types of hypothesis.Justify the significance of a p-value.[L-2,4,5] 20
- Q.7 Summarize the various ethical principles to be followed in clinical research. Describe informed consent in detail. Also explain such situations where informed consent cannot be obtained and suggest remedial measures for it. [L-5,6] 20

Bachelor of Physiotherapy – Sixth Semester

### **RESEARCH METHODOLOGY AND BIOSTATISTICS (BPT-604/BPT-DS-603)**

Time:	3 hrs. Max Marks: <b>100</b> <i>No. of pages: 1</i>
Note:	Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
Q.1	<ul> <li>Answer the following questions:</li> <li>a) Define "Research designs".</li> <li>b) What are the methods of collecting qualitative data?</li> <li>c) Define "primary and secondary data".</li> <li>d) What are the methods of data representation?</li> <li>e) Define "median".</li> <li>f) Define "positive co-relation".</li> <li>g) Differentiate between open and closed questionnaire.</li> <li>h) Define "confounding variables".</li> <li>i) Difference between samples and population.</li> </ul>
	PART-A
Q.2	Compare and contrast between qualitative and quantitative study designs. Examine their advantages and disadvantages. [L-5,3] <b>20</b>
Q.3	Describe the various factors which threaten the internal validity of a research study. [L-2] 20
Q.4	Calculate mean, median and mode of the following data: Marks Range No. of Students

Marks Range	No. of Stu
0-5	7
5-10	10
10-15	16
15-20	30
20-25	24
25-30	17
30-35	10
35-40	5
40-45	1

Also decide on the type of distribution.

[L-3,5] **20** 

- Q.5 Design a research proposal for your study on a topic of your choice. [L-6] **20**
- Q.6Describe the characteristics of a hypothesis.Classify different types of hypothesis.Justify the significance of a p-value.[L-2,4,5] 20
- Q.7 Summarize the various ethical principles to be followed in clinical research. Describe informed consent in detail. Also explain such situations where informed consent cannot be obtained and suggest remedial measures for it. [L-5,6] 20

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Seventh Semester CARDIOPULMONARY AND CARDIOPULMONARY SURGERY (BPT-701/BPT-DS-701)

Time:	3 hrs.	Max Marks: 100
Note:	Attempt <b>FIVE</b> questions in all; <b>Q.1 is compulsory</b> . Attempt any <b>PART-A</b> and <b>TWO</b> questions from <b>PART-B</b> . Marks are indicated again	<i>No. of pages: 1</i> <b>TWO</b> questions from inst each question.
Q.1	<ul> <li>Answer the following questions:</li> <li>a) What are broncho-pulmonary segments?</li> <li>b) Define 'Hemothorax'.</li> <li>c) What is Eisenminger syndrome?</li> <li>d) Define 'Broncho-pulmonary fistula'.</li> <li>e) What are endotracheal tubes?</li> <li>f) Define 'lobectomy'.</li> <li>g) Explain Homan's sign.</li> <li>h) What is Type-I respiratory failure?</li> <li>i) Define 'bullae in emphysema'.</li> <li>j) Mention any two complications of surgeries.</li> </ul>	[CO-2,4][L-1] [CO-2,3][L-6] [CO-3,5][L-1] [CO-2,3][L-1] [CO-3][L-2] [CO-2,3][L-5] [CO-1,2][L-1] [CO-2][L-4] [CO-2][L-5] <b>2×10</b>

### <u>PART-A</u>

- Q.2Explain cardiac failure. Write about causes, clinical manifestations and medical<br/>management for the same.[CO-2,3][L-5] 20
- Q.3 Define 'bronchial asthma'. Mention its clinical manifestations and management. [CO-1,4][L-5] **20**
- Q.4 Highlight the preoperative and post-operative management of the valvotomy. [CO-2,3][L-5] **20**

- Q.5 Explain COPDs its classification. What do you understand by chronic bronchitis? Mention its manifestations. [CO-3,4][L-4] **20**
- Q.6 Expand VSD and explain the pathophysiology, clinical features and management for the same.
  [CO-2,3][L-4] 20
- Q.7 What are the indications for heart transplant? What are the types and procedures for the surgical intervention? [CO-2,3][L-1] **20**

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy — Seventh Semester CARDIOPULMONARY PHYSIOTHERAPY (BPT-702)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

[CO-2][L-3]

[CO-4,3][L-2]

[CO-2,3][L-3] **2×10** 

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Enumerate lung volumes and explain FEV1 and significance of FEV1 and FVC ratio. [CO-1][L-1] b) Differentiate between obstructive and restrictive lung disease. [CO-2][L-2] c) Explain stages of ACBT. [CO-1,2][L-4] d) What is pleurisy? [CO-2,3][L-3] e) Define 'TOFF'. [CO-1][L-2]
  - f) Differentiate between backward and forward heart failure.
  - q) Explain thrombophlebitis.
  - [CO-4,5][L-3] [CO-2,3][L-2] h) Explain difference between vesicular and bronchial breath sound.
  - i) What is pursued lip breathing?
  - i) Explain rib spring technique.

## PART-A

- 0.2 Explain in detail about bronchopulmonary segment with appropriate diagram. Also explain postural drainage position for bronchopulmonary segments of lower lobe. [CO-2,1][L-3] 20
- Explain autogenic drainage with stages indicating contraindication and technique of Q.3 autogenic drainage. [CO-3,4][L-5] **20**
- Explain congenital heart disease pathophysiology. Write stage wise cardiac rehab Q.4 protocol for the patient. [CO-4,5][L-4] **20**

- Q.5 A patient undergone lobectomy surgery, write in detail day wise protocol of the patient. [CO-4,5][L-5] **20**
- Q.6 A patient having history of COPD, explain Pathology and Clinical Features and physiotherapy treatment of the patient. [CO-3,4][L-6] **20**
- Q.7 Explain heart failure in detail and classify various types of heart failure. Explain physiotherapy treatment for heart failure. [CO-2,4,5][L-4] **20**

Bachelor of Physiotherapy — Seventh Semester PEDIATRICS AND PEDIATRICS PHYSIOTHERAPY (BPT-703)

No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question. Q.1 Answer the following: a) Discuss any two primitive reflexes. b) 'Kernig's sign'. c) Describe Cobb's angle. d) Define disability, handicap and impairment. e) Immunization schedule for hepatitis. f) Enumerate the type of spastic CP. g) List down the diseases occurring due to deficiency of Vitamin C. h) Discuss the type of anemia. i) Write a note on 'Gower's sign'. i) Discuss hand to knee gait. 2×10 PART-A 0.2 Discuss in detail the law of growth and development. Also list down the diseases due to development delay. [CO-2][L-4] **20** 

- Q.3 [CO-3][L-4] **20** Discuss in detail about protein energy malnutrition.
- Q.4 Explain scoliosis and its physiotherapy assessment and management of the same. [CO-5][L-5] **20**

PART-B

Q.5 Discuss in detail about DMD along with physiotherapy management of the same.

[CO-4][L-5] **20** 

- Q.6 Write short notes on the following:
  - a) Down's syndrome.
  - b) Cleft lip.
- Enumerate and explain various type of CP. Also, describe the surgical as well as Q.7 physiotherapy management of CP. [CO-5][L-3] **20**

Time: 3 hrs.

Max Marks: 100

[CO-5][L-2] **20** 

## End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Eighth Semester **COMMUNITY BASED REHABILITATION (BPT-801)**

#### Time: 3 hrs.

Max Marks: 100

No. of pages: 2

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against question:

- Q.1 Choose the correct option:
  - a) What are vector control program?
    - i) Program started for malnutrition
    - iii) Iron distribution program
    - v) ii) and iv)
  - b) What is PEM?
    - i) Marasmus
      - iii) Both i) and ii)

iv) Kala Azar Program

ii) Malaria program

- ii) Kwashiorkor
- iv) Underweight

iv) DEO

- c) A rural health program for pregnant female is coordinated by: ii) MHA
  - i) ASHA worker
  - iii) CMO
- d) Which one is not a component of health?
  - i) Spiritual health
  - iii) Physical health

- ii) Mental health
- iv) Religious health
- e) What is not true about janani suraksha yogana?
  - i) Safe motherhood intervention under the National health mission.
  - ii) Reducing maternal and neonatal mortality
  - iii) It is part of school health program
  - iv) It is part of rural health program
- f) What is fertility rate?
  - i) Total no of birth in a year
  - ii) Total no of births in country
  - iii) Total no of births to a female
  - iv) Total no of births in country in specific time
- q) Whom among them is not part of CBR team?
  - i) Person with disability
  - iii) NGO
- h) Matrix of CBR is not formed by:
  - i) Health
  - iii) Social
- i) Social security in India is provided agencies. i) ESI
  - iii) Mediclaim
- j) What are component of health care system?
  - i) Public
  - iii) Voluntary
  - v) All of the above.

- ii) Family members
- iv) None of the above
- ii) Livelihood
- iv) Political
- ii) CGHS
- iv) All of the above
- ii) Private
- iv) Indigenous

2×10

Q.2 What is national health program? What do you understand by RNTCP? [CO-5][L-5] 20

PART-A

Q.3 Explain public health. What are social security policies to protect public health? [CO-2] [L-6] **20** 

- Q.5 What is the difference between pasteurization and sterilization? [CO-1] [L-2] **20**
- Q.6 What do you understand by family planning? Explain various methods used for family planning. [CO-3] [L-3] **20**
- Q.7 Enlist and explain all health program implemented for child welfare and control of infectious disease in India. [CO-1] [L-6] 20

#### Bachelor of Physiotherapy — Eighth Semester SPORTS MEDICINE AND SPORTS PHYSIOTHERAPY (BPT-802)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Define "Cauliflower ear".
  - b) What are the stages of wound healing?
  - c) Define "Carbohydrate loading".
  - d) Define "Unhappy triad".

