

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester

HEALTH PSYCHOLOGY (BN&D-001)

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**. Each question carries equal marks.

Q.1 Define eating disorder. Explain eating disorder with management in detail.
10

PART-A

Q.2 Define adherence. Explain the model of adherence, in detail.
10

Q.3 Explain Health belief model.
10

Q.4 Define the following:
a) Health psychology.
b) Disease prone personalities.
c) Community psychology.
d) Illness and wellness.
e) Alcoholism.
2x5

PART-B

Q.5 Define stress, stressors and factors leading to stress.
10

Q.6 Define Health Psychology. Write the importance of health psychology in Nutrition and Dietetics.
10

Q.7 Define the following:
a) Placebo and Pain effect
b) Stressors
c) Medical Ethics
d) Addiction
e) Health and Personality
2x5

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester HEALTH PSYCHOLOGY (BN&D-001)

Time: 3 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**. Each question carries equal marks.

Q.1 What is Health Psychology? Explain in detail fields of Health Psychology.
10

PART-A

Q.2 Explain any two models of Health Behavior in detail.
10

Q.3 Define adherence. Explain the model of adherence.
10

Q.4 Define the following:
a) Wellness.
b) Coping .
c) Conflict.
d) Eating disorders.
e) Placebo and pain.
2x5

PART-B

Q.5 Define stress. Describe its type, symptoms and coping technique in detail.
10

Q.6 What is Alcoholism? Explain the health risk associated with drinking.
10

Q.7 Explain the following:
a) Anorexia Nervosa.
b) Dimensions of wellness.
c) Bulimia Nervosa.
d) Mind-Body reciprocal relations.
x4

2½

End Semester Examination, Dec. 2017

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

WEIGHT MANAGEMENT (BN&D-002)

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**. Each question carries equal marks.

Q.1 How is lifestyle modification linked with improving health of an individual?
10

PART-A

Q.2 What are the causes and types of obesity?
10

Q.3 Explain the theories related to weight management in detail.
10

Q.4 a) Define underweight, overweight and obesity.
5
b) Describe the methods of assessing obesity.
5

PART-B

Q.5 Explain the stress-reduction techniques in detail.
10

Q.6 Discuss the different types of diets.
10

Q.7 What are the different types of exercises that help in reducing weight?
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fifth Semester

SCIENTIFIC WRITING (BN&D-003)

Time: 3 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**. Each question carries equal marks.

Q.1 Define Research. Explain in detail the research process
10

PART-A

Q.2 What is scientific writing? Explain how scientific writing enables in writing scientific paper.
10

Q.3 What is the difference between plagiarism and misconduct? Also explain the importance of research in modern times.
10

Q.4 Define the following:
a) Outline.
b) Random sampling.
c) Synopsis.
d) Scientific paper.
e) Review of literature.
5x2

PART-B

Q.5 Write the layout of a scientific paper. What are the guidelines to be kept in mind while writing references in scientific paper?
10

Q.6 Explain in brief sentence outline and topic outline by giving suitable example.
10

Q.7 Explain the following:
a) JMRaD.
b) Non probability sampling.
c) Layout of Poster.
d) Research Methodology.
2½x4

End Semester Examination, Dec. 2017
B. Sc. (N & D) – First Semester
INTRODUCTION TO LIFE SCIENCE (BN&D-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 Explain the following with appropriate examples:

- a) Binary fission.
- b) S.I. unit of length and volume.
- c) Nucleus.
- d) Cytoplasmic organelles.
- e) Relative humidity.
- f) Smoke point.
- g) Boiling point.
- h) Eukaryotes.
- i) Surface tension.
- j) Evaporation.

2×10

PART-A

Q.2 a) Explain plasma membrane with special reference to bilipid membrane.

10

b) Differentiate between animal cell and plant cell.

10

Q.3 a) Give the detailed outline of cell and its function.

10

b) Describe the characteristics of fungi.

10

Q.4 a) Explain reproduction in protozoa and bacteria with appropriate diagram.

10

b) Write down the morphological characteristics of algae.

10

PART-B

Q.5 a) Enumerate the characteristics of chemical reaction.

10

b) Define five chemical reactions with appropriate examples.

10

Q.6 a) Differentiate between oxidizing agent and reducing agent.

10

b) With the help of appropriate example enumerate redox reaction in day to day life.

10

Q.7 Write short notes on the following:

- a) Buffer.
- b) Melting point.
- c) Smoke point.
- d) Osmosis.

5×4

End Semester Examination, Dec. 2017
B.Sc. (N&D) - First Semester
FUNDAMENTALS OF FOOD AND NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Define adequate nutrition. How will you use your knowledge of nutrition for yourself, your family and society? Explain.

20

PART-A

Q.2 Explain proteins in reference with classification, functions, RDA and dietary sources. **20**

Q.3 Discuss the Dos and Don'ts of healthy eating.

20

Q.4 Explain, in detail, RDA, dietary sources and deficiency problems of minerals. **20**

PART-B

Q.5 Differentiate between dry and moist heat methods of cooking.

20

Q.6 Write notes on:

- a) BMI Formula and BMI Classes.
- b) Food groups and food pyramid

10x2

Q.7 What are Novel Foods? Explain any five novel foods, in detail.

20

End Semester Examination, Dec. 2017
B.Sc. (N&D) - First Semester
FUNDAMENTALS OF FOOD AND NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 How is food related to health? How will you use your knowledge of nutrition? Explain.

20

PART-A

Q.2 Give the classification of carbohydrates. Explain functions, RDA, Dietary sources and deficiency problems related to carbohydrates.

20

Q.3 Write notes on:

a) Physiological functions of foods.

10

b) Social and Psychological functions of foods.

10

Q.4 Classify Vitamins. Explain in detail R.D.A, dietary sources, functions and deficiency problems related to vitamin-A.

20

PART-B

Q.5 Write brief notes on:

a) Dry heat methods of cooking.

10

b) Moist heat methods of cooking.

10

Q.6 Write the concept of food groups. What is the role of Food Pyramid in planning a balanced diet?

20

Q.7 Write short notes on **(any two)**:

a) Functional foods.

b) Organic foods.

c) Convenience foods.

10x2

End Semester Examination, Dec. 2017

B.Sc. (N&D) - First Semester BIOCHEMISTRY-I (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 any **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 a) Give the structures of the following:

- i) Cysteine
- ii) Maltose
- iii) Phenylalanine
- iv) Stearic acid
- v) Linolenic acid
- vi) Fructose
- vii) Methionine

2x7

b) Give the equation for conversion of galactose to mucic acid.

6

PART-A

Q.2 a) Explain the reaction of Fehlings reagent with glucose.

10

b) What are the important phospholipids in our body? Mention their functions in detail.

10

Q.3 a) Why do sugars exhibit stereoisomerism? Mention the various forms of isomerism of glucose.

10

b) Define 'iodine number', 'saponification value' and 'acid value' with their significance.

10

Q.4 a) How are aldonic, aldarric and uronic acids of glucose formed?

10

b) Explain the visual role of vitamin A in detail.

10

PART-B

Q.5 a) Write a detailed note on four level organizations of proteins. Support your answer with suitable diagrams.

10

b) What is the active form of vitamin D? How is it synthesized?

10

Q.6 a) Explain why water is the best biological solvent.

10

b) What are essential amino acids?

10

Q.7 Discuss the primary and secondary structure of proteins in detail.

20

End Semester Examination, Dec. 2017

B.Sc. (N&D) - First Semester BIOCHEMISTRY-I (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 any **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 a) Write the structure of:

- i) Fructose.
- ii) Lysine.
- iii) Stearic Acid.
- iv) Phenylalanine.
- v) Linolenic acid.
- vi) Palmitoleic Acid.
- vii) Cysteine.

2x7

b) Give the reaction of Galactose with conc nitric acid. What is the importance of this reaction?

6

PART-A

Q.2 a) Define Saponification value, Iodine number and acid value. What is their significance?

6

b) What are the different Phospholipids and give their function.

14

Q.3 a) What are the structural components of prokaryotic and eukaryotic cells? Briefly give their function.

10

b) Discuss the stereoisomerism of Glucose.

10

Q.4 a) Why is glucose a reducing sugar? Explain the formation of the red precipitate when it reacts with Fehling's / Benedict's reagents.

14

b) How is camphor detoxified in the liver?

6

PART-B

Q.5 Give details of the primary and secondary structure of proteins.

20

Q.6 a) What are retinoids? Discuss the role of retinal in vision.

14

b) Discuss the functions of Calcium in the body.

6

Q.7 a) What are essential amino acids?

8

b) Explain why water is an ideal biologic solvent?

12

End Semester Examination, Dec. 2017

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

ANATOMY AND PHYSIOLOGY-I (BN&D-104)

Time: 3 hrs
100

Max Marks:

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 a) Describe the factors affecting food and nutrition.
10
b) Describe the causes and prevention of gastrointestinal diseases.
10

PART-A

- Q.2 Write short notes on the following:
a) Function of golgi.
b) Diffusion.
c) Phagocytosis.
d) Homeostasis.
e) Epithelial Cell.
f) Function of liver.
g) Composition of bile.
h) Leucocytes.
i) Aponeurosis.
j) Anemia.
2x10
- Q.3 a) Describe the mechanism of blood clotting.
10
b) Explain the process of digestion of proteins.
10
- Q.4 a) Describe the process of hemopoiesis.
10
b) Explain the role of enzymes in digestion and absorption of food.
10

PART-B

- Q.5 Write short notes on:
a) Types of bone, Bone formation and growth.
10
b) Events occurring during one cardiac cycle.
10
- Q.6 a) Define 'blood pressure'. How it is maintained and regulated in human body? **10**
b) Explain the mechanism of transport of O₂ and CO₂ in the body.
10
- Q.7 a) Explain the classification of joints and their structure.
10

b) Differentiate the general function of the axial skeleton to that of the appendicular skeleton.

10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - First Semester
ANATOMY AND PHYSIOLOGY-I (BN&D-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**. Each question carries equal marks.

Q.1 Explain the deficiency of vitamin A in children.

20

PART-A

Q.2 Write short notes on the following:

- a) Pronation and supination.
- b) End arteries.
- c) Endoplasmic reticulum.
- d) Composition of Blood.
- e) Valves in the heart.
- f) Skeletal muscle
- g) Stroke volume.
- h) PR interval.
- i) Factors affecting venous return.
- j) Function of liver.

2x10

Q.3 a) Differentiate between 1st and 2nd heart sound.

10

b) Describe the structure of stomach and its functions in detail.

10

Q.4 Describe the bones under following headings:

- a) Definition and function.
- b) Classification.
- c) Structure of long bone.
- d) Applied.

5x4

PART-B

Q.5 Write short notes on the following:

- a) Digestion of carbohydrate.
- b) Haemopoiesis.

10x2

Q.5 a) Describe the mechanism of respiration in detail.

10

b) Explain the electrocardiogram (ECG) with waves and intervals in detail.

10

Q.5 a) Describe the conducting elements of heart in detail.

10

b) Describe salivary glands with their composition and functions of saliva in detail. **10**

End Semester Examination, Dec. 2017

B. Sc. (Nutrition and Dietetics) – First Semester

FOOD HYGIENE AND SANITATION (BN&D-105)

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**. Each question carries equal marks.

Q.1 Elaborate on hygiene practices of rural and urban areas and their differences in regards with personal hygiene and other practices. **10**

PART-A

Q.2 Explain the general principles of food hygiene in detail. **10**

Q.3 Discuss the methods of purification and disinfection of water preventing contamination of potable water supply. **10**

Q.4 Explain the sources of water in detail. Discuss the importance of water supply and its uses in food industry. **10**

PART-B

Q.5 What do you mean by HACCP? Explain the advantages of HACCP. **10**

Q.6 Give the classification and formulation of detergents in detail. **10**

Q.7 What are the principles followed in insect and pest control? **10**

End Semester Examination, Dec.2017

B.Sc. (N&D) - 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**. Each question carries equal marks.

Q.1 Answer the following:

- a) If a person is in starvation condition, how glycogen can be used as energy source? Explain the cycle in detail.
- b) How Surplus Glucose can be stored in our body? Explain in detail.

10x2

PART-A

Q.2 How proteins are catabolised? Explain all the steps of protein catabolism in detail with proper examples and reactions.

20

Q.3 a) What is β oxidation? Explain all steps in detail.

10

b) How fatty acid is activated and transported in mitochondria?

10

Q.4 How Biocatalysts are useful? Explain in detail their classification?

20

PART-B

Q.5 a) What is lock and key Hypothesis?

10

b) What is Central Dogma? Explain its importance with an example.

10

Q.6 a) Which metabolic cycle is opposite to Glycolysis? Explain.

10

b) What is H.M.P shunt? Explain its oxidative phase.

10

Q.7 a) How many ATPs are formed from complete oxidation of one Glucose Molecule? And how?

10

b) Draw the following structures:

- i) Adenosine Monophosphate.
- ii) Deoxycytidine Monophosphate.