[CO-1,2,3,5][L-2,4,5] **5**×**4** 

### <u>PART-A</u>

- Q.2 What are the steps we follow when we are dealing with on-field emergencies in sports? [CO-3][L-5] 20
- Q.3 Discuss the roles and responsibilities of sports physiotherapist in a team. [CO-4][L-2] **20**
- Q.4 Describe in detail about the helmet as a protective gear. Also, list its parts, usage and benefits.
  [CO-2][L-3] 20

- Q.5 Write down the assessment and medical as well as physiotherapy management of ankle sprain grade III. [CO-1][L-4] 20
- Q.6 Write in detail the role of all macronutrients in sports. How do you prescribe various macronutrients before, during and after competition? [CO-3][L-5] **20**
- Q.7 A 20-year-old cricket bowler complaining of pain in the shoulder joint whenever he lifts his shoulder above 90 degrees of abduction. Have no history of trauma. Write down his assessment, examination and rehabilitation for the same. [CO-5][L-6] 20

### End Semester Examination, Dec. 2022 Bachelor of Physiotherapy — Eighth Semester

GENERAL PHYSIOTHERAPY (BPT-803)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Define 'Cholecystectomy'.
  - b) Describe modified radical mastectomy.
  - c) Differentiate between 'boils' and 'carbuncles'.
  - d) Describe the role of psoralen in management of skin conditions.
  - e) Describe 'occupational disorders.
  - f) Describe 'oedema'.
  - g) Define 'alopecia' and its types.
  - h) Explain keloids.
  - i) Explain briefly pathophysiolog in vestibular dysfunction.
  - j) Describe the signs of inflammation.

### <u>PART-A</u>

- Q.2Describe the various complications of upper thoracic surgery and PT management in<br/>each of them.[CO-][L-2,5] 20
- Q.3 A 80 year old female was brought to the burns unit of the hospital with full thickness burns to the posterior chest and both upper limbs and suspected inhalational burns. Estimate the burnt area and prognosis. Write the role of physiotherapy in burns.

[CO-][L-5,2] **20** 

2×10

Q.4 Plan out a prenatal, exercise protocol for a 39 year old female emphasizing on the complications that might occur during pregnancy and precautions to be considered for the fetus and mother. [CO-][L-6] **20** 

## <u>PART-B</u>

- Q.5Define 'gerontology'. Describe the musculoskeletal alterations associated with aging.<br/>Highlight the tests to assess the same.[CO-][L-2,5] 20
- Q.6Define and classify 'urinary incontinence'. How will you assess and manage a case of<br/>post parturition urinary incontinence.[CO-][L-4,3] 20
- Q.7 Discuss the different WRMSDs. Explain in brief its screening and assessment. Plan a physiotherapy management of any two WRMSDs associated with computer workers.

[CO-][L-3] **20**
# End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Eighth Semester DISABILITY PREVENTION AND REHABILITATION (BPT-804)

#### Time: 3 hrs

Max Marks: 100

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART A** and **TWO** questions from **PART B**. Marks are indicated against question:

- Q.1 a) If dance is to chorea, then tremors are to \_\_\_\_
  - b) In which stage of Poliomyelitis rehabilitation is advisable?
  - c) Enlist any two techniques of handling wheelchair in public places.
  - d) What do you mean by cognitive impairments?
  - e) How much percentage of burns can be recovered under Mediclaim?
  - f) PWD stands for.
  - g) Define 'rehabilitation'.
  - h) How can we Assess CN-XI?
  - i) Who leads the team of rehabilitation?
  - j) Write the signs and symptoms of Psychosis.

#### <u>PART-A</u>

Q.2 Write in detail about the use of therapeutic exercises in old age population.

[CO-1] [L-3] **20** 

[CO-1; L-2] 2×10

- Q.3 Describe various behavior strategies to improve the psychological level of patients suffering from Alzheimer's. [CO-2] [L-2] **20**
- Q.4 How would you categorize cerebral palsy? Write the assessment and rehabilitation for a six-year female child with a developmental age of 8 months. [CO-5] [L-1] **20**

#### <u>PART-B</u>

- Q.5 Discuss the Common deformities and the role of surgery in rehabilitation. [CO1] [L3] 20
- Q.6 Describe the role of Rehabilitation in patient with cardio respiratory dysfunction.

[CO-3] [L-3] 20

Q.7 Differentiate between RA and OA. Write the appropriate rehabilitation for the two. [CO-1] [L-6] **20** 

Bachelor of Physiotherapy — Second Semester PHYSIOLOGY (BPT-DS-202)

Time:	3 hrs. Max Marks: 10	0
Note:	Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from Part-A and TWO questions from Part-B. Marks are indicated against each question.	n n
Q.1	<ul> <li>Answer the following questions:</li> <li>a) Describe the functions of nasal cavity.</li> <li>b) Describe briefly pressure and volume changes during respiratory cycle.</li> <li>c) What is the role of thymus in immune system?</li> <li>d) Differentiate between functions of external intercostal and internal intercostal muscles.</li> <li>e) Write about the endocrine functions of kidney.</li> <li>f) Write notes on metabolic acidosis.</li> <li>g) Describe briefly the functions of gall bladder.</li> <li>h) Describe the mechanism of action of antidiuretic hormone.</li> </ul>	
	<ul> <li>i) Differentiate between Pyramidal and extrapyramidal tracts.</li> <li>j) Write the functions of spinal cord <b>2×1</b>0</li> </ul>	D
	<u>PART-A</u>	
Q.2	Discuss the factor affecting glomerular filtration. 20	D
Q.3	Explain the transport of $O_2$ and $CO_2$ in blood.20	0
Q.4	Discuss the mechanism of HCI secretion and factors affecting it. 20	D
	<u>PART-B</u>	
Q.5	Explain the mechanism of digestion and absorption of carbohydrates. 20	D
Q.6	Explain the functional areas of cerebral lobes and their functions. 20	D
Q.7	Describe briefly the functional divisions of cerebellum and their functions. <b>2</b>	D

#### End Semester Examination, Dec. 2022 Bachelor of Physiotherapy — Second Semester ELECTROTHERAPY-1 (BPT-DS-203/BPT-203)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory.** Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following questions:
  - a) Elaborate "EMG".
  - b) Differentiate between relative and absolute refractory period.
  - c) Define "M Wave".
  - d) Explain various modes of TENS.
  - e) Explain intrapulse and interpulse.
  - f) Elaborate "Beat frequency".
  - g) What is functional stimulation?
  - h) Define "IFT".
  - i) Explain IDC and constant currents.
  - j) Explain Faradism under tension.

[CO-1,2,3,4,5][L-1,2,3,4] **2×10** 

# <u>PART-A</u>

- Q.2 Explain classification for currents and give indications for Faradiac currents. [CO-5][L-2] 20
- Q.3 Explain Intophoresis in detail along with its indication. [CO-2][L-1] 20
- Q.4Explain the pain mechanism and role of TENS on pain mechanism along with the<br/>effect of the modes of TENS.[CO-3][L-2] 20

- Q.5 Explain Faradiac foot bath for lumbrical and introsessi muscles along with the technique of application. [CO-2][L-3] **20**
- Q.6 Explain IDC currents with physiological effects. [CO-5][L-6] 20
- Q.7 Explain sensory and motor nerve conduction. Explain principles and indication for the technique. [CO-3][L-4] 20

Bachelor of Physiotherapy – Third Semester **PHARMACOLOGY (BPT-DS-301/ BPT-301)** 

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) What is pharmacokinetics?
  - b) What are local anesthetics?
  - c) Define the term adverse drug effects.
  - d) What are carminatives?
  - e) What are Beta Blockers?
  - f) What are antiseptics?
  - g) Describe the term analgesics.
  - h) What are disinfectants?
  - i) What is metabolism?
  - j) What are Bronchodilators?

#### [CO-1][L-1,2] 2×10

# <u>PART-A</u>

- Q.2What are receptors? Describe various types of receptors. Explain G-protein coupled<br/>receptors.[CO-2][L-3,4] 20
- Q.3 Classify 'local aesthetics'. Explain their mechanism of action. [CO-3][L-3,5] 20
- Q.4 What are antihypertensive drugs? Give the classification of antihypertensive drugs. [CO-3][L-4] 20

- Q.5 Classify 'antibiotics'. Explain the mechanism of action of beta-lactamantibiotics.
   [CO-1,3][L-1,4] 20
- Q.6Give the classification of oral hypoglycemic drugs. Explain the mechanism of action and<br/>adverse effects of sulfonylureas.[CO-3,4][L-1,2] 20
- Q.7 Give the classification of anti-rheumatoid drugs and antigout drugs? [CO-2,4][L-1,3] 20

# End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Third Semester ELECTROTHERAPY-II (BPT-DS-303/BPT-303)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1 Answer the following in briefly:

a)	Explain various types of UVR.	[CO-2][L-1]
b)	Classify various techniques of moist heat pack.	[CO-3][L-2]
c)	What are the indications of IRR?	[CO-3][L-1]
d)	Difference between kromayer and theraktin methods of application.	[CO-4][L-5]
e)	Write a short note on Louis hunting phenomenon.	[CO-2][L-1]
f)	Explain testing of ultrasound.	[CO-2][L-1]
g)	Explain principles of LASER.	[CO-3][L-3]
h)	Explain difference between UV A, B and C.	[CO-1][L-1]
i)	What is the frequency of IRR?	[CO-1][L-1]
j)	Define 'Vant Hoff Law'.	[CO-3][L-1]
-		2×10

# <u>PART-A</u>

- Q.2 Elaborate physiological effects of short wave diathermy. Explain in detail indications of SWD.
   [CO-2,1][L-4] 20
- Q.3 Explain the uses, indication and contraindications of ultrasound. Explain the production of ultrasound and methods of application. [CO-3,2][L-4] **20**
- Q.4Elaborate UVR methods and its methods of application along with its technique of<br/>application.[CO-1,2][L-5] 20

- Q.5 What is LILT? Explain the physical effects, contra indications and therapeutic uses of LASER. [CO-1,4][L-1,2] 20
- Q.6Explain in detail heat therapy and also explain physiological effect of heat<br/>therapy.CO-1,4][L-1,2]20
- Q.7 What is PUVA? Write the technique of application with dosage. [CO-1,3][L-6] **20**

Bachelor of Physiotherapy – Third Semester EXERCISE THERAPY-II (BPT-DS-304/BPT-304)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following in briefly:
  - a) What is the use of crutches in rehabilitation?
  - b) What is the role of relaxation therapy? Give two examples of relaxation exercises.
  - c) Define "Posture". What are the various types of posture?
  - d) Define "Coordination". Give two examples to test coordination.
  - e) What is the role of postural drainage?

# <u>PART-A</u>

- Q.2 Write a detail note on suspensions.
- Q.3 Write a short note on normal breathing mechanism. Write types, techniques, indications, contraindications, therapeutic effects & precautions of breathing exercises.[CO-5][L-4] **20**
- Q.4 Explain resistance training. Write the use of various equipment for resistance training and designing a complete resistance exercise protocol. [CO-2][L-3,6] **20**

#### <u>PART-B</u>

- Q.5 Elaborate the mechanism of neuromuscular co-ordination. [CO-1][L-1,2] **20**
- Q.6 Explain the following in detail:
  - a) Gluteus medius gait.
  - b) Foot drop gait.
- Q.7 Describe the various types of crutch walking (4 point, 3-point, 2 point) (non weight bearing and partial weight bearing), modified 3 point (paraplegic and shuffling gait, swing to and swing through).
   [CO-3][L-5,6] 20

[CO-2][L-2] **20** 

4×5

[CO-3][L-3] **10×2** 

Bachelor of Physiotherapy – Fourth Semester MEDICINE (BPT-DS-401)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Explain on the following:
  - a) Jaundice.
  - b) Diabetes mellitus.
  - c) Stress incontinence.
  - d) Scabies.
  - e) Sinusitis.
  - f) Iritis.
  - g) Acne.
  - h) Boil.
  - i) Dermatitis.
  - j) Cushing syndrome.

# <u>PART-A</u>

Q.2 Explain the chronic kidney failure and explain the management. [CO-2,3][L-4,2] **20** 

- Q.3 Write a short note on anemia. Mention the clinical symptoms and management of anemia. [CO-3,5][L-2,3] 20
- Q.4 Enumerate different sexually transmitted diseases and write a note on "HIV" detailing on clinical features and management of AIDS. [CO-1,2][L-3] **20**

# <u>PART-B</u>

- Q.5 Describe in detail the respiratory and metabolic alkalosis. [CO-1,3][L-1] 20
- Q.6 Explain in detail the disorders of thyroid. Mention the clinical features in hypothyroidism. [CO-2,1][L-2] 20
- Q.7 Explain "Psoriasis" in detail.

[CO-3,5][L-4] **20** 

2×10

Bachelor of Physiotherapy – Fourth Semester

# SURGERY INCLUDING OBSTETRICS GYNECOLOGY (BPT-DS-402)

Time:	3 hrs. Max Marks	5: <b>100</b>
Note:	Attempt <b>FIVE</b> questions in all; <b>Q.1 is compulsory</b> . Attempt any <b>TWO</b> quest from <b>PART-A</b> and <b>TWO</b> questions from <b>PART-B</b> . Marks are indicated ag question:	tions vainst
Q.1	<ul> <li>a) Write a descriptive note on blood transfusion.</li> <li>b) Explain the following: <ul> <li>i) Wounds and their types.</li> </ul> </li> </ul>	10
	ii) Carbuncle and boils.	5×2
	<u>PART-A</u>	
Q.2	Explain general anesthesia, its stages, with properties in detail.	20
Q.3	What are the various post operative complications?	20
Q.4	Write a detailed description on types/complications and complications of burns.	20
	<u>PART-B</u>	
Q.5	<ul><li>Write detailed description on:</li><li>a) Reversible methods of birth control.</li><li>b) History taking in a gynecology patient.</li></ul>	10×2
Q.6	Explain the following: a) Physiological changes during pregnancy. b) Normal labour.	10×2
Q.7	<ul> <li>Write short notes on:</li> <li>a) Low birth weight baby.</li> <li>b) Grand multipara lady.</li> <li>c) Elderly primigravida lady.</li> <li>d) RH incompatibility.</li> </ul>	5×4

# End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Fourth Semester BIOMECHANICS AND KINESIOLOGY (BPT-DS-403)

#### Time: 3 hrs

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question:

- Q.1 Write short notes on the following:
  - a) Scalar and vector.
  - b) Anatomical pulleys.
  - c) Isotonic exercises.
  - d) Scapula-humeral rhythm.
  - e) Lumbricals.
  - f) Open and closed kinematic chain.
  - g) Stress- strain curve.
  - h) Kinetics and kinematics.
  - i) Carrying angle.
  - j) Passive insufficiency.

#### [CO2] [L2] **2×10**

# <u>PART-A</u>

- Q.2Explain in details about the Newton's law of motion. How these laws are affecting in the<br/>human body motion.[CO1, CO3] [L3] 20
- Q.3Explain different types of muscles. Explain muscle function.Describe the factorsaffecting muscle function.[CO4] [L4] 20
- Q.4 Explain different types of joints in the human body and its kinematic characteristics. [CO1, CO4] [L3] **20**

# <u>PART-B</u>

- Q.5 Write the biomechanics of shoulder complex. Explain the stability and mobility factors of shoulder joint. [CO3, CO4] [L4] **20**
- Q.6 Explain the biomechanics of elbow joint and its function. [CO3, CO4] [L4] **20**
- Q.7 Explain different types of grip and apprehension. Explain with diagram.

[CO3, CO4] [L3] **20** 

Bachelor of Physiotherapy – Sixth Semester NEUROLOGY AND NEUROLOGY-SURGERY (BPT-DS-601/BPT-601)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

2×10

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Write short note on 'Lhermittes sign".
  - b) Define "Uhtoff's phenomenon".
  - c) Describe the function of basal ganglia and cerebellum.
  - d) Write short note on Hoehn Yahr classification of disability in parkinsons disease
  - e) Discuss GCS and its interpretation.
  - f) Enumerate the cranial nerves and their function.
  - g) Explain RLA classification of head injury.
  - h) Write note on posterior cord syndrome.
  - i) Write short note on shunts.
  - j) Describe "Gower's sign".

# PART-A

- Q.2 Discuss parkinsons disease in detail along with medical and surgical management of the same.
  [CO-1][L-3] 20
- Q.3 Explain in detail about multiple sclerosis, its types and management. [CO-3][L-2] 20
- Q.4 Describe stroke in detail and its medical and surgical management [CO-2][L-3] 20

- Q.5 Describe GBS in detail, its types and management. [CO-2][L-3] 20
- Q.6Explain in detail about the preoperative management following craniotomy. Discuss the<br/>type of craniotomy.CO-4][L-4] 20
- Q.7 Discuss in detail the both operative and non-operative management of spasticity. [CO-2][L-3] 20

#### End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Sixth Semester

NEUROLOGY AND PAEDIATRIC PHYSIOTHERAPY (THEORY) (BPT-602/BPT-DS-602)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Define the following:
  - a) Epilepsy.
  - b) Battle's sign.
  - c) Anterior cord syndrome.
  - d) RLA stages.
  - e) Cranial nerve VII.

[CO-1][L-1] 4×5

# <u>PART-A</u>

- Q.2 Write note on disorder of tone, posture, bladder control, muscle contraction, movement and pain in incomplete spinal cord injury patient. [CO-2][L-3] **20**
- Q.3 Elaborate the physiotherapy principles of immediate and postoperative therapeutic management in a head injury patient. [CO-1][L-1] **20**
- Q.4 What is stroke? Explain in detail about etiology, classification, findings, management of ischemic stroke [CO-4][L-6] 20

- Q.5What is muscular dystrophy and discuss in detail about its progression? Explain the role<br/>of rehabilitation team in its management.[CO-1][L-4] 20
- Q.6 What is spina bifida? Explain its types, clinical presentation and management in detail.
  [CO-2][L-2] 20
- Q.7 Write down the causes, clinical features, assessment and management of Parkinson's disease. [CO-4][L-6] 20

#### Bachelor of Physiotherapy – Seventh Semester CARDIOPULMONARY PHYSIOTHERAPY (BPT-DS-702)

Time:	3 hrs.	Max Marks: <b>100</b>
Note:	Attempt FIVE questions in all; Q.1 is compulsory. Attempt any T PART-A and TWO questions from PART-B. Marks are indicated against	WO questions from teach question.
Q.1	Answer the following questions:	
	a) Enumerate gold classification of COPD.	[CO-2][L-1]
	b) Explain PEP devices in detail.	[CO-1][L-2]
	c) Explain ABG in detail.	[CO-1][L-2]
	d) Enumerate chest PNF stages.	[CO-3][L-2]
	e) Enumerate and explain types of nebulizers.	[CO-4][L-2]
	f) Differentiate backward and forward heart failure.	[CO-5][L-4]
	g) Briefly explain breathing control technique.	[CO-2][L-5]
	h) Explain difference between vesicular and bronchial breath sound.	[CO-4][L-2]
	i) What is glossopharyngeal breathing?	[CO-3][L-4]
	j) Explain rib spring technique.	[CO-2][L-5] 2×10

# <u>PART-A</u>

- Q.2 Define heart transplant types, procedure and pre and post operative day wise protocol. [CO-2,3][L-4] 20
- Q.3 a) Explain manual hyperinflation technique in detail. [CO-4,5][L-6] 10
   b) Explain deep breathing along with inhibition and facilitatory techniques. [CO-4,5][L-6] 10
- Q.4 Explain congenital heart disease pathophysiology. Write stage wise cardiac rehab protocol for the patient. [CO-2,3][L-4] 20

- Q.5 Design a patient pulmonary rehab undergone lobectomy surgery. Write in detail day wise and phase wise protocol for the patient rehab. [CO-4,5][L-6] **20**
- Q.6A patient having history of COPD. Explain ACBT technique and make tailored protocol<br/>for a COPD patient.[CO-5,3][L-6] 20
- Q.7 A patient in ICU explains assessment to be carried out by physiotherapist in ICU. Explaining all-important cardiopulmonary parameters which need to be assessed for the patient in ICU. [CO-2,3][L-5] 20

# End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Seventh Semester COMMUNITY BASED REHABILITATION (BPT-DS-703)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

[CO-2][L-2]

[CO-1][L-1]

[CO-3][L-2]

[CO-4][L-2]

[CO-5][L-3]

[CO-2][L-4]

[CO-1][L-1]

[CO-3][L-2] 2×10

Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART A and TWO questions from PART B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) What is CBR?
  - b) What is importance of physiotherapy services at local levels?
  - c) Explain objectives of public health.
  - d) Define "Demography".
  - e) Define and differentiate between longitudinal and case control studies. [CO-5][L-1]
  - f) Explain health problems of vulnerable groups in pregnant and lactating women. [CO-4][L-5]
  - q) Elaborate hazards related to occupational health.
  - h) Define "Level of prevention".
  - i) What is mental retardation?
  - j) Explain social security in brief.