10

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Second Semester
NUTRITION THROUGH LIFE CYCLE (BN&D-204)

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 Discuss the nutritional importance of any four nutrients throughout the life cycle. **20**

PART-A

Q.2 Discuss the physiological changes during infancy. How do these influence the nutritional requirement of an infant?
20

Q.3 a) Discuss the nutritional requirements of a 5 year old child.
10

b) Comment on food preferences of pre-schooler.
10

Q.4 Discuss critically the difference in nutrient requirement of adult man and woman. **20**

PART-B

Q.5 Write notes on:
a) Advantages of breast feeding.
b) Diet and feeding pattern during lactation.
10x2

Q.6 Whom do you designate an elderly and explain the nutritional requirement of an elderly women.
20

Q.7 Describe the stages of pregnancy and nutritional management required during this period.
20

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Second Semester

ANATOMY AND PHYSIOLOGY-II (BN&D-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**. Each question carries equal marks.

- Q.1 Describe the changes which occur during various phase of menstrual cycle.
20

PART-A

- Q.2 Write short notes on following:

- Name and functions of hormones secreted from thyroid gland.
- Structure of mature sperm.
- Neuromuscular junction.
- Fight and Flight reactions.

5x4

- Q.3 a) Discuss structure of kidney and its functions.

10

- b) Define 'hypoxia'. Give characteristic features of different types of hypoxia. **10**

- Q.4 a) Discuss formation and micturation of urine.

10

- b) Define light and accomodation reflex.

10

PART-B

- Q.5 Write notes on following:

- a) Name ovarian hormones and give their action and control of secretion.

10

- b) Describe acrosomal reaction.

10

- Q.6 Explain the cerebellum, its function and application.

20

- Q.7 Write short notes on **(any four)**:

- Fertilization.
- Physiological effect of physical training.
- Ventricles of brain.
- Thalamic nuclei.
- Reflex arc.

5x4

End Semester Examination, Dec. 2017

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

PSYCHOLOGY (BN&D-206)

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**. Each question carries equal marks.

- Q.1 Explain citing suitable examples, how the study of psychology provides an understanding of the complexities of human behavior and dealing with them? **10**

PART-A

- Q.2 Write short notes on:
a) Contribution of psychology in the field of nutrition and dietetics.
b) Mood disorders.
5x2

- Q.3 Explain any two methods of studying behavior, citing suitable examples.
10

- Q.4 Define 'anxiety'. Explain different anxiety disorders.
10

PART-B

- Q.5 Define 'counseling'. Explain in detail various principles of counseling.
10

- Q.6 Write short notes on:
a) Role and responsibilities of counselor.
b) Family therapy.
5x2

- Q.7 Briefly explain the following:
a) Personality assessment.
b) Behavioral assessment.
5x2

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain the type of "Bed Making" in detail.
10

PART-A

Q.2 What is feeding tube? How Feeding Tube helps in the nourishment of comatosed patient?
10

Q.3 Explain interpersonal relationship in nursing care.
10

Q.4 What measures are adopted to control the bleeding in Road Traffic Accident? **10**

PART-B

Q.5 Explain bandaging; their types and application in detail.
10

Q.6 Explain the importance and precautions while lifting the patient from wheel chair to the bed.
10

Q.7 Define 'nursing'. Explain the principles of nursing.
10

End Semester Examination, Dec. 2017

**B.Sc. (N&D) - Third Semester
PATHOLOGY (BN&D-301)**

Time: 3 hrs

Max Marks: **50**

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 cellular adaptations against stress stimuli.

10

PART-A

Q.2 Write the difference between hyperplasia and hypertrophy with the help of suitable examples.

10

Q.3 What is the mechanism of all injury? Explain.

10

Q.4 Draw a well labeled diagram of relationship between cellular function and duration of injury.

10

PART-B

Q.5 What is inflammation? Describe chronic inflammation, giving suitable examples. **10**

Q.6 What do you understand by tissue regeneration? Describe scar formation.

10

Q.7 Discuss healing of fracture or connective tissues, in detail.

10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester

THERAPEUTIC NUTRITION AND DIETITICS (BN&D-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.1 What do you understand by therapeutic nutrition and its importance in hospitalized patients dietary needs?

20

PART-A

Q.2 Explain therapeutic adaption of normal diet, in detail.

20

Q.3 Discuss etiology and dietary treatment for constipation, in detail

20

Q.4 Describe etiology and dietary management for chronic renal failure, in detail.

20

PART-B

Q.5 Discuss symptoms, etiology and dietary management for gout, in detail.

20

Q.6 Write down in detail the etiology and dietary management for Anorexia Nervosa and Bulimia Nervosa.

20

Q.7 Explain dietary management during typhoid and tuberculosis, in detail.

20

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester

PROBLEMS IN HUMAN NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Explain the importance of nutritional status assessment for a community.
20

PART-A

Q.2 Explain the types of dietary survey, in detail.
20

Q.3 Discuss Vit A deficiency in terms of:

a) symptoms and treatment.

10

b) Plan of action.

10

Q.4 Discuss:

a) Prevalence, etiology and dietary sources of vitamin D.

10

b) Symptoms, treatment and prevention of vitamin D.

10

PART-B

Q.5 a) Write a note on the role of iron, vitamin B₆ and vitamin B₁₂ and their dietary sources.

10

b) Explain Nutritional Anaemia Prophylaxis Programme, in detail.

10

Q.6 Explain Lathyrism, in detail.

20

Q.7 a) Discuss National Iodine Deficiency Disorder Programme, in detail.

10

b) Write a note on toxicity of excess iodine.

10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester

NUTRITION FOR HEALTH, FITNESS AND SPORTS (BN&D-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**. Each question carries equal marks.

Q.1 Explain the interrelationship between Health, Nutrition, Exercise and Physical fitness.

20

PART-A

Q.2 Explain the different types of Somatotyping and their specific characteristics. Estimate body fat among athletic group.

20

Q.3 Give the Nutritional requirements of sportspersons, pre-game and postgame meals.

20

Q.4 Write the effect of specific Nutrients on Physical fitness of a Sports Athlete.

20

PART-B

Q.5 Give the importance and composition of sports drink.

20

Q.6 Discuss the mobilization of carbohydrates and fat during exercise.

20

Q.7 Discuss the Spiritual Health Chakras their location and consciousness.

20

End Semester Examination, Dec. 2017

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

DIET AND NUTRITIONAL COUNSELING (BN&D-306)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain the components of Diet Cal.
10

PART-A

Q.2 a) Write the importance of individual food choices, while planning a diet.
5
b) 'Communication of dietary advice.' Explain.
5

Q.3 a) Discuss change in behavior as a result of counseling.
5
b) Write about motivational interviewing.
5

Q.4 a) What is Nutrition Counseling? Describe ABCD Model.
5
b) 'Importance of communication and negotiation skill as a part of effective counseling'. Discuss.
5

PART-B

Q.5 a) Enumerate the importance of teaching aids.
5
b) Prepare a visual aid to educate the society regarding hygiene and sanitation. **5**

Q.6 a) Write the importance of posters giving special emphasis on Diabetes.
5
b) Prepare a leaflet for propagating information on cancer.
5

Q.7 a) Explain the Do's and Don'ts for atherosclerotic patient.
5
b) Prepare a teaching aid for patient suffering from liver cirrhosis.
5

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester

COMMUNITY NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Describe the concept of health care and the three different levels in the community. **20**

PART-A

Q.2 Define the role of the community nutritionist in the health care delivery. **20**

Q.3 Define the health programme in India and explain two programmes in detail. **20**

Q.4 Explain the nutrition programme and explain any one programme in detail. **20**

PART-B

Q.5 Explain the different methods of nutritional assessment and explain direct assessment in detail. **20**

Q.6 What are the factors related to diet related behavior? **20**

Q.7 Write short notes on:
a) Types of need.
b) WHO, NIN.
c) Factors of nutrition and food security.
d) National population policy.
5x4

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester

FOOD MICROBIOLOGY (BN&D-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**. Each question carries equal marks.

Q.1 Discuss the importance of micro-organisms in food biotechnology.

20

PART-A

Q.2 What are the various intrinsic and extrinsic parameters of foods that affect microbial growth? Explain.

20

Q.3 Give sources of contamination and micro-organisms involved in spoilage of the following:

- a) Meat
- b) Canned foods
- c) Fruits
- d) Milk

20

Q.4 Discuss the processing of any two fermented dairy food along with its health benefits. **20**

PART-B

Q.5 Differentiate between:

- a) Synchronous culture and Continuous culture.

10

- b) Pasteurization and Sterilization.

10

Q.6 Write notes on the following:

- a) Single cell protein.

10

- b) Probiotics.

10

Q.7 Explain the following:

- a) Chemical preservation.

10

- b) Canning.

10

End Semester Examination, Dec. 2017
B.Sc. (N&D)-Fourth Semester
INSTITUTIONAL FOOD ADMINISTRATION (BN&D-404)

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 Write about the following in brief:
- a) What do you mean by Food Service Institutions?
 - b) Write about inventory management.
 - c) What is standardization of recipe and how it is done?
 - d) Discuss the importance of hygiene, sanitation, and safety in food industry.
 - e) What important points would you consider while selecting equipments?
- 4x5**

PART-A

- Q.2 Write in detail about the philosophy, principles and functions of management. **20**
- Q.3 What points would you keep in mind while purchasing food? Explain in detail about menu planning. **20**
- Q.4 Discuss in detail the financial management, stressing upon budgeting, pricing and accounting. **20**

PART-B

- Q.5 Write notes on:
- a) Constructing recipes for large scale.
 - b) Methods of evaluation of recipes.
- 20**
- Q.6 Write notes on:
- a) Various forms of service.
 - b) Table setting.
- 20**
- Q.7 Explain the importance and process of staff training and development. **20**

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
ENZYMES IN FOOD PROCESSING (BN&D-405)

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**. Each question carries equal marks.

- Q.1 Explain briefly the following:
a) Acrylamide formation in bakery products.
b) Role of pectinases in fruit juice industry.

5x2

PART-A

- Q.2 Explain how high fructose corn syrup is prepared in the industry?
10
- Q.3 Give the industrial production of glucose and maltose syrups from starch.
10
- Q.4 What is enzymatic browning of fruits and vegetables? Give one method by which this can be stopped.
10

PART-B

- Q.5 Discuss the role of proteases in the dairy industry.
10
- Q.6 Explain how malt flour and malt extract improves the crumb structure of bread? **10**
- Q.7 What do you understand by malting of barley? Explain the process of wort formation in beer making.
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester CULINARY SCIENCES (BN&D-406)

Time: 2 hrs.

Max Marks: **50**

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**. Each question carries equal marks.

Q.1 Explain the art and science of cooking with its aim and objectives.

10

PART-A

Q.2 Define the following culinary terms:

- a) Barbecue.
- b) Bouquet Garni.
- c) Fondant.
- d) Rub-in.
- e) Temper.

2x5

Q.3 What kind of attitude and behavior one should adopt in kitchen? Explain the use and care of kitchen equipment.

10

Q.4 Explain (**any two**) methods of cooking:

- a) Grilling.
- b) Frying.
- c) Stewing.

5x2

PART-B

Q.5 a) Convert the following:

- i) 10 z = _____ g.
- ii) 16 T = _____ C.
- iii) 1 C = _____ ml.
- iv) 1 T = _____ ml.
- v) 2 quart = _____ gallon.

1x5

b) What are the safety procedures adopted in handling equipments?

5

Q.6 a) Define:

- i) Yield ii) Serving size adjustment.

2½x2

b) Explain:

- i) Induction cooking ii) Thawing of Food.

2½x2

Q.7 a) Recipe of Rice Kheer:

Ingredients	Amounts
Rice	1 Kgs
Milk	2 Ltr
Sugar	2 Kgs
Raisins	500 g
Almonds	500 g

Yield - 100

Each Portion - 1 Cup

i) The Rice Kheer yields 100 servings. Adjust the serving size to 75.

ii) The recipe for Rice Kheer given above calls for 100 servings of rice kheer at 1 cup. Carry out the serving size adjustment to $\frac{3}{4}$ cup.

2½x2

- b) A corporate has an industrial canteen catering to 1000 employees which provide snack, beverage and lunch for Rs 50/- per person per day. Calculate the food cost, labor cost, maintenance cost and profit.

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fifth Semester
FOOD SCIENCE (BN&D-501)

Time: 3 hrs
100

Max Marks:

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 Discuss the methods of preliminary preparation of foods and cooking of foods. **20**

PART-A

Q.2 Explain the structure and nutritive value of the following grains:
a) Wheat.
b) Rice.
10x2

Q.3 a) Write down about the composition of milk.
5
b) What is the effect of heat on milk?
5
c) Explain the stages of sugar cookery with appropriate examples.
10

Q.4 Write short notes on the following:
a) Hydrogenation.
b) Rancidity.
10x2

PART-B

Q.5 a) Explain the uses of egg in cookery.
10
b) Write down about the postmortem changes occurs in meat.
10

Q.6 a) Explain various methods of sensory evaluation.
15
b) What is the selection procedure for trained panel?
5

Q.7 Discuss the effect of following on pigments:
a) Heat.
b) Acid.