#### PART-A

- Q.2 a) Write in detail about matrix of CBR.
  - [CO-4][L-3] 6 b) Discuss in detail about members of CBR team also explain the role of these members in details. [CO-4][L-3] 14
- 0.3 Describe the scientific approaches in public Health. What are the objectives of public health? [CO-3][L-2] **20**
- What is demography? Name the five stages of population which determine population Q.4 composition and distribution. [CO-2,1][L-1] 20

#### PART-B

- Elaborate various causes for urbanization also explain the difference between rural and Q.5 urban society. [CO-4][L-2,1] **20**
- Q.6 Define "Health Promotion". What is the role of physiotherapist in prevention, wellness, fitness, and health promotion? [CO-3][L-1] **20**
- Q.7 Discuss mental health and its impact on physical health. What is the scope of physiotherapy in mental health and care? [CO-5][L-4] **20**

# End Semester Examination, Dec. 2022 Bachelor of Physiotherapy – Seventh Semester MARKETING IN HEALTH MANAGEMENT (BPT-DS-704)

Time: 3 hrs.

Max Marks: 50

No. of pages: 1

[CO-4] [L-1] **2×5** 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Write short notes on the following:
  - a) Define 'marketing management'.
  - [CO-2] [L-2] b) What is the importance of total guality management? [CO-1] [L-1]
  - c) Explain objectives of marketing segmentation. [CO-3] [L-2] [CO-4] [L-2]
  - d) What is medical audit?
  - e) Discuss the advantages of group decision making.

# PART-A

- What do you understand by distribution channels in marketing? Discuss the significance O.2 of the same. [CO-3] [L-2] **10**
- Q.3 What are the objectives of planning in management? Discuss its advantages and disadvantages in detail. [CO-2,1] [L-2] **10**
- Q.4 Elaborate the importance and various types of marketing segmentations. [CO3][L3] **10**

#### PART-B

- Discuss the importance and principal of documentation in context to physiotherapy. Q.5 [CO-4] [L-2] **10**
- Q.6 What are the levels of medical care? Discuss the role of GDA in supporting department [CO-2] [L-4] **10** of hospitals.
- Discuss physiotherapy practice in India and their demands in rural and urban areas. Q.7 [CO-3] [L-2] 10

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester ADVANCED CLINICAL NUTRITION (MNDC-DS-301)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss the pathophysiology and dietary management of pernicious anaemia. **20**

#### <u>PART-A</u>

- Q.2 A 75 year old women had angina pectoris and admitted to the hospital immediately. She was identified with presence of atherosclerosis in coronary artery and diagnosed as congested heart failure patient. Her height was 159 cm and weight is 75kg. Discuss the condition of congested heart failure and calculate its nutrients and design its nutritional management.
- Q.3 A 54 year old man had diabetes and it was uncontrolled. The condition became sever and finally the urine output stopped. Because of this the person got admitted to hospital. The person was diagnosed in chronic kidney failure condition and prepared for dialysis. The urine test determines presence of protein, urea, creatine, glucose and red blood cells. Describe the different types of dialysis can be given to the patient and nutritional management after dialysis. [CO-2][L-5] **20**
- Q.4 Differentiate between PCOD and PCOS in context with pathophysiology. Discuss nutritional management of PCOS. [CO-1][L-4] 20

#### <u>PART-B</u>

- Q.5 Discuss the pathophysiology, symptoms and nutritional management of COPD and cystic fibrosis. [CO-2][L-2] 20
- Q.6 Discuss the following in detail:
  - a) Gout.
  - b) Stroke.

[CO-3][L-4] 10×2

Q.7 Interpret the statement "Drug nutrient interaction is important parameter to understand before recommending any diet". [CO-4][L-3] 20

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester NUTRITION IN INTENSIVE CARE (MNDC-DS-302)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Explain in detail the significance of monitoring the enteral nutritional needs of the critical care patients. [CO-1][L-4] **20**

#### <u>PART-A</u>

- Q.2 a) Discuss the steps involved in assessing nutritional status of critically ill patient. [CO-1][L-3] 10
   b) Explain the mechanism of fluid abnormalities. [CO-3][L-2] 10
- Q.3 What is the etiology and dietary management during cancer? Explain the management of uterus/ovarian cancer in detail. [CO-3][L-3] 20
- Q.4 Explain with suitable examples, the medical nutrition therapy in sepsis and trauma [CO-4][L-2] 20

# <u>PART-B</u>

- Q.5 Write short notes on:
  - a) Cardiac assessment.
  - b) Atherosclerosis.

[CO-3][L-3] 10×2

- Q.6 Discuss the pathophysiology, diagnosis and prevention of ventilator associated aspiration pneumonia. [CO-3][L-2] 20
- Q.7 Explain in detail the difference between haemodialysis and peritoneal dialysis. [CO-2][L-4] 20

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester MANAGEMENT OF NUTRITION RELATED DISORDER (MNDC-DS-303)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

# Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1 Fifteen years old Hindu girl born presented to the OPD with deteriorating school performance and increasing lethargy noted over two years. Three previous sibs had died at six, eight and seven years of age with jaundice and abdominal distension but the cause was not known. The girl gave no history of jaundice, involuntary movements or speech disorder. Examination revealed bilateral Kayser — Fleischer rings but no other abnormality.

On investigation, her liver functions were within normal limits, serum and urinary copper studies carried out in Delhi for the patient and family members were as given in Table 1. She was treated with D-Penicillaminc 500 mg twice a day for six months with improvement in her scholastic performance. Diagnose the condition and explain the nutritional management of the same.

Patient	Serum Nonceruloplasmin Copper µg/dl	Urinary Copper µg/24h
Case Two	135 (Normal)	87 (Normal)
Father	155 (Normal)	180 (Increased)
Mother	160 (Normal)	105 (Normal)
Younger brother	_	28 (Normal)
Younger sister	_	32 (Normal)

TABLE 1: Serum and Urinary Copper Studies

[CO-4][L-6] 20

# <u>PART-A</u>

- Q.2 Describe the pathophysiology of tuberculosis and its dietary management. [CO-3][L-3] 20
- Q.3 Describe the different stages of HIV/AIDS. Outline the dietary recommendation for HIV patients. [CO-4][L-4] 20
- Q.4 Describe the pathophysiology, symptoms and dietary management of galactosemia.

[CO-4][L-4] **20** 

#### <u>PART-B</u>

- Q.5 a) Describe the methods used for diagnosing food allergy.
  - b) Describe the factors which are related to blood alcohol concentration.

[CO-3][L-3] 10×2

- Q.6 a) Differentiate between 'bulimia' and 'anorexia nervosa'.
  b) Write a note on 'Role of HDL in fat metabolism'. [CO-3][L-3] 10×2
- Q.7 Differentiate between:
  a) 'Pathophysiology of wilsons disease' and 'dietary measures'. [CO-1][L-1,2] 10
  b) 'Palliative care' and 'curative care'. [CO-2][L-3] 10

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - First Semester NUTRITIONAL BIOCHEMISTRY (MND-DS-101)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss the importance of NAD and riboflavin-linked dehydrogenises in metabolic pathways such as glycolysis, the citric acid cycle, and the respiratory chain. **20**

#### <u>PART-A</u>

- Q.2 Substrate level phosphorylation is different from oxidative phosphorylation. Tabulate their differences giving suitable examples of both types of phosphorylation with well defined diagrams. [CO-3][L-5] **20**
- Q.3 cAMP integrates the regulation of both glycogenesis and glycogenolysis through the process of covalent modification. Elaborate your answer with well defined diagrams. [CO-4][L-3] 20
- Q.4 What do you understand by lipoprotein? Give their classification. What is the difference between forward and reverse cholesterol transport? Enumerate your answer with the help of a suitable diagram. [CO-3][L-4] **20**

- Q.5 Insulin and glucagon have antagonistic biochemical role in regulating carbohydrate and lipid metabolism. Discuss in detail their antagonistic roles. [CO-2][L-2] **20**
- Q.6 Salvage pathway is important in the synthesis of purine nucleotides. Give detailed reactions of the salvage pathway. Also, explain the biochemical significance of the enzyme involved in salvage pathway and its association with deficiency disorders. [CO-2][L-1] 20
- Q.7 How are mutations linked to inducing DNA damage in body? Discuss different DNA repair systems of the body involved in repairing DNA damage. [CO-4][L-3] **20**

#### End Semester Examination, Dec. 2022 M.Sc. (N&D) - First Semester HUMAN PHYSIOLOGY (MND-DS-102)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

[CO-4][L-4]

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) What are the differences between passive and active transport processes? [CO-4][L-3]
  - b) Explain how type A blood differs from type B blood. [CO-2][L-4]
  - c) Why is the first Rh-positive baby born to an Rh-negative mother usually unaffected? [CO-4][L-5]
  - d) What causes gray matter to be gray and white matter to be white? [CO-4][L-1]
  - e) Differentiate between stroke volume and cardiac output.
  - f) Why is it important for impulses from the atria to be delayed at the A-V node before they pass into the ventricles? [CO-2][L-4]
  - g) Trace the flow of blood from the superior vena cavato the aorta. [CO-1][L-2]
  - h) Explain how bile from the liver and gallbladder reaches the small intestine. What is the function of cholecystokinin? [CO-2][L-2]
  - i) What would happen if the small intestine had noplicae, villi or microvilli? [CO-3][L-2]
  - j) Explain the function of the juxtaglomerular apparatus. Identify the three hormones that regulate urine volume. [CO-4][L-1] 2×10

#### <u>PART-A</u>

- Q.2 Explain how a reflex arc functions. What are the two types of reflex arc? [CO-4][L-2] 20
- Q.3 Explain the important structures of the respiratory membrane. Describe how oxygen and carbon dioxide is picked up, transported, and released in the blood? [CO-2][L-2] **20**
- Q.4 Explain the processes of urine formation. Define micturition and describe the micturition reflex. [CO-1][L-1] 20

#### <u>PART-B</u>

- Q.5Explain the process of blood clot formation. Identify the three pathways to the<br/>activation of the clotting system.[CO-2][L-3] 20
- Q.6 Describe the role of the pancreas in completion of digestion. Name the three hormones produced by the digestive system and describe the function of each one? [CO1][L-1] **20**
- Q.7 Differentiate between autonomic, chemical, and hormonal regulation of heart rate.

[CO-4][L-4] **20** 

# End Semester Examination, Dec. 2022 M. Sc. – First Semester HUMAN NUTRITIONAL REQUIREMENTS (MND-DS-103)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Comment on the national and international recommendations of nutrients and explain the difference between EAR, RDA and TUL. [CO-3] [L-5] **20**

#### <u>PART-A</u>

- Q.2 What are the methods of estimating energy expenditure? [CO-1] [L-2] 20
- Q.3 Describe the concept of protein quality in detail. Also discuss any two methods of protein quality estimation. [CO-3] [L-2] 20
- Q.4 Discuss the functions of fats in the body. What is the process of digestion and absorption of fats in the body? [CO-3] [L-3] **20**

# <u>PART-B</u>

Q.5	a) Describe ir	n detail the digestion and absorption of any tw	vo fat soluble vitamins.
	b) Emphasize	e on importance of water in the body.	[CO-4] [L-4] <b>10</b> [CO-4] [L-4] <b>10</b>

- Q.6 Explain the function in the body of *any two* in detail:
  - a) Calcium.
  - b) Fluorine.
  - c) Iron.

[CO-2] [L-1] **10×2** 

Q.7 Discuss the nutritional requirement at Hot environment and High Altitude.

[CO-2] [L-2] **20** 

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - First Semester HUMAN NUTRITIONAL REQUIREMENTS (MND-DS-103)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1Describe the methods adopted to estimate nutrient requirements. Explain PER and<br/>biological value.[CO-3][L-5] 20

#### <u>PART-A</u>

- Q.2 What are the factors affecting BMR. Explain the concept of PAR and PAL. [CO1][L-2] 20
- Q.3 Describe the digestion, absorption and transportation of proteins in detail. [CO-3][L-2] 20
- Q.4 Discuss the transport and storage of fats in the body. What are essential fatty acids and its role in the body? [CO-3][L-3] 20

#### <u>PART-B</u>

Q.5	a) Describe in detail the digestion and absorption of any one fat	soluble and one water
	soluble vitamin.	[CO-4][L-4] <b>10</b>
	b) Emphasize the importance of water balance in the body.	[CO-4][L-4] <b>10</b>
Q.6	Explain any two below mention function in the body:	
	a) Potassium.	
	b) Phosphorus.	
	c) Iodine.	[CO-2][L-1] <b>10×2</b>

Q.7 Discuss the factors affecting meal planning in detail. [CO-2][L-2] 20

# End Semester Examination, Dec. 2022 M. Sc. (N&D) – First Semester FOOD SCIENCE AND PROCESSING TECHNOLOGY (MND-DS-104)

Time:	3 hrs.	Max Marks: <b>100</b>
Note:	Attempt <b>FIVE</b> questions in all; <b>Q.1 is compulsory</b> . Attempt any from <b>PART-A</b> and <b>TWO</b> questions from <b>PART-B</b> . Marks are indica question.	<i>TWO</i> questions ted against each
Q.1	<ul> <li>Write short notes on:</li> <li>a) Allied industries.</li> <li>b) Preservation.</li> <li>c) Non enzymatic browning.</li> <li>d) Enzymes.</li> <li>e) Artificial sweeteners.</li> <li>f) Composition of meat.</li> <li>g) Food safety.</li> <li>h) HACCP.</li> <li>i) Labelling.</li> </ul>	
	j) Yogurt.	2×10
	<u>PART-A</u>	
Q.2	Describe the various components of food industries.	[CO-2] [L-3] <b>20</b>
Q.3	Discuss the structure, nutritive value and composition of cereals.	[CO-2] [L-3] <b>20</b>
Q.4	Describe the processing of Milk and its role in cookery.	[CO-2] [L-3] <b>20</b>
	<u>PART-B</u>	
Q.5	Determine the processing of meat and explain the structure of egg.	[CO-2] [L-3] <b>20</b>
Q.6	Explain the process of evaluation of food quality.	[CO-2] [L-3] <b>20</b>
Q.7	<ul><li>Write short notes on the following:</li><li>a) Pigments.</li><li>b) Sensory evaluation.</li><li>c) Structure of rice kernel.</li><li>d) Caramelisation.</li></ul>	[CO-4] [L-3] <b>5×4</b>

M.Sc. (N&D) - First Semester

FOOD SCIENCE AND PROCESSING TECHNOLOGY (MND-DS-104)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Explain how food science as a profession helps in creating interdisciplinary activities among food industries. What are the activities and components of the food industry? **20**

# <u>PART-A</u>

- Q.2 Give a detailed milling method of wheat. Also write down the significance of tempering in wheat milling. [CO-1][L-4] **20**
- Q.3 Enlist products of market milk processing. Explain any two in detail. [CO-2][L-3] 20
- Q.4 Briefly explain the following food preservation methods:
  - a) High temperature.
  - b) Chemical.
  - c) Drying.
  - d) Radiation.

### PART-B

- Q.5 What is the composition and nutritive value of an egg? Explain preservation methods employed for eggs and meat. [CO-1][L-3] **20**
- Q.6 Differentiate between the following:
  - a) Enzymatic and non enzymatic browning.
  - b) Fats and oils.
- Q.7 Write short notes on the following:
  - a) Pigments.
  - b) Sensory evaluation.
  - c) Structure of rice kernel.
  - d) Caramelisation.

[CO-4][L-3] 5×4

[CO-2][L-3] **10×2** 

[CO-2][L-1] 5×4

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - First Semester HEALTH CARE MANAGEMENT (MND-DS-105)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 What are outpatient and inpatient services in a hospital? Discuss the important considerations required to plan these services in a hospital. 20

#### <u>PART-A</u>

- Q.2 Discuss different models of organization behavior used in management. [CO-2][L-3] 20
- Q.3 What is management? Discuss various principles of management in detail. [CO1][L2] 20
- Q.4 What are strategic approaches and essentials of hospital planning? [CO-3][L-3] 20

- Q.5 Discuss the steps of hospital planning with appropriate example. [CO-3][L-2] **20**
- Q.6 Define and discuss the process of management using Fayol's principal of management [CO-4][L-4] 20
- Q.7 Discuss the health care delivery system in India. How hospitals justify the term "SERVE"? Discuss in detail. [CO-3][L-3] 20

#### M. Sc. (Nutrition and Dietetics) – Third Semester EXERCISE PHYSIOLOGY AND METABOLISM (MND-DS-301)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 IS COMPULSORY. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Write in detail about components of physical fitness and their impact on performance. [CO-1][L-1] 20

# <u>PART-A</u>

- Q.2Discuss the importance of exercise physiology in sports and concept of endurance,<br/>strength and speed in sports activities.[CO-2][L-1] 20
- Q.3 Describe pulmonary functions, responses and adaptation to exercise. [CO-2][L-2] 20
- Q.4 Explain in detail about n energy systems. [CO-4][L-2] 20

- Q.5 Define training periodization. What are the goals of each phase of training periodization. [CO-2][L-2] 20
- Q.6 Enumerate WHO PA guidelines. Provide your view of PA status in our country. [CO-2][L-4] 20
- Q.7 Classify different training methods. Justify importance of warming up and cooling down in sports.
   [CO-4][L-5] 20

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester BIOTECHNOLOGY OF FOODS (MND-DS-302)

Time: 3 hrs

Max Marks: 100

No. of pages: 1

20

- Note: Attempt **FIVE** questions in all; **Q.1 IS COMPULSORY**. Attempt any **TWO** questions from **Part A** and **TWO** questions from **Part B**. Marks are indicated against each question.
- Q.1 Comment on the role of biotechnology in food industries.

# <u>PART-A</u>

- Q.2Discuss the role of vectors, plasmids and bacteriophages in biotechnology and<br/>mechanism involved in gene cloning.ECO-1][L-2] 20
- Q.3 Analyze the importance of PCR, restriction endonucteases and ligation in biotechnology. [CO-2][L-4] 20
- Q.4 Compare the functionality of different bioreactors used. [CO-3][L-5] 20

- Q.5 Discuss the functional role of enzyme in food industries and factors affecting enzyme kinetics. [CO-4][L-2] 20
- Q.6 Categorize the different types of media and the techniques used in lab for preparing cultures. [CO-3][L-4] 20
- Q.7Justify the importance of consuming different types of organic foods as compared to<br/>the foods added with preservatives.[CO-2][L-5] 20

# End Semester Examination, Dec. 2022 M.Sc. (N&D) – Third Semester ADVANCED NUTRITIONAL SCIENCES (MND-DS-306)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss any five research areas needed advanced researches especially in Indian scenario. 20

# <u>PART-A</u>

- Q.2 What are the potential health benefits of food components other than nutrients?[CO-1][L-1] **20**
- Q.3Discuss the role of specific nutrients in controlling gene expression: protein lipids,<br/>vitamins and minerals.[CO-2][L-2] 20
- Q.4 What is active and passive immunity? Analyze the role of nutrition in immune function. [CO-3][L-5] 20

- Q.5 Explain the different methods of evaluation of protein quality in detail. [CO-4][L-4] 20
- Q.6 What is the relationship between nutrient interaction and bioavailability of nutrients? Discuss the impact of interaction on nutrient bioavailability. [CO-4][L-6] **20**
- Q.7 What are the functional foods? Discuss the role of functional foods in detail. [CO-1][L-1] 20

M. Sc. (Nutrition and Dietetics) – Third Semester SPORTS SUPPLEMENTS AND DOPING (MND-DS-309)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1a) Discuss the pros. and cons. of dietary supplements in detail.[CO-1,3][L-1] 10b) Enumerate the legal and ethical aspects involved in doping.[CO-1,3][L-1] 10

# <u>PART-A</u>

0.2 Discuss the importance of protein supplements in detail. [CO-3][L-2] 20 Summarize the role of antioxidant supplements in maintenance of health and Q.3 [CO-3][L-3] 20 performance. Q.4 Explain in detail about creatinine, L-carnitine, caffeine supplements use in sports.[CO-3][L-1] 20 PART-B Q.5 Enumerate the prohibited anabolic steroids in sports. [CO-1][L-2] **20** Q.6 [CO-2][L-4] **20** Discuss about inadvertent doping and suggestions to control it. Q.7 Explain about clinical aspects of doping, methods and analysis. [CO-4][L-3] 20

# End Semester Examination, Dec. 2022 M. Sc. (Nutrition and Dietetics) - Third Semester NUTRITION FOR PARATHLETES (MND-DS-310)

Max Marks: 100 No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question. Discuss the benefits of a fitness program for parathlete. [CO-2][L-2] 20 PART-A Discuss in detail the international history of IPC. [CO-1][L-2] 20 Illustrate the role of below mentioned committees (any two): a) Anti-doping committee. b) Legal and ethics committee. c) Sports science committee.