- c) Alkali.
20

End Semester Examination, Dec. 2017
B. Sc. (Nutrition and Dietetics) – Fifth Semester
FOOD PROCESSING AND TECHNOLOGY (BN&D-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 Explain the following briefly with suitable examples:

- a) Pasteurization.
- b) Ripening in fruits.
- c) Deodorization.
- d) Aspiration.
- e) Decortication.
- f) Homogenization.
- g) Interesterification.
- h) Saponins in legumes.
- i) Fruit juice concentrates.
- j) Form fill seal (FFS) packaging.

2×10

PART-A

- Q.2 a) Outline the steps involved in the milling of wheat and rice. **10**
b) Write a note on the important legumes grown in India. **5**
c) Do cereal grains undergo any chemical change during storage? If yes, briefly explain. **5**
- Q.3 a) Make a flowchart representing the processing of milk, in milk industries. **15**
b) Mention some oilseeds grown in India. **5**
- Q.4 a) Explain the commercial refining process of oils. **15**
b) Comment on the types of packaging commonly used in food industries. **5**

PART-B

- Q.5 Explain the following:
a) Spoilage of fruits and vegetables is a major cause of concern in loss of productivity.
b) Packaging of bakery products varies from that for fruits and vegetables.
c) Agencies in India, dealing with the menace of cereal grain storage.
d) Fruit juice concentrates and powders, a step towards convenience foods. **5×4**
- Q.6 a) Using a flowchart, depict the manufacturing process of any 2 milk products. **10**
b) 'Toxic factors in legumes can be fatal to life'. Comment. **10**

- Q.7 a) What are the various ways in which fruits and vegetables can be stored effectively without any deterioration? **5**
b) What are the various ways in which the legumes can be made palatable? **5**
c) Write a brief note on cooperative dairying in India. **5**
d) Mention some agents responsible for spoilage of cereal grains during storage. **5**

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Fifth Semester
FOOD PRESERVATION AND BAKERY (BN&D-503)

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**. Each question carries equal marks.

Q.1 Explain the following terminology:

- a) Marzipan.
- b) Batter.
- c) Emulsification.
- d) Fermentation.
- e) Leavening.
- f) Gluten.
- g) Creaming.
- h) Curdle.
- i) Cake.
- j) Bake.

1x10

PART-A

- Q.2 a) Describe the role of chemical preservative in food preservation. **5**
b) Describe the method of fermentation. **5**
- Q.3 a) Write about the types of pasteurization and its functions. **5**
b) List the names of microorganisms and their resultant fermented products. **5**
- Q.4 a) Enumerate principles of preservation. **5**
b) Write about freeze drying and refrigeration techniques to enhance the shelf life of products. **5**

PART-B

- Q.5 a) Write about the role of bread improvers in bread industry. **5**

b) Write about three types of bread making methods.

5

Q.6 a) What is a pastry? Write regarding any three types of pastry preparation.

5

b) Mention the physical changes occurring during bread making.

5

Q.7 Write short notes on the following:

a) Raising agents.

b) Irradiation.

c) Extrusion Cooking.

d) Hurdle technology.

2½x4

End Semester Examination, Dec. 2017

B.Sc. (N&D) – First Semester

HERBS AND HOME REMEDIES (BN&D-GE-01)

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**. Each question carries equal marks.

Q.1 What are the advantages of using herbs against drugs for curing illnesses?

10

PART-A

Q.2 Give the classification of herbs according to their active constituents with examples.

10

Q.3 Explain the medicinal uses of *Piper Betel*.

10

Q.4 Give the uses of *Azadirachta Indica* as a medicinal herb.

10

PART-B

Q.5 Discuss the uses of any five culinary herbs in detail.

10

Q.6 Write five home remedies for the following:

a) Common cold.

b) Digestive disorders.
5x2

Q.7 Discuss herbal remedies for skin care with examples of herbal products available in the market.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Second Semester
FAMILY MEAL MANAGEMENT (BN&D-GE-03)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain how essentials of meal planning help in creating an healthy future for an individual.
10

PART-A

Q.2 What do you understand by balanced diet? Explain how food groups help in making a balance diet?
10

Q.3 Explain food faddism and faulty food habits in detail.
10

Q.4 What do you mean by Indian meal pattern? Describe the advantages and disadvantages of vegetarian and non-vegetarian meal pattern in detail.
10

PART-B

Q.5 Explain the nutritional management for adult.
10

- Q.6 How nutritional management plays an important role in pregnancy?
10
- Q.7 Discuss the nutritional requirement during infancy.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D)-Third Semester
MATERNAL AND CHILD NUTRITION (BN&D-GE-05)

Time: 2hrs

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**. Each question carries equal marks.

- Q.1 Why maternal care is important for healthy child? Write the recent guidelines in infant and complimentary feeding.
10

PART-A

- Q.2 Explain the risk factor during pregnancy. Discuss the physiological changes which occur during this period.
10
- Q.3 What is the significance of growth monitoring?
10
- Q.4 Discuss the nutritional needs and dietary modification suggested during the first six months of lactation.
10

PART-B

- Q.5 Write the strategies to improve the maternal and child health in India.
10

- Q.6 Discuss the role of BPNI in promotion of breast feeding in India and the importance of world breast feeding week.
10
- Q.7 Discuss the growth and development during preschool children and what are the nutritional problems seen during pre-school children?
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) - Third Semester FOOD LABELING (BN&D-GE-06)

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**. Each question carries equal marks.

- Q.1 Define Food Labeling and its related glossary terms.
10

PART-A

- Q.2 How is the information on food labels interpreted? Explain using suitable examples.
10

- Q.3 Describe the different parts a food label constitutes, with their significance.
10

- Q.4 Design a food label consisting of all the essential information.
10

PART-B

- Q.5 What are the requirements of food labeling as per FSSAI?
10
- Q.6 Outline the labeling requirements kept in mind for imported foods.
10

- Q.7 Briefly describe the health and nutritional claims, generally found on pre-packaged foods.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
COMMUNITY DEVELOPMENT PROJECT (BN&D-GE-07)

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**. Each question carries equal marks.

- Q.1 Discuss the role of community development workers help in developing a community. **10**

PART-A

- Q.2 Explain the following points:
a) Philosophy behind community development programme.
b) Objectives of community development.
5x2

- Q.3 Describe the cultural factors responsible in community development.
10

- Q.4 Explain the steps involved in community development process.
10

PART-B

- Q.5 Explain “development of women and children in rural areas programme” in detail. **10**
- Q.6 Write short notes on the following:
a) Participatory Rural Appraisal (PRA).

b) Participatory Resource Mapping (PRM).
5x2

Q.7 Discuss the following:

- a) Swarnjayanti Gram Swarozgar Yojana.
- b) Importance and types of Community Need Assessment (CNA).
5x2

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
ENTREPRENEURSHIP MANAGEMENT (BN&D-GE-08)

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**. Each question carries equal marks.

Q.1 Write short notes on:

- a) Myths of entrepreneurship.
- b) Exploring opportunities in the environment.
- c) Limited liability partnership.
- d) Production strategies of an entrepreneur.
- e) Negotiation significance.

2x5

PART-A

Q.2 Why country need more entrepreneurship? Explain functions, process, advantages and disadvantages of entrepreneurship.

10

Q.3 “Selecting the right opportunity is a first step of entrepreneurship journey”. Justify the statement.

10

Q.4 Whether 'Problem identification', 'spotting-trends' and 'creativity and innovations' are key success factors for any start-up venture? Put forth your comments on it. **10**

PART-B

Q.5 Describe the role of social media in creating brand.
10

Q.6 How one should maintain good customer relationship and ensure quality, timeliness and customer satisfaction for any business enterprise?
10

Q.7 What are the different modes by which any entrepreneur can raise funds? Among that which will be the most appropriate resource for any start-up venture?
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Fifth Semester
FERMENTATION TECHNOLOGY (BN&D-GE-09)

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**. Each question carries equal marks.

- Q.1
- a) Vinegar is produced by _____.
 - b) What is the full form of EMP pathway?
 - c) Name one open system reactor.
 - d) What is the source of Malt extract?
 - e) For purpose which purpose Turbidimeter is used?
 - f) Nathan fermentor is used in _____.
 - g) Name is the Methionine-rich SCP producing micro-organism.
 - h) Renin produced by _____.
 - i) Give an example of secondary metabolite.
 - j) For which purpose Liquid nitrogen is used?
- 1x10**

PART-A

Q.2 Describe the Glycolysis process.
10

Q.3 Explain the following:

- a) Fast metabolism
- b) Anti-Foam

5x2

Q.4 Write short notes on:

- a) Sulfite waste liquors
- b) Cellulose

5x2

PART-B

Q.5 What is the purpose of media-sterilization? What are the advantages of batch sterilization over continuous sterilization?

10

Q.6 Discuss the following immobilization techniques:

- a) Cross-Linking
- b) Entrapment

5x2

Q.7 Describe the common techniques for preserving microbes.

10

End Semester Examination, Dec. 2017

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

FOOD SCIENCE (BND-601)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 What are the toxic constituents which are present in pulses?

10

Q.2 Explain the role of fat and oil in cookery.

10

Q.3 How can one determine the quality of Egg? Explain all the methods.

10

Q.4 What is sensory Evaluation? What are the different sensory characteristics of food? **10**

PART-B

Q.5 What is the difference between crystalline and non-crystalline candies?

5

- Q.6 Fill in the blanks:
a) Recombined milk contains _____ fat content and _____ solids not fat.
b) Flash point is _____.
c) Plasticity is _____.
d) Neurotoxin responsible for Lathyrism is _____.
e) pH of Egg is _____.
5
- Q.7 Explain (**any two**):
a) Winterization.
b) Caramelization.
c) Homogenisation.
5
- Q.8 Describe the process of post-mortem changes in meat.
5
- Q.9 What are the losses of nutrients that occur during cooking of vegetables?
5
- Q.10 Describe the role of egg in cookery.
5
- Q.11 Write notes on the following:
a) Germination.
b) Fermentation.
2½x2

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Sixth Semester
INSTITUTIONAL FOOD ADMINISTRATION (BND-602)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Discuss storage space in food service institutions in detail.
10
- Q.2 What do you understand by costing? Explain different types of costing.
10
- Q.3 Explain the steps involved in staff employment.
10

Q.4 What do you mean by 'standard recipes'? Give the benefits of standardized recipes. **10**

PART-B

Q.5 Write down the points to be kept in mind while selecting and buying of spices and condiments.
5

Q.6 Explain the term "Table Decoration".
5

Q.7 Explain points to be considered while planning of institutional kitchen and equipments.
5

Q.8 What are the points to be considered while doing table setting?
5

Q.9 Explain the history of development of food service institutions.
5

Q.10 Give the advantages of meal management.
5

Q.11 Write a short note on "Storage of Food".
5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Fifth Semester

MARKETING MANAGEMENT (BPT-002)

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**. Each question carries equal marks.

Q.1 Answer the following:
a) What is marketing?

- b) What is positioning?
 - c) Name any five products that use age on basis of segmentation.
 - d) Mention any two functions of Human Resource Management.
 - e) Explain the elements of marketing mix.
- 2×5**

PART-A

- Q.2 Name and explain the various functions of management.
10
- Q.3 What is recruitment? Describe the detailed process of selection
10
- Q.4 Write short notes on:
a) Employee discipline.
b) Performance appraisal.
10

PART-B

- Q.5 What is market segmentation? Explain the various bases of market segmentation in detail.
10
- Q.6 What is consumer behavior? What are the factors that affect consumer behavior? **10**
- Q.7 What do you understand by quality management? Explain some quality assurance programs in hospitals.
10

End Semester Examination, Dec. 2017

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

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**. Each question carries equal marks.

- Q.1 Answer the following:
a) What is management?

- b) What is consumer behavior?
 - c) Name any five products that use age as basis of segmentation.
 - d) Two benefits of consumer behavior.
 - e) Four ways of promotion.
- 2×5**

PART-A

Q.2 Write short notes on:

- a) Planning.
- b) Organizing.
- c) Directing.
- d) Controlling.

10

Q.3 What is recruitment? Explain the complete process of recruitment.

10

Q.4 What is the staffing function of management? Write briefly about performance appraisals.

10

PART-B

Q.5 What is market segmentation? Briefly explain the bases of segmentation.

10

Q.6 What is marketing? Explain the elements of marketing-mix (product, price, place, promotion).

10

Q.7 What is quality management? Explain hospital as an organization.

10

End Semester Examination, Dec. 2017
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.

Note: Draw labeled diagram, wherever necessary.

Q.1 Describe the radial nerve under following headings:

- a) Course.