Q.4 Explain the various techniques used for body composition assessment. [CO-3][L-5] 20

#### PART-B

- Q.5 Describe in detail the roles and responsibilities of medical and women in sports committee. [CO-4][L-1] **20**
- Determine the nutritional requirements of an athlete with quadriplegia (wt-65 kg and Q.6 ht-5'9"). [CO-2][L-3] **20**
- Q.7 Describe 'PPE'. Discuss the importance of PPE and medical staff coverage.[CO-3][L-1] 20

[CO-4][L-3] **10×2** 

Time: 3 hrs.

Q.1

Q.2

Q.3

# End Semester Examination, Dec. 2022 M. Sc. (Nutrition and Dietetics) – Fourth Semester NUTRITION AND HEALTH PROMOTION (MND-DS-402)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory.** Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question.
- Q.1 Explain concept of health promotion and its the determinates. How health promotion education is being up in the school? 20

#### <u>PART-A</u>

- Q.2 What is the concept and definition of health and well being? (CO 1) (L2) **20**
- Q.3 Define Ottawa charter, positive and negative health. (CO1) (L2) 20
- Q.4 Identify values and attitude in health promotion and theories of behavioral changes.

(CO2) (L2) **20** 

#### <u>PART-B</u>

- Q.5 Define 'health education'. What are the approaches and ingredients for health education orientation program? (CO3) (L2) **20**
- Q.6 Describe methods of health education and communication in the community.

(CO3) (L2) **20** 

Q.7Describe programmes of prevention and control of oral health. Also, explain various<br/>intervention strategies to control oral heath programme.(CO4) (L2) 20

M. Sc. (Nutrition and Dietetics) – Third Semester ADVANCED FOOD SCIENCE AND CHEMISTRY (MNDF-DS-301)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 "Food chemistry is a major branch of Food Science and Technology". Elaborate in detail.
   20

# <u>PART-A</u>

- Q.2 a) Describe the significance of studying "water activity" in food products. [CO1,4][L-3] 10
  - b) Demonstrate Water Sorption Isotherm (WSI) using a suitable graph. Also, state its significance with respect to food processing. [CO-1,4][L-3] **10**

Q.3	a)	Illustrate the	e processing	and	refining	of	oil	using	а	suitable	flowchart.	Draw
		diagrams whe	erever applica	ble.							[CO-3][L	-3] <b>10</b>
	b)	What are the	deleterious r	eactio	ons which	tak	e pl	ace in f	fats	s/oils?	[CO-3][L	-3] <b>10</b>
Q.4	a) b)	Mention the s Differentiate	structural prop chemical and	oertie d 'enz	s of prote ymatic' ir	ein. Itere	estei	rificatio	n.		[CO-2][L [CO-2][L	-2] <b>10</b> -2] <b>10</b>

- Q.5a) Discuss the classification of carbohydrates.[CO-3][L-2] 10b) Mention any five polysaccharides with their application in food products formulation.[CO-3][L-2] 10
- Q.6 "Vitamins have wide stability, occurrence & application'". Summarize it. [CO-5][L-2] 20
- Q.7 a) State some commonly stated flavors with their associated food product. [CO-4][L-3] 10
  b) Outline the different papillae present in taste buds (with a diagram). Also, comment upon the mechanism of taste perception. [CO-4][L-3] 10

# End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester BIOTECHNOLOGY OF FOODS (MNDF-DS-302)

Note: Attempt FIVE questions in all; Q.1 is compute PART A and TWO questions from PART B. Mark	<i>No. of pages: 1</i> <b>sory</b> . Attempt any <b>TWO</b> questions from is are indicated against each question.
Q.1 Explain the scope and importance of biotechnol	ogy in food industries. 20
<u>PART-A</u>	
Q.2 Explain in detail about gene cloning.	[C-1][L-2] <b>20</b>
Q.3 Explain amplification of DNA and PCR in detail.	[C-2][L-3] <b>20</b>
Q.4 What is fermentation and types of fermentation	on? Explain about bioreactor design. [C-3][L-3] <b>20</b>
<u>PART-B</u>	
Q.5 Explain the characteristics, functions and application	ations of enzyme in food. [C-1][L-3] 20
Q.6 Describe the importance of biotechnology in	n biogas and bio ethanol production. [C-3][L-2] <b>20</b>
Q.7 What do you mean by genetically modified foods	? Explain in detail. [C-4][L-3] <b>20</b>

# End Semester Examination, Dec. 2022 M. Sc. (Nutrition and Dietetics) – Third Semester MICROBIOLOGY OF FOOD (MNDF-DS-303)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

[CO-4][L-5] 20

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Discuss the sources of contamination in food.

#### <u>PART-A</u>

- Q.2 What are microbes? Illustrate the characteristics of yeast and molds with the help examples. [CO-1][L-3] 20
- Q.3 Discuss the factors responsible for food spoilage. [CO-2][L-2] 20
- Q.4 Outline the principle of low temperature preservation techniques. [CO-3][L-4] 20

- Q.5 What do you understand by intoxication? Discuss the various food borne illnesses. [CO-2][L-1] 20
- Q.6 How BOD is different from COD? Explain in detail. [CO-3][L-2] 20
- Q.7 What are mycotoxins? Also, write about the measures to control infection in foods caused by pathogenic organisms. [CO-4] [L-1] **20**

# End Semester Examination, Dec. 2022 M. Sc. (N&D) – Third Semester FOOD AND NUTRITION SECURITY (MNDP-DS-301)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Describe how public sector programs and policies improve the food and nutrition security in the country. 20

# <u>PART-A</u>

- Q.2 Discuss about demographic trends implications for future food demand. [CO-1][L-3] 20
- Q.3 What role do women play in food security at house hold level and national level? [CO-2][L-2] 20
- Q.4 What is the Impact of food production, losses in food and nutrition security? [CO-3][L-3] 20

- Q.5 Define "Micronutrient Deficiency" and their causes and consequence of different target groups. [CO-3][L2] 20
- Q.6 What is bio-fortification and organic foods? Discuss their impact on food and nutrition security. [CO-2][L-5] 20
- Q.7 Explain the challenges and poor coverage of national nutritional security. [CO-4][L-6] 20

M. Sc. (Nutrition and Dietetics) – Third Semester

HEALTH PROMOTION AND NUTRITION COMMUNICATION (MNDP-DS-302)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Draw and explain the food based dietary guidelines of different counties.

[CO-][L-] 20

# <u>PART-A</u>

- Q.2What do you understand by individual level of behavior change theories? Explain in<br/>detail any one theory used at individual level.[CO-4][L-1,6] 20
- Q.3 Describe the steps of pretesting and evaluating the communication material. [CO-1][L-2] 20
- Q.4Explain the principles of ethics in nutrition and health promotion. Discuss various public<br/>health approaches to health promotion.[CO-3][L-2] 20

- Q.5 Describe the concept of behavior change communication in nutrition and health promotion. Discuss the role of stakeholders in it. [CO-4][L-3] 20
- Q.6 What are the types of policy briefs? Explain the process of preparing the policy briefs.
  [CO-4][L-1] 20
- Q.7Define social marketing as a behavior change communication tool. Discuss Andreasen's<br/>benchmark criteria of social marketing.[CO-2][L-1,2] 20

# End Semester Examination, Dec. 2022 M.Sc. (N&D) – Third Semester ASPECTS OF PUBLIC HEALTH NUTRITION (MNDP-DS-303)

Time: 3 hrs.

Max Marks: 100

No. of pages: 1

[CO-1,2][L-2] 20

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1How does the programme planning process aid in the structuring of a programme<br/>proposal? Comment on it.[CO-1,2][L-4] 20

# <u>PART-A</u>

- Q.2 Describe the steps of precede-proceed model in detail.
- Q.3 Make a network diagram for the given case and calculate the early start, early finish, late start, late finish time and slack time:

Activities	Preceding activities	Duration
А	-	5
В	A	4
С	А	5
D	В	6
E	С	3
F	D, E	4

[CO-1,2,4][L-6] 20

- Q.4 Answer the following:
  - a) Advantages and disadvantages of Sussman's model.
  - b) Differentiate between critical path method (CPM) and program evaluation and review technique (PERT). [CO-2][L-4] **10**×2

- Q.5Describe in depth one specific health organization's goals, structure, functions, other<br/>related institutions etc.[CO-1,2][L-2] 20
- Q.6 Discuss the concept of health economics and its impact on health planning in detail. Write the difference between cost effective and cost benefit analysis. [CO-1,2][L-3] **20**
- Q.7 Describe basic feature, composition, and objective of Niti Aayog in detail and compare it with planning commission. [CO-1,2][L-4] **20**
# End Semester Examination, Dec. 2022

#### M. Sc. (Nutrition and Dietetics) – Third Semester EXERCISE PHYSIOLOGY AND METABOLISM (MNDS-DS-301)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 Write in detail about components of physical fitness and their impact on performance. [CO-1][L-1] 20

## <u>PART-A</u>

- Q.2Discuss the importance of exercise physiology in sports and concept of endurance,<br/>strength and speed in sports activities.[CO-2][L-1] 20
- Q.3 Describe pulmonary functions, responses and adaptation to exercise. [CO-2][L-2] 20
- Q.4 What are the types of energy systems? Explain in detail. [CO-4][L-2] 20

- Q.5 Define 'training periodization'. What are the goals of each phase of training periodization. [CO-2][L-2] 20
- Q.6
   Enumerate WHO guidelines on physical activity. Provide your view of physical activity status in our country.

   [CO-2][L-4]
   20
- Q.7 Classify different training methods. Justify importance of warming up and cooling down in sports.
   [CO-4][L-5] 20

## End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester SPORTS SPECIFIC NUTRITION (MNDS-DS-302)

Time: 3 hrs.

Max Marks: 100 No. of pages: 1 Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1 Sports fitness does not depend only on training but diet and nutrition plays an important role in this. Give your views on the statement. [CO-][L-] **20** 

#### PART-A

- What is are the energy systems involved in endurance and ultra-endurance training Q.2 athletes? Also discuss depicting carbohydrate requirement in endurance and ultra endurance sports in a tabular form. [CO-1][L-1] 20
- Q.3 As a sports nutritionist, suggest training diet to an elite female racket player regarding training diet, hydration and post recovery meal. [CO-2][L-4] **20**
- Q.4 Give a detailed view on seasonal weight management of a weight lifter. [CO-2][L-3] 20

## PART-B

- Q.5 What are the nutritional factors that can produce fatigue in team sports person?[CO2][L-1] 20
- 0.6 Discuss in detail about role of women in international sports. [CO-4][L-2] **20**
- Q.7 Doping is older than organized sports and was common dating back to the third century BC. Throw some light on the statement with suitable justifications. [CO-3][L-3] 20

## End Semester Examination, Dec. 2022 M.Sc. (N&D) - Third Semester SPORTS NUTRITION (MNDS-DS-303)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 "Macronutrient plays a critical role in excellent performance of an athlete". Comment on this above statement.
   20

## <u>PART-A</u>

- Q.2 A 22 year old boy has a cricket competition in a week. Discuss carbohydrate loading for him and design his pre game, during game and post game meal during competition with hydration guidelines.
   [CO-3][L-5] 20
- Q.3 Robin is a swimmer and he do practice 3 hours every day. Discuss the role of carbohydrate and fat metabolism during his activity. [CO-2][L-5] **20**
- Q.4 Explain the effect of diet on weight loss and weight gain among athletes. [CO-1][L-2] 20

- Q.5 Differentiate between anorexia nervosa and bulimia nervosa. Discuss the dietary management of these eating disorders prevalent in athletes. [CO-1][L-4] **20**
- Q.6List various ergogenic aids present in food market. Discuss various potential adverse<br/>effects of ergogenic aids.[CO-4][L-2] 20
- Q.7 Answer the following:
  - a) Differentiate between whey and casein protein.
  - b) Types of Sports Drink and their effect on sports performance. [CO-4][L-4] 20

## End Semester Examination, Dec. 2022 M. Sc. (Nutrition and Dietetics) – Fourth Semester RECENT TRENDS IN SPORTS NUTRITION (MNDS-DS-401)

Time: 3 hrs.

Max Marks: 100

- No. of pages: 1
- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory.** Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against question.
- Q.1 Discuss food pyramid and latest nutritional guidelines for athletes in training and food.

20

## <u>PART-A</u>

- Q.2Illustrate the various roles and responsibilities of Sports Company Managers with<br/>diagram representation.[CO-1] [L-5] 20
- Q.3Explain the Role of the Ministry of Human Resource Development in Development of<br/>sports and Physical Education.[CO-2] [L-2] 20
- Q.4State any one Statutory Bodies established by Govt. for control and promotion of<br/>Sports.[CO-2] [L-3] 20

## <u>PART-B</u>

- Q.5 Create a immunity boast beverage to prevent from corona virus. Discuss all the steps of product development in detail. [CO-4] [L-6] **20**
- Q.6 Discuss the role of sports in society in detail. [CO-1] [L-2] 20
- Q.7 Discuss the roles and functions of the following:
  - a) IFA
  - b) ICC

[CO-3] [L-2] **10×2** 

## Annual Examination, Dec. 2022 Master of Physiotherapy — First Year REVIEW OF BASIC SCIENCES-I (ANATOMY AND PHYSIOLOGY) (MPT 101)

Time: 3 hrs.

Max Marks: **80** *No. of pages: 1* 

Note: Attempt SIX questions in all; from which attempt any TWO questions from PART-A and FOUR questions from PART-B. Marks are indicated against each question.

## <u>PART-A</u>

Q.1	<ul> <li>Answer <i>(any two)</i> of the following questions:</li> <li>a) Explain the sudden cardiac death in sports.</li> <li>b) Write the effect of breath holding on divers and remedies to toxicity.</li> <li>c) Explain 'length tension relationship' and 'contractile mechanism'.</li> </ul>	[CO-1][L-2] cure nitrogen [CO-2][L-3] [CO-4][L-3] <b>10×2</b>				
Q.2	What is the relationship of lung compliance and airways resistance?	[CO-4][L-1] <b>15</b>				
Q.3	Explain the changes in hormones in aerobic training.	[CO-5][L-2] <b>15</b>				
	<u>PART-B</u>					
Q.4	Describe the adaptive mechanism in human physiology at higher altitudes.	[CO-6][L-4] <b>15</b>				
Q.5	Enumerate the banned drugs used as doping and explain the effect human body.	cts of drugs on [CO-4][L-2] <b>15</b>				
Q.6	Explain the role of nutrition in improving the sports performance.	[CO-3][L-5] <b>15</b>				
Q.7	What is fatigue, and effect of strength training on cardiac muscles?	[CO-2][L-5] <b>15</b>				
Q.8	Write about heat acclimatization and physiological effect on human boo	dy. <b>15</b>				

Q.9 Discuss about lung compliance and changes during exercise. 15

## End Semester Examination, Dec. 2022 Master of Physiotherapy – First Year APPLIED PHYSIOTHERAPY (MPT103)

Time: 3 hrs.

Max Marks: 80

- No. of pages: 1
- Note: Attempt **SIX** questions in all; in which attempt any **TWO** questions from **PART-A** and **FOUR** questions from **PART-B**. Marks are indicated against each question.

## <u>PART-A</u>

- Q.1 Discuss various motor strategies for balance control. [CO-4][L-3] **10**
- Q.2 Explain the pseudomayostatic contraction, also explain rhythmic initiation and its use. [CO-3][L-2] **10**
- Q.3"Patient having swelling and inflammation need to be treated with HVPGS". Give its<br/>parameters and mechanism of working.[CO-3][L-6] 10

- Q.4 A sprinter having ankle instability comes to your OPD. Discuss the whole treatment plan stages wise to make him return to sport. [CO-3][L-6] **15**
- Q.5Explain Russian currents and evidence of usage its principle of working with indications<br/>for currents.[CO-3][L-2] 15
- Q.6 Explain pain inhibition through ascending and descending pathways. [CO-2][L-3] **15**
- Q.7 Elaborate 'LASER'. Explain types of LASER and working principle for LASER.[CO-4][L-5] 15
- Q.8 Explain the principle and techniques of PNF. [CO-4][L-5] **15**

## Annual Examination, Dec. 2022 Master of Physiotherapy – First Year APPLIED BIOMECHANICS AND ERGONOMICS (MPT104)

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

Note: Attempt **SIX** questions in all; in which attempt any **TWO** questions from **PART-A** and **FOUR** questions from **PART-B**. Marks are indicated against each question.

## <u>PART-A</u>

- Q.1 Define "Biomechanics". What are the uses of studying biomechanics in physiotherapy? [CO-3][L-4] 10
- Q.2 Define "Lever". Give its classification with example from human body. [CO-2][L-2] 10
- Q.3 What are the changes seen in EMG during fatigue? [CO-3][L-4] **10**

## <u>PART-B</u>

- Q.4 Define "GAIT". Discuss the phases seen during the complete one GAIT cycle. [CO-5][L-2] 15
- Q.5 Write down the biomechanics of shoulder joint in detail and write a note on Scapulo humeral rhythm. [CO-3][L-1] **15**
- Q.6 Discuss the biomechanics of hip joint. Add a short note on Lumbo Pelvic Rhythm. [CO-3][L-2] 15
- Q.7 What do you understand by WRMSD's? Name any 3 WRMSD's seen in computer professional and ways to prevent them with ergonomical advice. [CO-6][L-3] **15**
- Q.8 What do you understand by active and passive insufficiency? Explain length tension relationship. [CO-4][L-5] **15**
- Q.9 Classify joints with example.

[CO-3][L-2] **15** 

## Annual Examination, Dec. 2022 Master of Physiotherapy – First Year **BIOSTATISTICS AND RESEARCH METHODOLOGY (MPT105)**

Time: 3 hrs.

Max Marks: 80

No. of pages: 1

10

10

15

Note: Attempt **SIX** questions in all; in which attempt any **TWO** questions from **PART-A** and FOUR questions from PART-B. Marks are indicated against each question.

## PART-A

- Q.1 Calculate mean, median and mode of the following data: No. of Students Marks Range 0-5 7 5-10 10 10-15 16 15-20 30 20-25 24 25-30 17 10 30-35 35-40 5 40-45 1 Also comment on the type of distribution.
- What do you mean by a research design? Differentiate and explain with examples. 10 Q.2
- 0.3 The grades of 36 students in an auditing test are: 30-40 40-50 50-60 60-70 70-80 80-90 90-100 Grades No. of students 6 10 6 4 3 4 3 Find standard deviation.

## PART-B

- Define "Hypothesis". What are the different types of hypothesis? Also mention the types O.4 of errors associated with acceptance/rejection of hypothesis. 15
- Q.5 Discuss "Sampling". What are its different types?
- Q.6 An analysis of monthly wages paid to the workers in a firm A and B belonging to same industry gives following result:

	Firm A	Firm B
No of workers	550	650
Average monthly wages	Rs. 1450	Rs. 1400
Standard Deviation	100	140

- a) Which firm A or B has larger wage bill?
- b) In which, A or B, is there greater variability in individual wages?
- Q.7 Explain the various measurement scales in data collection with examples. 15
- Differentiate between 'validity and reliability'. Mention any five threats to internal Q.8 validity and the remedy for each one. 15
- Q.9 What are various methods of data presentation? Explain with examples.