- b) Branches.
- c) Distribution.
- d) Applied anatomy. **5×4**

PART-A

- Q.2 Write short notes on:
- a) Morphological classification of bones.
 - b) Differences between arteries and veins.
 - c) Differences between Skeletal, smooth and cardiac muscles.
 - d) Different types of cartilages. **5×4**
- Q.3 Describe briefly the following:
- a) Arterial supply and venous drainage of heart.
 - b) Synovial joints. **10×2**
- Q.4 Describe origin insertion, nerve supply and action of following muscles:
- a) Deltoid.
 - b) Triceps brachii.
 - c) Soleus.
 - d) Tibialis anterior. **5×4**

PART-B

- Q.5 Describe knee joint under following headings:
- a) Type of joint.
 - b) Articular surfaces.
 - c) Ligaments, nerve supply.
 - d) Possible movements and muscles responsible for these movements.
 - e) Applied anatomy. **4×5**
- Q.6 Write short notes on:
- a) Carpel tunnel syndrome.
 - b) Femoral triangle.
 - c) Erb's paralysis.
 - d) Rotator cuff. **5×4**
- Q.7 Write short notes on:
- a) Cubital fossa.
 - b) Wrist drop.
 - c) Foot arches.
 - d) Popliteal fossa. **5×4**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – First Semester
PHYSIOLOGY-I (BPT-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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) What is endocytosis?
 - b) Write about intercellular connections.
 - c) What are the different types of haemoglobins present?
 - d) What is APLON?
 - e) What is Kupffer cells?
 - f) What is law of intestine?

- g) What is force-velocity relationship of muscle?
 - h) What is all or none law?
 - i) What do you mean by vagus escape?
 - j) Define 'Marey's Law'.
- 2x10**

PART-A

Q.2 With a neat diagram describe the different organelles of a cell. How action potential generated and what are the molecular phenomenon occurred during the action potential?
20

Q.3 Describe the function of Saliva and Liver. How small intestine moves?
20

Q.4 With a neat diagram describe the NM Junction transmission. Classify muscles in different way.
20

PART-B

Q.5 Describe the blood coagulation process with schematic diagram. Write about different types of anemia.
20

Q.6 Describe the excitability and action potential of heart. What is the difference between skeletal and cardiac muscle? Describe the cardiac cycle.
20

Q.7 Define blood pressure. How it can be regulated? Write about coronary circulation. **20**

End Semester Examination, Dec. 2017
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**. All questions carry equal marks.

- Q.1 Answer the following:
- a) Which cell organelle is called as Power House of cell and why? Explain its structure and functions.
 - b) Define Metabolism. Also, mention its types with examples.

- c) What are other names of Krebs cycle? Justify various nomenclatures of it.
d) Define Acids and Bases, with major examples.
e) What are Micronutrients? Give any five examples.
4x5

PART-A

- Q.2 Why Glycolysis is a major metabolic pathway in carbohydrate metabolism? Write its reactions in detail.
20
- Q.3 What is stored form of energy? Which Metabolic Pathway is meant for storing glucose and how? Explain all its steps in detail.
20
- Q.4 How are Proteins classified? Write all its types with proper examples. Also, mention its functions.
20

PART-B

- Q.5 What are Enzymes? How are they classified? Explain its types with examples. Also explain various models of Enzyme classification.
20
- Q.6 How are vitamins important for our body? Write the role of vitamin A, D, E and K. Also, mention what will be the deficiency disorders related to these vitamins.
20
- Q.7 What are liver function tests? How liver functioning can be checked? Mention all the tests related to liver and kidney.
20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy - First Semester

SOCIOLOGY (BPT-104A)

Time: 2hrs
50

Max Marks:

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 Answer the following:
a) Define 'juvenile delinquency'.

- b) What are different types of social groups?
- c) What is social security?
- d) Enumerate social factors affecting health and disease.
- e) What is social control?

2×5

PART-A

- Q.2 Write about the importance of studying sociology for healthcare professionals. **10**
- Q.3 Discuss various problems faced by women in employment. How does it affect health?
10
- Q.4 Discuss the influence of nuclear and joint families on health of an individual. **10**

PART-B

- Q.5 Define social change. Discuss various factors affecting social change.
10
- Q.6 What are population explosion and unemployment? Discuss its causes, effects on health and its remedies.
10
- Q.7 What is socialization? What are different types and agencies of socialization? **10**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – First Semester
FUNDAMENTALS OF PHYSIOTHERAPY (BPT-105)

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 **Write short notes on following:**
- a) Transistors.
 - b) Hooke's Law.
 - c) Ohm's Law.

- d) Condensers.
- e) Work and Energy.
- f) Centre of Gravity.
- g) Centre of Buoyancy.
- h) Pulley and its examples.
- i) Fuse.
- j) Conductors and Insulators.

2x10

PART-A

Q.2 What is Electromagnetic Spectrum? Explain uses and practical application of all radiations.

20

Q.3 What is Electric Shock? Explain along with its managements, dangers and precautions to prevent it.

20

Q.4 a) Draw circuit diagram for SWD and VS.

10

b) Explain physical principles of ultrasound and superficial and deepheat.

10

PART-B

Q.5 Define axes and planes of body. Classify them and explain different movements around these axes and planes.

20

Q.6 Write in detail about classification of joints along with movements taking place at joints.

20

Q.7 What is Hydro Therapy? Give its principles in detail along with its uses.

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy — First Semester

FUNDAMENTALS AND PHILOSOPHY OF YOGA (BPT-106)

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**. Each questions carry equal marks.

Q.1 **Answer the following in brief:**

- a) Give the principle of Yoga.
- b) Meaning of Hatha Yoga.

- c) Benefits of Yoga.
- d) Importance of Yoga in today's world.
- e) Concept of Bhakti Yoga.

2×5

PART-A

- Q.2 a) Discuss the importance of Yoga.
5
b) Throw light on the History and development of Yoga.
5
- Q.3 Explain the pre-requisites of Hatha Yoga. Also, add a note on aim, objectives and misconceptions related to practice of Yoga.
10
- Q.4 a) Discuss the psychological aspects and mythological concepts of Yoga.
5
b) Explain the Concept of Yoga according to Upanishads and Puranas.
5

PART-B

- Q.5 What are the various types of Yoga? Throw light on the eight limbs / commandments to be followed in order to practice Yoga.
10
- Q.6 Explain the philosophical Foundations of Patanjali Yoga and Hatha Yoga.
10
- Q.7 a) Discuss the Inter-relationship between Bhakti-Yoga and Karma-Yoga.
5
b) Discuss briefly Karma Yoga.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy-Second Semester
ANATOMY-II (BPT-201)

Time: 3 hrs
100

Max Marks:

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 **Fill in the blanks:**

- a) The type of joint that is distinguished by having a fluid filled joint cavity is a _____ joint.
- b) Kidney is located in _____ of abdomen.
- c) Two cerebral hemispheres join by a bundles of white fibers known as _____.
- d) _____ passing through foramen transversarium.
- e) All the extra ocular muscles of eye ball are supplied by _____ except _____ and _____ which is supplied by _____.
- f) Epithelium of oral cavity is _____.
- g) _____ is the only nerve which is arising from posterior surface of brainstem.
- h) Segmental level of cervical enlargement is _____.
- i) Brain is supplied by _____ and _____ artery.
- j) Collection of cell bodies of the neurons outside the central nervous system is _____.

2x10

PART-A

Q.2 Write short notes on:

- a) Lymphatic drainage of Axilla.
- b) Motor and sensory aphasia.
- c) Blood supply of spinal cord.
- d) Connection of hypothalamus.

5x4

Q.3 Describe cerebellum under following headings:

- a) Parts and lobes.
- b) Nuclei.
- c) Division of vermis.
- d) Applied (clinical anatomy).

5x4

Q.4 a) Write a short note on nuclei, function and clinical anatomy of Thalamus.

10

b) Describe the fiber types, nuclei and distribution of all cranial nerve.

10

PART-B

Q.5 Write short notes on:

- a) Structure of Nephron.
- b) Klienfeltris syndrome.
- c) Circulation of CSF (cerebrospinal fluid).
- d) Oogenesis.

5x4

Q.6 Write short notes on:

- a) Cavity of middle ear.
- b) Floor of Rhomboid fossa.

10x2

Q.7 Write in detail about urinary bladder nerve supply and clinical anatomy.

20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
PHYSIOLOGY-II (BPT-202)

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 Answer the following:

- a) How testosterone helps in sex differentiation?
- b) What is physiological and anatomical dead space?

- c) State the centre from where neural regulation of respirations occur?
- d) During deep sleep which EEG rhythm could be seen.
- e) State atleast four differences between sympathetic and parasympathetic nerve.
- f) Extra glomerular mess angial cells secrete which kidney hormone.
- g) Define 'addison's disease'.
- h) Goiter, cretinism and myxedema seen in which hormone abnormalities?
- i) What is asphyxia and atelectasis?
- j) Write about AGEUSIA.

2x10

PART-A

- Q.2 With a detailed diagram describes the muscle spindle structure and its nervous supply. Mention its function during stretch reflex and maintenance of tone. **20**
- Q.3 With a net diagram describe the visual pathway. State the theories of color visions. **20**
- Q.4 Describe the structure of J-G apparatus and also describe its functions in different level. **20**

PART-B

- Q.5 Discuss the applied physiology of pituitary, thyroid and pancreatic hormone. Why catecholamines are named so? **20**
- Q.6 Discuss in details about the fertility control in various methods? Discuss the functions of estrogen and progesterone hormone in female preprodnitive organs. **20**
- Q.7 What is bucket handle and pump handle movement? How neural and chemical regulations of respiration take place in our body? What is compliance of lung and work of breathing? What do you mean by hyper and hypocapnia? **20**

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Second Semester

ELECTROTHERAPY-I (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**. Each question carries equal marks.

- Q.1 Answer the following:

- a) What is Motor Point?
- b) What is Nerve Accommodation?
- c) What is brief intense TENS?
- d) Classify Nerve.
- e) Define acute and chronic pain.
- f) What is Resting Membrane Potential?
- g) What are medium frequency currents with example?
- h) What is SD curve?
- i) What are factors affecting Rheobase and Chronaxie?
- j) What is Refractory period?

2x10

PART-A

- Q.2 a) What are Galvanic Currents? Explain contraindications and precautions for use of currents.
10
- b) Explain technique of application of Galvanic type of current, explain preparation of patient and testing of machine.
10
- Q.3 a) Explain Faradaic type of current along with therapeutic effect of Faradaic current. **10**
- b) Explain technique for pelvic floor stimulation.
5
- c) What is electromyography?
5
- Q.4 a) What is TENS? Explain various modes of TENS and technique for TENS. Give its indication, contraindication and precaution of TENS.
10
- b) Explain Gate Control theory for pain modulation at different level.
10

PART-B

- Q.5 a) What is IFT? Explain contraindication and therapeutic effect of IFT.
10
- b) Explain various treatment parameters for IFT:
- i) Amplitude modulated frequency.
 - ii) Frequency Sweep
 - iii) Quadrepolar/Bipolar application.
 - iv) Vector/Scanning mode.
- 10**
- Q.6 a) Explain Sunderland classification for nerve lesion.
10
- b) Explain how action potential travels through nerve in detail.
10
- Q.7 a) What is SD curve? Explain curves for different nerve lesion.
10
- b) What is NCV? Explain NCV for motor and sensory nerve.
10

End Semester Examination, Dec.2017
Bachelor of Physiotherapy – Second Semester
EXERCISE THERAPY-I (BPT-204)

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 Answer the following:
- What is Thomas Test?
 - Write about circuit weight training.

- c) Procedure to increase end range knee extension.
- d) Enumerate types of stretching.
- e) Define 'break test'.
- f) Classify movements.
- g) List uses of finger ladder.
- h) Define 10 RM.
- i) List principles of manual muscle testing.
- j) What are different parts of Goniometer? Write their use as well.

2x10

PART-A

- Q.2 a) Write about determinants of stretching. Also, describe types and effects of stretching.

10

- b) Explain how will you increase hip flexion range of motion, using stretching technique?

10

- Q.3 a) Differentiate between manual resistance and mechanical resistance exercises. **10**

- b) What is the principle of resistance? Explain in detail the techniques of resistance exercises.

10

- Q.4 Explain how will you test the strength for Trunk and Scapular muscles?

20

PART-B

- Q.5 Explain how will you test range of motion for hip joint and knee joint?

20

- Q.6 What is PRE? Explain Re-education techniques on various muscle groups of upper limb.

20

- Q.7 What are fundamental and derived positions? Explain with examples

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Second Semester

ENVIRONMENTAL STUDIES (BPT-205)

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**. Each question carries equal marks.

- Q.1 Define the following:

- a) Human rights.
- b) Population explosion.
- c) Noise pollution.
- d) Scope of environmental studies.
- e) Women and child welfare.

2×5

PART-A

Q.2 What do you mean by biodiversity? Classify various types of it with examples. What is the value of it?

10

Q.3 Define 'air pollution'. What are the causes, effects and control measures of it?

10

Q.4 Explain how growing population is affecting the environment? How can we control it?

10

PART-B

Q.5 What is the role of information technology in environment and human health? Write the benefits and drawbacks of technology on health.

10

Q.6 What are the causes, effects and control measures of noise pollution?

10

Q.7 What are water resources? How these are used by living beings? Write any ten uses of it with proper examples.

10

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy–Third Semester

PHARMACOLOGY (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on:**

- a) Define Pharmacokinetics.

- b) What are the advantages of parenteral routes of drug administration?
- c) What are the advantages of Nitrous Oxide?
- d) What are routes of excretion of drugs?
- e) Define drug tolerance.
- f) Describe stages of anesthesia.
- g) What is an opioid analgesics?
- h) Name hormones secreted by the anterior pituitary gland.
- i) Define a disinfectant.
- j) Name the four main first line drugs of tuberculosis.

2x10

PART-A

Q.2 Write a note explaining various adverse effects of drugs.
20

Q.3 Write a note on various anti parkinsonian drugs.
20

Q.4 Write a note on drugs used in heart failure.
20

PART-B

Q.5 Write a note on anti-malarial drugs.
20

Q.6 Write a note on anti-rheumetoid and anti-gout drugs.
20

Q.7 Write notes on:
a) Chelating Agents.
b) Role of Vitamin K.
10x2

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy-Third Semester
PATHOLOGY AND MICROBIOLOGY (BPT-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.1 Write short notes on the following:

- a) Fatty liver.
- b) Granuloma.
- c) Osteosarcoma
- d) Dysplasia.
- e) Types of shock.
- f) Autoclave.
- g) Bacterial cell wall
- h) Immuno

globulins.

- i) Bacterial growth curve.
- j) Bacterial exotoxins and endotoxins.

2x10

PART-A

Q.2 Define inflammation. Give cardinal signs of acute inflammation. Discuss the vascular and cellular events of inflammation along with its fate.
20

Q.3 Define carcinogenesis. Discuss chemical and viral carcinogenesis in detail.
20

Q.4 Define and classify Anaemias. Explain in detail the etiology pathogenesis, clinical features and laboratory findings of Iron deficiency Anaemia.
20

PART-B

Q.5 Write the pathogenesis and laboratory diagnosis of typhoid.
20

Q.6 Write the structure of HIV, mode of transmission, laboratory diagnosis and post exposure prophylaxis.
20

Q.7 Give a detailed account of pathogenesis and laboratory diagnosis of syphilis.
20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy-Third Semester

ELECTROTHERAPY-II (BPT-303)

Time: 3 hrs
100

Max Marks:

No. of pages:

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 Answer the following:
- a) Write the molecular theory of Magnetism.
 - b) What is Lenz's law?
 - c) What is Joule's law?
 - d) Give one advantage of combination therapy.
 - e) Enumerate two methods of application of ultrasonic therapy.
 - f) Write a short note on fluidotherapy.
 - g) Why should therapist and patient protect their eyes while applying laser therapy?
 - h) Why is moving of the ultrasonic head applicator important when using the continuous mode of application?
 - i) 'A patient with metallic implant in both the knee joints can be given SWD'. State whether its True/False. Give reason, in support of your answer.
 - j) Write a note on Hydrocollator Packs.
- 2x10**

PART-A

- Q.2 a) Describe the physiological effects of UVR.
10
- b) Write the method of calculation for UVR Test Dose.
5
- c) Write a note on PUVA.
5
- Q.3 a) Write the therapeutic effects of SWD.
7
- b) Describe the method of application of SWD to the back and knee joint of a patient. **7**
- c) Write the effect of ultrasonic therapy on tissues.
6
- Q.4 a) Explain the production of therapeutic ultrasound. (Use appropriate diagram) **10**
- b) Write the contraindications of Cold Therapy and Laser Therapy.
10

PART-B

- Q.5 a) Discuss the application of Biofeedback on Muscle-re-education.
10
- b) Discuss the principles of Combination Therapy. Give an appropriate example. **10**
- Q.6 a) Discuss the physiological application of local effects of Cold Packs.
10
- b) Write the contra-indications of MWD.
5
- c) Write the method of application of LWD to the neck region.
5

Q.7 a) Write the classification of Laser Therapy.

5

b) Discuss the types of IRR lamps. Enumerate the therapeutic effects of IRR. List two precautions while IRR application to patients.

15

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy-Third Semester

EXERCISE THERAPY-II (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**. Each question carries equal marks.

- Q.1 Explain in brief:
- a) Two point gait.
 - b) Fatigue.
 - c) Anterior pelvic tilt.
 - d) Gluteus medius gait.
 - e) PNF upper limb patterns.
 - f) Axial suspension.
 - g) Hemiplegic gait.
 - h) Crutch palsy.
 - i) Coordination.
 - j) Local relaxation.
- 2x10**

PART-A

- Q.2 Explain types of crutches and its measurement.
20
- Q.3 Define 'relaxation and fatigue'. Explain various techniques of relaxation.
20
- Q.4 Explain muscles responsible for normal gait cycle.
20

PART-B

- Q.5 Explain slow reversal and hold relax technique of proprioceptive neuromuscular facilitation.
20
- Q.6 Explain postural drainage.
20
- Q.7 Explain in detail types of suspension.
20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
MEDICINE (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on the following:
a) Candidiasis.
b) LFT.
c) Jaundice.
d) Insulin.
e) Immuno Compromised Patient.
4x5

PART-A

- Q.2 Define 'Thyrotoxicosis'. What are the clinical features of Thyrotoxicosis? Mention the treatment in detail.
20
- Q.3 Define 'pneumonia'. What are the types of pneumonia? Mention clinical features and it's treatment in detail.
20
- Q.4 What is nephrotic syndrome? Explain clinical features and its treatment in detail. **20**

PART-B

- Q.5 What is conjunctivitis? Write in detail the types, clinical features, etiology and treatment of conjunctivitis.
20
- Q.6 Define 'Otitis Media'. Explain the types, clinical features and treatment of Otitis Media.
20
- Q.7 What is hepatic encephalopathy? What are the precipitating factors of hepatic encephalopathy? Mention the important investigations and treatment of hepatic encephalopathy.
20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
SURGERY INCLUDING GYNAECOLOGY AND OBSTETRICS (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on:
- Carbuncle.
 - Types of incisions.
 - Complications of colostomy.
 - Difference between 'FCAP' and 'GRAFT'.
 - Permanent methods of contraception (Names).
 - Types of low birth babies.
 - Define stage three of normal labor.
 - What are the types of Anesthesia?
 - What are the degrees of burns?
 - Define 'Puerperium'.
- 2x10**

PART-A

- Q.2 Write a note on history taking and examination of a surgical patient.
20
- Q.3 Write a note on care of a surgical patient before surgery (important investigations and post-operative care).
20
- Q.4 What is a wound? What are its types and explain the treatment of various wounds? **20**

PART-B

- Q.5 Write a note on physiological changes seen during pregnancy in each trimester. **20**
- Q.6 What is the definition of the following?
- Lochia.
 - Grand Multipara.
 - Para and gravida.
 - Types of high risk pregnancies.
 - Physiological changes in breast in pregnancy.
- 4x5**
- Q.7 Write notes on:
- Carcinoma cervix and cervicitis.
 - Ectopic pregnancy.
- 10x2**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
BIOMECHANICS AND KINESIOLOGY (BPT-403)

Time: 3 hrs

Max Marks: **100**

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 Write short notes on:
- What are the different types of muscle fibre?
 - What is pulley?
 - Name the rotator cuff muscles.
 - Name the carpal bones.
 - What is the orientation of plane of scapula?
 - Give examples of a fibrous and a cartilaginous joint.
 - What is open kinematic chain and close kinematic chain exercise?
 - Differentiate between open pack and loose pack position of joint.
 - What is carpal tunnel?
 - What is the normal ROM of forearm pronation and supination?
- 2x10**

PART-A

- Q.2 a) Write a note on Newton's Laws of Motion. Give examples.
10
- b) Define equilibrium. What are the different types of equilibrium? Explain the factors on which equilibrium depends.
10
- Q.3 a) What are the different types of muscle contraction? Explain.
10
- b) Classify muscles according to the orientation of muscle fibre with appropriate diagrams.
10
- Q.4 Describe in detail the biomechanical properties of viscoelastic structures.
20

PART-B

- Q.5 Explain the structure of articular surfaces, ligaments, muscles and ROM of Glenohumeral joint. What do you mean by Gleno-humeral rhythm? Give its importance.
20
- Q.6 What is the structure and ROM of elbow joint? Write down the biomechanics of elbow joint.
20
- Q.7 Explain in detail the different types of human grasps.
20

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 Write short notes on:

- a) What are the intrinsic muscles of hand?
- b) Write down Newton's first Law of Motion.
- c) What do you mean by scalar and vector quantity?
- d) Name the various ligaments of elbow complex.
- e) What is negative ulnar variance?
- f) What are the factors affecting motion?
- g) Classify Diarthrosis.
- h) Write briefly about Eccentric contraction of muscles.
- i) What are the angles of inclination and angle of version of humeral head?
- j) Write briefly about concave-convex rule.

2x10

PART-A

Q.2 Define 'equilibrium'. Give its classification and factors affecting equilibrium.

20

Q.3 Write about the articulating surfaces, ligaments, muscles and normal ranges of motion of glenohumeral joint.

20

Q.4 Classify muscles according to the arrangement of its fibres. Differentiate between Type-I and Type-II fibres.

20

PART-B

Q.5 What do you mean by stress, strain and young's modulus? Explain the stress-strain curve in detail with appropriate diagram.

20

Q.6 Discuss the kinematics of elbow complex. Explain the load distribution at the elbow. **20**

Q.7 a) What do you mean by Ulnar variance? Describe its types.

10

b) Write about the arches of hand.

10

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy - Fourth Semester

PSYCHOLOGY AND PSYCHIATRY (BPT-404)

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 Answer the following:
- What is unconditional and instrumental learning?
 - Explain balance theory of attitude.
 - What is Anterograde Amnesia?
 - Draw a labeled diagram of eye.
 - Write a short note on ECT.
 - Explain psychosomatic illness.
 - Write a short note on drug misuse.
 - Explain phobias.
 - What is behavior therapy?
 - Explain hurdles to problem solving.
- 2x10**

PART-A

- Q.2 Define 'mania'. Write difference between 'bipolar-I' and 'bipolar-II disorder'.
20
- Q.3 a) Explain Erikson psychosocial theory for development.
10
b) Explain theory of ageing and death in detail.
10
- Q.4 a) Write a short note on 'neuron and nerve transmission'.
10
b) How does nervous system guide behavior in human beings?
10

PART-B

- Q.5 a) Explain various type of social motives.
10
b) What is frustration? Explain different type of conflict.
10
- Q.6 Define 'OCD (Obsessive Compulsive Disorder)'. What are etiological factors of OCD? Write treatment of OCD.
20
- Q.7 a) What are emotions? Explain various theories of emotions.
10
b) Explain learning, throwing light on Pavlov experiment. Explain conditioned, unconditioned and neutral stimulus.
10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy — Fourth Semester
ETHICS AND ADMINISTRATION (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on:
- Expand IAP and DCPTOT.
 - Define 'communication and its types'.
 - Confidentiality.
 - Importance of staffing.
 - Define 'CUPRA'.
 - Types of referral.
 - Methods of filling.
 - History of physiotherapy-timeline.
 - Importance of records maintenance.
 - Define 'correspondence and its types'.
- 2x10**

PART-A

- Q.2 Describe the various medico-legal laws applicable to medical practice in India. **20**
- Q.3 Discuss the relationship of physiotherapist with:
- Patient.
 - Other therapist.
 - Other medical professional.
- 20**
- Q.4 What are the points to be kept in mind while planning for setting up of a new physiotherapy clinic centre? Discuss under various heads. **20**

PART-B

- Q.5 Define 'planning'. Explain in detail about planning cycle with examples. What do you understand by planning change? **20**
- Q.6 Write in detail about:
- Points to be kept in mind for a job interview. **7**
 - How do you plan for development of your career? **7**
 - Discuss the importance of time management. **6**
- Q.7 Describe in detail about:
- Scope of professional practice.
 - Provision of services and advertising.
 - Education standards in physiotherapy.
 - Transparency and responsibility.
- 5x4**

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Fifth Semester
ORTHOPEDICS (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on:**

- a) Define Fractures.
- b) Myocytis Ossificans.
- c) Coxa Vera.
- d) Tennis Elbow.
- e) Signs and symptoms of fractures.
- f) Volkman's Ischemic Contractures.
- g) Ganglion.
- h) Carpel Tunnel Syndrome.
- i) Septic Arthritis.
- j) Define Osteotomy.

2x10

PART-A

Q.2 Explain the treatment, including on-the-spot, in emergency and definitive in case of closed fractures.