15

15

## End Semester Examination, Dec. 2022 OPEN ELECTIVE – COMMON FOR ALL BRANCHES RECENT TRENDS IN FOODS (ND-OE-001)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Give definition of the following:
  - a) Vermi-compost.
  - b) Conventional foods.
  - c) Ready to serve foods.
  - d) Genetic modification.
  - e) Nano foods.

#### <u>PART-A</u>

- Q.2 Differentiate between conventional farming and organic farming. [CO-1][L-2] 20
- Q.3Organic farming plays an important role in food security but has some limitations too.<br/>Justify the statement by giving suitable reasons.[CO-2][L-5] 20
- Q.4 Genetic engineering in foods can bring advancements in agriculture. How a normal tomato can be modified as cold tolerant tomato by utilizing the genetic make-up of fish?
  [CO- 1][L-2] 20

#### <u>PART-B</u>

- Q.5Classify convenience foods on the basis of their processing and ease of consumption.<br/>Also give three examples in each category.[CO-2][L-4] 20
- Q.6 Illustrate the role of nano-technology in upliftment of Indian food industry. Also, discuss its limitations. [CO-4][L-4] **20**
- Q.7
   What is the importance and need of convenience foods in our daily life? Discuss with suitable examples.

   [CO-3]
   [L-1]

4×5

## End Semester Examination, Dec. 2022 OPEN ELECTIVE – COMMON FOR ALL BRANCHES FOOD: HYGIENE AND SANITATION (ND-OE-004)

Time: 3 hrs.

Max Marks: **100** *No. of pages: 1* 

- Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.
- Q.1 What is the importance of maintaining hygiene and sanitation in a food service unit? 20

## <u>PART-B</u>

- Q.2 Explain the concept and types of food contamination with suitable examples. [CO1][L2] 20
- Q.3Describe the general principle of food hygiene along with general sanitation<br/>considerations.[CO-4][L-4] 20
- Q.4 Explain the concept of food borne illness with suitable example. [CO-2][L-4] 20

- Q.5 Explain the principles of HACCP applied in catering unit. [CO-1][L-3] **20**
- Q.6 Describe the classification and formulation of detergents and sanitizers. [CO-1][L-2] 20
- Q.7Discuss the importance of microorganisms in food sanitation and how does<br/>micro-organisms acts as indicator of sanitary quality.[CO-2][L-2] 20

# End Semester Examination, Dec. 2022

Bachelor of Physiotherapy – Fifth Semester MARKETING MANAGEMENT (PT-002)

Time: 2 hrs

Max Marks: **50** *No. of pages: 1* 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

- Q.1 Answer the following questions:
  - a) Define "Collective Bargaining".
  - b) What is the role of marketing segmentation?
  - c) What do you understand by international audit system?
  - d) Discuss the role of marketing in field of physiotherapy.
  - e) What are the functions of management?

2×5

#### <u>PART-A</u>

- Q.2 Explain the types and benefits of market segmentation. Give examples to elaborate. [CO-2][L-2] 10
- Q.3 Elaborate the types of plans managers use. What is vertical management system? [CO-1][L-1] 10
- Q.4 Discuss the characteristics of organizational structure. [CO-3][L-6] **10**

- Q.5 Elaborate the quality assurance programme in hospitals. [CO-2][L-2] **10**
- Q.6 What is job satisfaction? Discuss its factors, importance, statistics, and examples.
  [CO-3][L-6] 10
- Q.7 Define medical audit in context to physiotherapy. Explain the types, goals and steps used in medical audit. [CO-3][L-6] 10

# End Semester Examination, Dec. 2022

Bachelor of Physiotherapy – Seventh Semester HEALTH MANAGEMENT (PT-003)

Time: 3 hrs.

Max Marks: 50

No. of pages: 1

[CO-1] [L-2]

[CO-3] [L-2]

[CO-4] [L-3]

[CO-5] [L-2]

- Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt any **TWO** questions from **PART-A** and **TWO** questions from **PART-B**. Marks are indicated against each question.
- Q.1 Answer the following:
  - a) Health according to WHO.
  - b) Complication of scoliosis.
  - c) Importance of balanced diet for athlete.
  - d) Effects of tobacco on health.
  - e) Any two communicable diseases with the ways of communication. [CO-4] [L-3]

2×5

## <u>PART-A</u>

- Q.2 Define the various dimensions of health. What is the importance of mental health? [CO-4] [L-4] 10
- Q.3What is doping? What are the effects of doping agents? Name any five banned drugs<br/>by different agencies of doping regulation.[CO-5] [L-5] 10
- Q.4What are the requirements of a first aid kit to be used on football ground? Discuss the<br/>importance of first aid in sports.[CO-2,3] [L-2,3] 10

- Q.5 Discuss the principles of documentation in context to physiotherapy. [CO-4] [L-2] 10
- Q.6 What are the levels of medical care? Discuss the role of admin in supporting department of hospitals. [CO-2] [L-4] **10**
- Q.7 Discuss physiotherapy practice in India and their demand in rural areas. [CO-3] [L-2] 10

### End Semester Examination, Dec. 2022 OPEN ELECTIVE – COMMON FOR ALL BRANCHES HEALTH AND FITNESS EDUCATION (PT-OE-002)

#### Time: 3 hrs.

Max Marks: 100

No. of pages: 1

[CO-2][L-4] **20** 

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1	Answer the following:	
	a) Enumerate any two elements of yoga.	[CO-1,2][L-1]
	b) Define 'Pranayama'.	[CO-1,5][L-2]
	c) Enumerate any two types of yoga.	[CO-1][L-2]
	d) Mode of stretching exercises.	[CO-4][L-3]
	e) Define 'Health Education'.	[CO-2][L-1]
	f) Define 'movements'.	[CO-2][L-1]
	g) Describe three axis and planes?	[CO-2][L-2]
	h) Discuss 'health education'.	[CO-4][L-1]
	i) Define 'stretching'.	[CO-1][L-1]
	j) Define 'plane'.	[CO-2][L-1] <b>2×10</b>

#### <u>PART-A</u>

Q.2Discuss the importance of yoga and its benefits.[CO-1,2][L-3] 20

Q.3 Write in brief about balanced diet.

Q.4 Why Yoga is considered as an effective way for fitness training. Explain in detail. [CO-5,6][L-2] **20** 

## <u>PART-B</u>

 Q.5
 Explain resistance exercises? Explain the types of resistance training in detail.

 [CO-2][L-3]
 20

Q.6 Enumerate the physical and mental limitation of exercises. [CO-3][L-5] 20

Q.7 Describe the role of exercise and its impact in human body. Add a note on types of muscles in detail. [CO-1][L-2,3] 20

## End Semester Examination, Dec. 2022 OPEN ELECTIVE – COMMON FOR ALL BRANCHES ERGONOMICS AND HUMAN FACTOR (PT-OE-003)

Time: 2 hrs.

Max Marks: **50** *No. of pages: 1* 

[CO-1][L-4]

[CO-1,3][L-2]

[CO-1,5][L-5]

[CO-2,3][L-5]

21/2×4

Note: Attempt THREE questions in all; Q.1 is compulsory. Attempt any TWO questions from PART-A. Marks are indicated against each question.

- Q.1 Explain the following:
  - a) Triceps muscles.
  - b) Visual display terminals.
  - c) Postural muscles.
  - d) Cognitive ergonomics.

## <u>PART-A</u>

Q.2 Define "Standing Posture". Explain different view to evaluate standing posture.

[CO-3][L-2] **20** 

- Q.3 What do you mean by ergonomics? Why the ergonomics is required for the occupation? Explain the psycho-social consideration in ergonomics. [CO-4][L-3] **20**
- Q.4 Describe in details about the workstation design for an IT workers working on the Desktop. [CO-4,6][L-3] 20

## End Semester Examination, Dec. 2022 OPEN ELECTIVE – COMMON FOR ALL BRANCHES PHILOSOPHY AND PHYSIOLOGY OF YOGA (PT-OE-004)

#### Time: 3 hrs.

Max Marks: 100

No. of pages: 1

Note: Attempt FIVE questions in all; O.1 is compulsory. Attempt any TWO questions from PART-A and TWO questions from PART-B. Marks are indicated against each question.

Q.1	Answer the following:	
	a) Describe types of bones.	[CO-4][L-1]
	b) What are the benefits of Pawan Muktasana?	[CO-3][L-2]
	c) Define "Karma Yoga".	[CO-2][L-3]
	d) What is the effect of stress on human body?	[CO-3][L-4]
	e) What are the psychological effects of yoga?	[CO-5][L-1]
	f) Define "Hatha Yoga".	[CO-4][L-2]
	g) What are the types of Pranayama?	[CO-2][L-2]
	h) What are the aims and objectives of Hatha Yoga?	[CO-4][L-3]
	i) What is difference between Bhakti Yoga and Raja Yoga?	[CO-5][L-5]
	j) What are the paths of Yoga?	[CO-1][L-2] <b>2×10</b>

#### <u>PART-A</u>

- Q.2 Write in detail about axis and planes of human body. Add a note on classification of muscles. [CO-2,4][L-2] 20
- Q.3 What is Dhyana? Discuss the different breathing techniques to be used to improve Dhyana. [CO-1,6][L-3] 20
- Q.4 Enumerate various prone lying Asana. And write any one in detail under following headings: benefits, procedure and precautions. [CO-5][L-2] **20**

#### <u>PART-B</u>

- Q.5 What is the principle of muscle strengthening? Elaborate the principles and application of progressive muscle loading in detail. [CO-6][L-2] **20**
- Q.6 Write in detail about principles, aims and objectives along with common misconceptions of Yoga. [CO-4][L-5] **20**
- Q.7 Write in detail about theories of Karma and Rebirth. Add a note on 'Raja Yoga'.

[CO-2,4][L-5] **20**