20

Q.3 Write notes on initial treatment of:

- a) Polytrauma.
- b) Spinal Injury.

10x2

Q.4 Write a note on definition, features, types and treatment of dislocation.

20

PART-B

Q.5 Write notes on:

- a) Sprengel's shoulder.
- b) Pyogenic Arthritis.
- c) Meningomyelocele.
- d) Osteogenesis Imperfecta.

5x4

Q.6 Explain the clinical features and management of:

- a) Cartilage Dysplasia.
- b) Congenital Torticollis.

10x2

Q.7 Write notes on:

- a) Spina Bifida.
- b) Multiplex Congenita.

10x2

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy — Fifth Semester
ORTHOPAEDIC PHYSIOTHERAPY (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**. Each question carries equal marks.

Q.1 Answer the following briefly:

- a) Define scoliosis.
- b) Define Colles' fracture.
- c) Define plantar fasciitis.
- d) Define Dupuytren's contracture.
- e) Define trigger finger.
- f) Define Pott's disease.
- g) Define Arthroplasty.
- h) Enlist the components of patient assessment sheet.
- i) Differentiate between OA and RA.
- j) Define Osgood - Schlatter's disease.

2×10

PART-A

Q.2 Describe PT management of fracture in terms of impairments, goals and intervention. Also, describe the precautions thereof. **20**

Q.3 What do you understand by club foot? Describe its components. Discuss its signs and symptoms along with PT management. **20**

Q.4 Discuss the causes, signs and PT management for radial nerve injury above elbow. **20**

PART-B

Q.5 Describe the pathophysiology, clinical manifestations, diagnostic tests and PT management for PIVD. **20**

Q.6 Describe clinical symptoms, diagnostic tests and PT management for frozen shoulder. **20**

Q.7 a) Discuss the components of pre-prosthetic assessment. **5**

b) Discuss various parts of prosthesis. **15**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fifth Semester
APPLIED BIOMECHANICS, KINESIOLOGY AND ERGONOMICS
(THEORY) (BPT-503)

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 **Write short notes on the following:**

- a) Name the ligaments of HIP joint.
 - b) Angle of Toe Out.
 - c) Define Ergonomics.
 - d) FSU.
 - e) Importance of Inter Vertebral Disc.
 - f) Functions of Spine.
 - g) Name the Ligaments of Ankle Joint.
 - h) Hemiplegic Gait.
 - i) Hallux Varus.
 - j) Femoral Neck Shaft Angle.
- 2x10**

PART-A

Q.2 Answer the following:

- a) Kinematics of Knee joint.
10
- b) Add a note on Screw Home mechanism of knee.
5
- c) Importance of Menisci in knee.
5

Q.3

- a) Define Posture. Name the various assessment methods of assessing the posture. **5**
- b) Factors affecting posture.
10
- c) Name the postural deviations seen in posterior view.
5

Q.4 Define GAIT. What are the different phases of GAIT? Explain the determinants of GAIT, in detail.
20

PART-B

Q.5

- a) Describe the physiological risk factors related to musculoskeletal disorders in Business and Industry.
10

b) Mention the stages of musculoskeletal disorders related to physiological risk factors.

10

Q.6 a) Mention the risk factors associated with gardening.

10

b) Mention the ergonomic designs for gardening.

10

Q.7 a) What are the ergonomic recommendations for lifting children?

10

b) Describe the ergonomics required for bathing and dressing the child.

10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fifth Semester
CONSULTATION AND SCREENING (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on the following:**

- a) Importance of consultation and screening.
- b) Importance of communication in screening.
- c) Name four pain assessment tools or scales.
- d) What are open ended and closed ended questions?
- e) Enumerate characteristics of pain.

2×5

PART-A

Q.2 Explain WCPT's ethical principles for physiotherapy practice.

10

Q.3 What is subjective examination? Why is it important for a physiotherapist to do a thorough subjective examination?

10

Q.4 Explain assessment of vital signs and its importance.

10

PART-B

Q.5 Discuss various parameters for skin assessment.

10

Q.6 Discuss systemic versus musculoskeletal pain patterns.

10

Q.7 What are six major areas to assess in neurological system? Explain in detail.

10

End Semester Examination, Dec. 2017
 Bachelor of Physiotherapy- Second Semester
FOREIGN LANGUAGE (SPANISH) (BPT-GE-01)

Time: 2hrs

Max Marks: **50**
 No. of pages: 2

Note: Attempt any five questions.

Q.1 Completa las frases con la conjugacion correcta del verbo SER (Complete the following sentences with the form of SER):

- a) Usted _____ muy amable.
- b) Carlos _____ alto y guapo.
- c) Vosotros _____ estudiantes.
- d) Ellos _____ estudiantes nuevos.
- e) Maria y yo _____ cubanos.
- f) Carlos y Pedro _____ ricos.
- g) Yo _____ una persona inteligente.
- h) Nosotros _____ alumnos buenos.
- i) Ana, María y yo _____ amigas.
- j) Yo _____ una persona inteligente.

1x10

Q.2 Relaciona (Match the following)

1. Médico	a. Lawyer
2. Enfermero	b. Police
3. Policía	c. Waiter
4. Pintor	d. Mechanic
5. Cocinero	e. Teacher
6. Camarero	f. Doctor
7. Arquitecto	g. Cook/chef
8. Mecánico	h. Architect
9. Abogado	i. Nurse
10. Maestro	j. Painter

10

Q.3 Escribe la conjugacion del verbo ESTUDIAR:

Yo	Estudio

10

Q.4 Traduce las siguientes palabras. Translate the following words

- a) Noviembre

- b) Febrero
- c) Marzo
- d) Abril
- e) Julio
- f) Agosto
- g) Septiembre
- h) Domingo
- i) Lunes
- j) Amarillo

10

Q.5 **Escribe los números en español (Write the nos. in Spanish)**

- a) 6
- b) 1
- c) 5
- d) 10
- e) 11
- f) 15
- g) 20
- h) 12
- i) 7
- j) 13

1x10

Q.6 **Responde a las preguntas. Answer the questions.**

- a) ¿Cómo está Jose?/ enfermo - José está enfermo.
- b) ¿Cómo está usted?/ cansada-
- c) ¿Cómo estáis vosotros?/ bien-
- d) ¿Cómo están Pilar y Carmen?/ resfriadas-
- e) ¿Cómo está la habitación?/ desordenada-
- f) ¿Cómo están ustedes?/ cómodos-
- g) ¿Cómo estás tú?/ no bien-
- h) De donde eres tú?/ Inglaterra
- i) ¿Estudia usted informática? la medicina
- j) ¿Ella estudia español para viajar? francés
- k) ¿Es Juan periodista? maestro

10

Q.7. Preséntate en español (Introduce yourself in Spanish five sentences)

10

Q.8. **Rellena los campos con la forma correcta del verbo ESTAR. Fill in the blanks with correct form of ESTAR:**

- a) María y Ana _____ en Colombia.
- b) Él _____ enfermo.
- c) Nosotras _____ en la misma clase.
- d) Yo _____ triste (sad) hoy.
- e) Tú y yo _____ en Arkansas.
- f) ¿Cómo _____ la chica rubia?
- g) Ustedes _____ muy contentas.
- h) ¿Cómo _____ los alumnos cubanos?
- i) José y Miguel _____ cansados.
- j) ¿Dónde _____ tú?

10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - Second Semester

PERSONALITY DEVELOPMENT PROGRAM (BPT-GE-02)

Time: 3 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**. Each question carries equal marks.

Q.1 Write short notes on **(any two)** of the following:

a) Qualities of an effective counsellor.

b) Benefits of positive attitude.

c) Seven habits of highly effective people by Stephen R. Covey.

5x2

PART-A

Q.2 What is time management? Why is it important for your career? How can you manage your time well?

10

Q.3 What is career planning? How does self-assessment help you in effective career planning?

10

Q.4 What is negotiation? Explain the negotiating process.

10

PART-B

Q.5 What are the various competencies desired by the organizations? Explain how you will answer and respond to competency related questions?

10

Q.6 Explain barriers to effective persuasion.

10

Q.7 Define 'empathy'. How you can use the power of empathy in healing someone?

10

End Semester Examination, Dec. 2017

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

HEALTH PSYCHOLOGY (BN&D-001)

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**. Each question carries equal marks.

Q.1 Define eating disorder. Explain eating disorder with management in detail.
10

PART-A

Q.2 Define adherence. Explain the model of adherence, in detail.
10

Q.3 Explain Health belief model.
10

Q.4 Define the following:
a) Health psychology.
b) Disease prone personalities.
c) Community psychology.
d) Illness and wellness.
e) Alcoholism.
2x5

PART-B

Q.5 Define stress, stressors and factors leading to stress.
10

Q.6 Define Health Psychology. Write the importance of health psychology in Nutrition and Dietetics.
10

Q.7 Define the following:
a) Placebo and Pain effect
b) Stressors
c) Medical Ethics
d) Addiction
e) Health and Personality
2x5

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Third Semester
HEALTH PSYCHOLOGY (BN&D-001)

Time: 3 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**. Each question carries equal marks.

Q.1 What is Health Psychology? Explain in detail fields of Health Psychology.
10

PART-A

Q.2 Explain any two models of Health Behavior in detail.
10

Q.3 Define adherence. Explain the model of adherence.
10

Q.4 Define the following:
a) Wellness.
b) Coping .
c) Conflict.
d) Eating disorders.
e) Placebo and pain.
2x5

PART-B

Q.5 Define stress. Describe its type, symptoms and coping technique in detail.
10

Q.6 What is Alcoholism? Explain the health risk associated with drinking.
10

Q.7 Explain the following:
a) Anorexia Nervosa.
b) Dimensions of wellness.
c) Bulimia Nervosa.
d) Mind-Body reciprocal relations.
x4

2½

End Semester Examination, Dec. 2017

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

WEIGHT MANAGEMENT (BN&D-002)

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**. Each question carries equal marks.

Q.1 How is lifestyle modification linked with improving health of an individual?
10

PART-A

Q.2 What are the causes and types of obesity?
10

Q.3 Explain the theories related to weight management in detail.
10

Q.4 a) Define underweight, overweight and obesity.
5
b) Describe the methods of assessing obesity.
5

PART-B

Q.5 Explain the stress-reduction techniques in detail.
10

Q.6 Discuss the different types of diets.
10

Q.7 What are the different types of exercises that help in reducing weight?
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fifth Semester

SCIENTIFIC WRITING (BN&D-003)

Time: 3 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**. Each question carries equal marks.

Q.1 Define Research. Explain in detail the research process

10

PART-A

Q.2 What is scientific writing? Explain how scientific writing enables in writing scientific paper.

10

Q.3 What is the difference between plagiarism and misconduct? Also explain the importance of research in modern times.

10

Q.4 Define the following:

- a) Outline.
- b) Random sampling.
- c) Synopsis.
- d) Scientific paper.
- e) Review of literature.

5x2

PART-B

Q.5 Write the layout of a scientific paper. What are the guidelines to be kept in mind while writing references in scientific paper?

10

Q.6 Explain in brief sentence outline and topic outline by giving suitable example.

10

Q.7 Explain the following:

- a) JMRA D.
- b) Non probability sampling.
- c) Layout of Poster.
- d) Research Methodology.

2½x4

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 Explain the following with appropriate examples:

- a) Binary fission.
- b) S.I. unit of length and volume.
- c) Nucleus.
- d) Cytoplasmic organelles.
- e) Relative humidity.
- f) Smoke point.
- g) Boiling point.
- h) Eukaryotes.
- i) Surface tension.
- j) Evaporation.

2×10

PART-A

Q.2 a) Explain plasma membrane with special reference to bilipid membrane.

10

b) Differentiate between animal cell and plant cell.

10

Q.3 a) Give the detailed outline of cell and its function.

10

b) Describe the characteristics of fungi.

10

Q.4 a) Explain reproduction in protozoa and bacteria with appropriate diagram.

10

b) Write down the morphological characteristics of algae.

10

PART-B

Q.5 a) Enumerate the characteristics of chemical reaction.

10

b) Define five chemical reactions with appropriate examples.

10

Q.6 a) Differentiate between oxidizing agent and reducing agent.

10

b) With the help of appropriate example enumerate redox reaction in day to day life.

10

Q.7 Write short notes on the following:

- a) Buffer.
- b) Melting point.
- c) Smoke point.
- d) Osmosis.

5×4

End Semester Examination, Dec. 2017

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

FUNDAMENTALS OF FOOD AND NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Define adequate nutrition. How will you use your knowledge of nutrition for yourself, your family and society? Explain.

20

PART-A

Q.2 Explain proteins in reference with classification, functions, RDA and dietary sources. **20**

Q.3 Discuss the Dos and Don'ts of healthy eating.

20

Q.4 Explain, in detail, RDA, dietary sources and deficiency problems of minerals. **20**

PART-B

Q.5 Differentiate between dry and moist heat methods of cooking.

20

Q.6 Write notes on:

- a) BMI Formula and BMI Classes.
- b) Food groups and food pyramid

10x2

Q.7 What are Novel Foods? Explain any five novel foods, in detail.

20

B.Sc. (N&D) - First Semester
FUNDAMENTALS OF FOOD AND NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 How is food related to health? How will you use your knowledge of nutrition? Explain.

20

PART-A

Q.2 Give the classification of carbohydrates. Explain functions, RDA, Dietary sources and deficiency problems related to carbohydrates.

20

Q.3 Write notes on:

a) Physiological functions of foods.

10

b) Social and Psychological functions of foods.

10

Q.4 Classify Vitamins. Explain in detail R.D.A, dietary sources, functions and deficiency problems related to vitamin-A.

20

PART-B

Q.5 Write brief notes on:

a) Dry heat methods of cooking.

10

b) Moist heat methods of cooking.

10

Q.6 Write the concept of food groups. What is the role of Food Pyramid in planning a balanced diet?

20

Q.7 Write short notes on **(any two)**:

a) Functional foods.

b) Organic foods.

c) Convenience foods.

10x2

End Semester Examination, Dec. 2017

B.Sc. (N&D) - First Semester BIOCHEMISTRY-I (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 any **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 a) Give the structures of the following:

- i) Cysteine
- ii) Maltose
- iii) Phenylalanine
- iv) Stearic acid
- v) Linolenic acid
- vi) Fructose
- vii) Methionine

2x7

b) Give the equation for conversion of galactose to mucic acid.

6

PART-A

Q.2 a) Explain the reaction of Fehlings reagent with glucose.

10

b) What are the important phospholipids in our body? Mention their functions in detail.

10

Q.3 a) Why do sugars exhibit stereoisomerism? Mention the various forms of isomerism of glucose.

10

b) Define 'iodine number', 'saponification value' and 'acid value' with their significance.

10

Q.4 a) How are aldonic, aldarric and uronic acids of glucose formed?

10

b) Explain the visual role of vitamin A in detail.

10

PART-B

Q.5 a) Write a detailed note on four level organizations of proteins. Support your answer with suitable diagrams.

10

b) What is the active form of vitamin D? How is it synthesized?

10

Q.6 a) Explain why water is the best biological solvent.

10

b) What are essential amino acids?

10

Q.7 Discuss the primary and secondary structure of proteins in detail.
20

BIOCHEMISTRY-I (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 any **TWO** questions from **Part-B**. Marks are indicated against each question.

Q.1 a) Write the structure of:

- i) Fructose.
- ii) Lysine.
- iii) Stearic Acid.
- iv) Phenylalanine.
- v) Linolenic acid.
- vi) Palmitoleic Acid.
- vii) Cysteine.

2x7

b) Give the reaction of Galactose with conc nitric acid. What is the importance of this reaction?

6

PART-A

Q.2 a) Define Saponification value, Iodine number and acid value. What is their significance?

6

b) What are the different Phospholipids and give their function.

14

Q.3 a) What are the structural components of prokaryotic and eukaryotic cells? Briefly give their function.

10

b) Discuss the stereoisomerism of Glucose.

10

Q.4 a) Why is glucose a reducing sugar? Explain the formation of the red precipitate when it reacts with Fehling's / Benedict's reagents.

14

b) How is camphor detoxified in the liver?

6

PART-B

Q.5 Give details of the primary and secondary structure of proteins.

20

Q.6 a) What are retinoids? Discuss the role of retinal in vision.

14

b) Discuss the functions of Calcium in the body.

6

Q.7 a) What are essential amino acids?

8

b) Explain why water is an ideal biologic solvent?

12

End Semester Examination, Dec. 2017
B.Sc. (N&D) - First Semester
ANATOMY AND PHYSIOLOGY-I (BN&D-104)

Time: 3 hrs
100

Max Marks:

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 a) Describe the factors affecting food and nutrition.

10

b) Describe the causes and prevention of gastrointestinal diseases.

10

PART-A

Q.2 Write short notes on the following:

a) Function of golgi.

b) Diffusion.

c) Phagocytosis.

d) Homeostasis.

e) Epithelial Cell.

f) Function of liver.

g) Composition of bile.

h) Leucocytes.

i) Aponeurosis.

j) Anemia.

2x10

Q.3 a) Describe the mechanism of blood clotting.

10

b) Explain the process of digestion of proteins.

10

Q.4 a) Describe the process of hemopoiesis.

10

b) Explain the role of enzymes in digestion and absorption of food.

10

PART-B

Q.5 Write short notes on:

a) Types of bone, Bone formation and growth.

10

b) Events occurring during one cardiac cycle.

10

Q.6 a) Define 'blood pressure'. How it is maintained and regulated in human body? **10**

b) Explain the mechanism of transport of O₂ and CO₂ in the body.

10

Q.7 a) Explain the classification of joints and their structure.

10

b) Differentiate the general function of the axial skeleton to that of the appendicular skeleton.

10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - First Semester
ANATOMY AND PHYSIOLOGY-I (BN&D-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**. Each question carries equal marks.

- Q.1 Explain the deficiency of vitamin A in children.
20

PART-A

- Q.2 Write short notes on the following:

- a) Pronation and supination.
- b) End arteries.
- c) Endoplasmic reticulum.
- d) Composition of Blood.
- e) Valves in the heart.
- f) Skeletal muscle
- g) Stroke volume.
- h) PR interval.
- i) Factors affecting venous return.
- j) Function of liver.

2x10

- Q.3 a) Differentiate between 1st and 2nd heart sound.
10

- b) Describe the structure of stomach and its functions in detail.
10

- Q.4 Describe the bones under following headings:

- a) Definition and function.
- b) Classification.
- c) Structure of long bone.
- d) Applied.

5x4

PART-B

- Q.5 Write short notes on the following:

- a) Digestion of carbohydrate.
- b) Haemopoiesis.

10x2

- Q.5 a) Describe the mechanism of respiration in detail.
10

- b) Explain the electrocardiogram (ECG) with waves and intervals in detail.
10

- Q.5 a) Describe the conducting elements of heart in detail.
10

- b) Describe salivary glands with their composition and functions of saliva in detail. **10**

End Semester Examination, Dec. 2017
B. Sc. (Nutrition and Dietetics) – First Semester
FOOD HYGIENE AND SANITATION (BN&D-105)

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**. Each question carries equal marks.

Q.1 Elaborate on hygiene practices of rural and urban areas and their differences in regards with personal hygiene and other practices. **10**

PART-A

Q.2 Explain the general principles of food hygiene in detail. **10**

Q.3 Discuss the methods of purification and disinfection of water preventing contamination of potable water supply. **10**

Q.4 Explain the sources of water in detail. Discuss the importance of water supply and its uses in food industry. **10**

PART-B

Q.5 What do you mean by HACCP? Explain the advantages of HACCP. **10**

Q.6 Give the classification and formulation of detergents in detail. **10**

Q.7 What are the principles followed in insect and pest control? **10**

End Semester Examination, Dec.2017

B.Sc. (N&D) – Second Semester
BIOCHEMISTRY - II (BN&D-203)

Time: 3 hrs

Max Marks: **100**

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 Answer the following:
a) If a person is in starvation condition, how glycogen can be used as energy source? Explain the cycle in detail.
b) How Surplus Glucose can be stored in our body? Explain in detail.
10x2

PART-A

- Q.2 How proteins are catabolised? Explain all the steps of protein catabolism in detail with proper examples and reactions.
20
- Q.3 a) What is β oxidation? Explain all steps in detail.
10
b) How fatty acid is activated and transported in mitochondria?
10
- Q.4 How Biocatalysts are useful? Explain in detail their classification?
20

PART-B

- Q.5 a) What is lock and key Hypothesis?
10
b) What is Central Dogma? Explain its importance with an example.
10
- Q.6 a) Which metabolic cycle is opposite to Glycolysis? Explain.
10
b) What is H.M.P shunt? Explain its oxidative phase.
10
- Q.7 a) How many ATPs are formed from complete oxidation of one Glucose Molecule? And how?
10
b) Draw the following structures:
i) Adenosine Monophosphate.
ii) Deoxycytidine Monophosphate.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Second Semester
NUTRITION THROUGH LIFE CYCLE (BN&D-204)

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 Discuss the nutritional importance of any four nutrients throughout the life cycle. **20**

PART-A

Q.2 Discuss the physiological changes during infancy. How do these influence the nutritional requirement of an infant?
20

Q.3 a) Discuss the nutritional requirements of a 5 year old child.
10

b) Comment on food preferences of pre-schooler.
10

Q.4 Discuss critically the difference in nutrient requirement of adult man and woman. **20**

PART-B

Q.5 Write notes on:
a) Advantages of breast feeding.
b) Diet and feeding pattern during lactation.
10x2

Q.6 Whom do you designate an elderly and explain the nutritional requirement of an elderly women.
20

Q.7 Describe the stages of pregnancy and nutritional management required during this period.
20

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 changes which occur during various phase of menstrual cycle.
20

PART-A

Q.2 Write short notes on following:

- a) Name and functions of hormones secreted from thyroid gland.
- b) Structure of mature sperm.
- c) Neuromuscular junction.
- d) Fight and Flight reactions.

5x4

Q.3 a) Discuss structure of kidney and its functions.

10

- b) Define 'hypoxia'. Give characteristic features of different types of hypoxia. **10**

Q.4 a) Discuss formation and micturation of urine.

10

- b) Define light and accomodation reflex.

10

PART-B

Q.5 Write notes on following:

- a) Name ovarian hormones and give their action and control of secretion.

10

- b) Describe acrosomal reaction.

10

Q.6 Explain the cerebellum, its function and application.

20

Q.7 Write short notes on **(any four)**:

- a) Fertilization.
- b) Physiological effect of physical training.
- c) Ventricles of brain.
- d) Thalamic nuclei.
- e) Reflex arc.

5x4

End Semester Examination, Dec. 2017

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

PSYCHOLOGY (BN&D-206)

Time: 2 hrs

Max Marks: **50**

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 Explain citing suitable examples, how the study of psychology provides an understanding of the complexities of human behavior and dealing with them? **10**

PART-A

- Q.2 Write short notes on:
a) Contribution of psychology in the field of nutrition and dietetics.
b) Mood disorders.
5x2

- Q.3 Explain any two methods of studying behavior, citing suitable examples.
10

- Q.4 Define 'anxiety'. Explain different anxiety disorders.
10

PART-B

- Q.5 Define 'counseling'. Explain in detail various principles of counseling.
10

- Q.6 Write short notes on:
a) Role and responsibilities of counselor.
b) Family therapy.
5x2

- Q.7 Briefly explain the following:
a) Personality assessment.
b) Behavioral assessment.
5x2

End Semester Examination, Dec. 2017

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

FIRST AID AND NURSING (BN&D-207)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain the type of “Bed Making” in detail.
10

PART-A

Q.2 What is feeding tube? How Feeding Tube helps in the nourishment of comatosed patient?
10

Q.3 Explain interpersonal relationship in nursing care.
10

Q.4 What measures are adopted to control the bleeding in Road Traffic Accident? **10**

PART-B

Q.5 Explain bandaging; their types and application in detail.
10

Q.6 Explain the importance and precautions while lifting the patient from wheel chair to the bed.
10

Q.7 Define ‘nursing’. Explain the principles of nursing.
10

End Semester Examination, Dec. 2017

**B.Sc. (N&D) – Third Semester
PATHOLOGY (BN&D-301)**

Time: 3 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**. Each question carries equal marks.

Q.1 Describe cellular adaptations against stress stimuli.
10

PART-A

Q.2 Write the difference between hyperplasia and hypertrophy with the help of suitable examples.
10

Q.3 What is the mechanism of all injury? Explain.
10

Q.4 Draw a well labeled diagram of relationship between cellular function and duration of injury.
10

PART-B

Q.5 What is inflammation? Describe chronic inflammation, giving suitable examples. **10**

Q.6 What do you understand by tissue regeneration? Describe scar formation.
10

Q.7 Discuss healing of fracture or connective tissues, in detail.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Third Semester
THERAPEUTIC NUTRITION AND DIETITICS (BN&D-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.1 What do you understand by therapeutic nutrition and its importance in hospitalized patients dietary needs?

20

PART-A

Q.2 Explain therapeutic adaption of normal diet, in detail.

20

Q.3 Discuss etiology and dietary treatment for constipation, in detail

20

Q.4 Describe etiology and dietary management for chronic renal failure, in detail.

20

PART-B

Q.5 Discuss symptoms, etiology and dietary management for gout, in detail.

20

Q.6 Write down in detail the etiology and dietary management for Anorexia Nervosa and Bulimia Nervosa.

20

Q.7 Explain dietary management during typhoid and tuberculosis, in detail.

20

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Third Semester
PROBLEMS IN HUMAN NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Explain the importance of nutritional status assessment for a community.
20

PART-A

Q.2 Explain the types of dietary survey, in detail.
20

Q.3 Discuss Vit A deficiency in terms of:

a) symptoms and treatment.

10

b) Plan of action.

10

Q.4 Discuss:

a) Prevalence, etiology and dietary sources of vitamin D.

10

b) Symptoms, treatment and prevention of vitamin D.

10

PART-B

Q.5 a) Write a note on the role of iron, vitamin B₆ and vitamin B₁₂ and their dietary sources.

10

b) Explain Nutritional Anaemia Prophylaxis Programme, in detail.

10

Q.6 Explain Lathyrism, in detail.

20

Q.7 a) Discuss National Iodine Deficiency Disorder Programme, in detail.

10

b) Write a note on toxicity of excess iodine.

10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Third Semester

NUTRITION FOR HEALTH, FITNESS AND SPORTS (BN&D-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**. Each question carries equal marks.

Q.1 Explain the interrelationship between Health, Nutrition, Exercise and Physical fitness.

20

PART-A

Q.2 Explain the different types of Somatotyping and their specific characteristics. Estimate body fat among athletic group.

20

Q.3 Give the Nutritional requirements of sportspersons, pre-game and postgame meals.

20

Q.4 Write the effect of specific Nutrients on Physical fitness of a Sports Athlete.

20

PART-B

Q.5 Give the importance and composition of sports drink.

20

Q.6 Discuss the mobilization of carbohydrates and fat during exercise.

20

Q.7 Discuss the Spiritual Health Chakras their location and consciousness.

20

End Semester Examination, Dec. 2017

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

DIET AND NUTRITIONAL COUNSELING (BN&D-306)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain the components of Diet Cal.
10

PART-A

Q.2 a) Write the importance of individual food choices, while planning a diet.
5
b) 'Communication of dietary advice.' Explain.
5

Q.3 a) Discuss change in behavior as a result of counseling.
5
b) Write about motivational interviewing.
5

Q.4 a) What is Nutrition Counseling? Describe ABCD Model.
5
b) 'Importance of communication and negotiation skill as a part of effective counseling'. Discuss.
5

PART-B

Q.5 a) Enumerate the importance of teaching aids.
5
b) Prepare a visual aid to educate the society regarding hygiene and sanitation. **5**

Q.6 a) Write the importance of posters giving special emphasis on Diabetes.
5
b) Prepare a leaflet for propagating information on cancer.
5

Q.7 a) Explain the Do's and Don'ts for atherosclerotic patient.
5
b) Prepare a teaching aid for patient suffering from liver cirrhosis.
5

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester

COMMUNITY NUTRITION (BN&D-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**. Each question carries equal marks.

Q.1 Describe the concept of health care and the three different levels in the community. **20**

PART-A

Q.2 Define the role of the community nutritionist in the health care delivery. **20**

Q.3 Define the health programme in India and explain two programmes in detail. **20**

Q.4 Explain the nutrition programme and explain any one programme in detail. **20**

PART-B

Q.5 Explain the different methods of nutritional assessment and explain direct assessment in detail. **20**

Q.6 What are the factors related to diet related behavior? **20**

Q.7 Write short notes on:
a) Types of need.
b) WHO, NIN.
c) Factors of nutrition and food security.
d) National population policy.
5x4

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester

FOOD MICROBIOLOGY (BN&D-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**. Each question carries equal marks.

Q.1 Discuss the importance of micro-organisms in food biotechnology.

20

PART-A

Q.2 What are the various intrinsic and extrinsic parameters of foods that affect microbial growth? Explain.

20

Q.3 Give sources of contamination and micro-organisms involved in spoilage of the following:

- a) Meat
- b) Canned foods
- c) Fruits
- d) Milk

20

Q.4 Discuss the processing of any two fermented dairy food along with its health benefits. **20**

PART-B

Q.5 Differentiate between:

- a) Synchronous culture and Continuous culture.

10

- b) Pasteurization and Sterilization.

10

Q.6 Write notes on the following:

- a) Single cell protein.

10

- b) Probiotics.

10

Q.7 Explain the following:

- a) Chemical preservation.

10

- b) Canning.

10

End Semester Examination, Dec. 2017
B.Sc. (N&D)-Fourth Semester
INSTITUTIONAL FOOD ADMINISTRATION (BN&D-404)

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 Write about the following in brief:
- a) What do you mean by Food Service Institutions?
 - b) Write about inventory management.
 - c) What is standardization of recipe and how it is done?
 - d) Discuss the importance of hygiene, sanitation, and safety in food industry.
 - e) What important points would you consider while selecting equipments?
- 4x5**

PART-A

- Q.2 Write in detail about the philosophy, principles and functions of management. **20**
- Q.3 What points would you keep in mind while purchasing food? Explain in detail about menu planning. **20**
- Q.4 Discuss in detail the financial management, stressing upon budgeting, pricing and accounting. **20**

PART-B

- Q.5 Write notes on:
- a) Constructing recipes for large scale.
 - b) Methods of evaluation of recipes.
- 20**
- Q.6 Write notes on:
- a) Various forms of service.
 - b) Table setting.
- 20**
- Q.7 Explain the importance and process of staff training and development. **20**

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
ENZYMES IN FOOD PROCESSING (BN&D-405)

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**. Each question carries equal marks.

- Q.1 Explain briefly the following:
a) Acrylamide formation in bakery products.
b) Role of pectinases in fruit juice industry.

5x2

PART-A

- Q.2 Explain how high fructose corn syrup is prepared in the industry?
10
- Q.3 Give the industrial production of glucose and maltose syrups from starch.
10
- Q.4 What is enzymatic browning of fruits and vegetables? Give one method by which this can be stopped.
10

PART-B

- Q.5 Discuss the role of proteases in the dairy industry.
10
- Q.6 Explain how malt flour and malt extract improves the crumb structure of bread? **10**
- Q.7 What do you understand by malting of barley? Explain the process of wort formation in beer making.
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fourth Semester CULINARY SCIENCES (BN&D-406)

Time: 2 hrs.

Max Marks: **50**

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**. Each question carries equal marks.

Q.1 Explain the art and science of cooking with its aim and objectives.

10

PART-A

Q.2 Define the following culinary terms:

- a) Barbecue.
- b) Bouquet Garni.
- c) Fondant.
- d) Rub-in.
- e) Temper.

2x5

Q.3 What kind of attitude and behavior one should adopt in kitchen? Explain the use and care of kitchen equipment.

10

Q.4 Explain (**any two**) methods of cooking:

- a) Grilling.
- b) Frying.
- c) Stewing.

5x2

PART-B

Q.5 a) Convert the following:

- i) 10 z = _____ g.
- ii) 16 T = _____ C.
- iii) 1 C = _____ ml.
- iv) 1 T = _____ ml.
- v) 2 quart = _____ gallon.

1x5

b) What are the safety procedures adopted in handling equipments?

5

Q.6 a) Define:

- i) Yield ii) Serving size adjustment.

2½x2

b) Explain:

- i) Induction cooking ii) Thawing of Food.

2½x2

Q.7 a) Recipe of Rice Kheer:

Ingredients	Amounts
Rice	1 Kgs
Milk	2 Ltr
Sugar	2 Kgs
Raisins	500 g
Almonds	500 g

Yield - 100

Each Portion - 1 Cup

i) The Rice Kheer yields 100 servings. Adjust the serving size to 75.

ii) The recipe for Rice Kheer given above calls for 100 servings of rice kheer at 1 cup. Carry out the serving size adjustment to $\frac{3}{4}$ cup.

$2\frac{1}{2} \times 2$

- b) A corporate has an industrial canteen catering to 1000 employees which provide snack, beverage and lunch for Rs 50/- per person per day. Calculate the food cost, labor cost, maintenance cost and profit.

End Semester Examination, Dec. 2017

B.Sc. (N&D) – Fifth Semester
FOOD SCIENCE (BN&D-501)

Time: 3 hrs
100

Max Marks:

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 Discuss the methods of preliminary preparation of foods and cooking of foods. **20**

PART-A

Q.2 Explain the structure and nutritive value of the following grains:
a) Wheat.
b) Rice.
10x2

Q.3 a) Write down about the composition of milk.
5
b) What is the effect of heat on milk?
5
c) Explain the stages of sugar cookery with appropriate examples.
10

Q.4 Write short notes on the following:
a) Hydrogenation.
b) Rancidity.
10x2

PART-B

Q.5 a) Explain the uses of egg in cookery.
10
b) Write down about the postmortem changes occurs in meat.
10

Q.6 a) Explain various methods of sensory evaluation.
15
b) What is the selection procedure for trained panel?
5

Q.7 Discuss the effect of following on pigments:
a) Heat.
b) Acid.

- c) Alkali.
20

End Semester Examination, Dec. 2017
B. Sc. (Nutrition and Dietetics) – Fifth Semester
FOOD PROCESSING AND TECHNOLOGY (BN&D-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 Explain the following briefly with suitable examples:

- a) Pasteurization.
- b) Ripening in fruits.
- c) Deodorization.
- d) Aspiration.
- e) Decortication.
- f) Homogenization.
- g) Interesterification.
- h) Saponins in legumes.
- i) Fruit juice concentrates.
- j) Form fill seal (FFS) packaging.

2×10

PART-A

- Q.2 a) Outline the steps involved in the milling of wheat and rice. **10**
b) Write a note on the important legumes grown in India. **5**
c) Do cereal grains undergo any chemical change during storage? If yes, briefly explain. **5**
- Q.3 a) Make a flowchart representing the processing of milk, in milk industries. **15**
b) Mention some oilseeds grown in India. **5**
- Q.4 a) Explain the commercial refining process of oils. **15**
b) Comment on the types of packaging commonly used in food industries. **5**

PART-B

- Q.5 Explain the following:
a) Spoilage of fruits and vegetables is a major cause of concern in loss of productivity.
b) Packaging of bakery products varies from that for fruits and vegetables.
c) Agencies in India, dealing with the menace of cereal grain storage.
d) Fruit juice concentrates and powders, a step towards convenience foods. **5×4**
- Q.6 a) Using a flowchart, depict the manufacturing process of any 2 milk products. **10**
b) 'Toxic factors in legumes can be fatal to life'. Comment. **10**

- Q.7 a) What are the various ways in which fruits and vegetables can be stored effectively without any deterioration? **5**
b) What are the various ways in which the legumes can be made palatable? **5**
c) Write a brief note on cooperative dairying in India. **5**
d) Mention some agents responsible for spoilage of cereal grains during storage. **5**

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Fifth Semester
FOOD PRESERVATION AND BAKERY (BN&D-503)

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**. Each question carries equal marks.

Q.1 Explain the following terminology:

- a) Marzipan.
- b) Batter.
- c) Emulsification.
- d) Fermentation.
- e) Leavening.
- f) Gluten.
- g) Creaming.
- h) Curdle.
- i) Cake.
- j) Bake.

1x10

PART-A

- Q.2 a) Describe the role of chemical preservative in food preservation. **5**
b) Describe the method of fermentation. **5**
- Q.3 a) Write about the types of pasteurization and its functions. **5**
b) List the names of microorganisms and their resultant fermented products. **5**
- Q.4 a) Enumerate principles of preservation. **5**
b) Write about freeze drying and refrigeration techniques to enhance the shelf life of products. **5**

PART-B

- Q.5 a) Write about the role of bread improvers in bread industry. **5**

b) Write about three types of bread making methods.

5

Q.6 a) What is a pastry? Write regarding any three types of pastry preparation.

5

b) Mention the physical changes occurring during bread making.

5

Q.7 Write short notes on the following:

a) Raising agents.

b) Irradiation.

c) Extrusion Cooking.

d) Hurdle technology.

2½x4

End Semester Examination, Dec. 2017

B.Sc. (N&D) – First Semester

HERBS AND HOME REMEDIES (BN&D-GE-01)

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**. Each question carries equal marks.

Q.1 What are the advantages of using herbs against drugs for curing illnesses?

10

PART-A

Q.2 Give the classification of herbs according to their active constituents with examples.

10

Q.3 Explain the medicinal uses of *Piper Betel*.

10

Q.4 Give the uses of *Azadirachta Indica* as a medicinal herb.

10

PART-B

Q.5 Discuss the uses of any five culinary herbs in detail.

10

Q.6 Write five home remedies for the following:

a) Common cold.

b) Digestive disorders.
5x2

Q.7 Discuss herbal remedies for skin care with examples of herbal products available in the market.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Second Semester
FAMILY MEAL MANAGEMENT (BN&D-GE-03)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain how essentials of meal planning help in creating an healthy future for an individual.
10

PART-A

Q.2 What do you understand by balanced diet? Explain how food groups help in making a balance diet?
10

Q.3 Explain food faddism and faulty food habits in detail.
10

Q.4 What do you mean by Indian meal pattern? Describe the advantages and disadvantages of vegetarian and non-vegetarian meal pattern in detail.
10

PART-B

Q.5 Explain the nutritional management for adult.
10

- Q.6 How nutritional management plays an important role in pregnancy?
10
- Q.7 Discuss the nutritional requirement during infancy.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D)-Third Semester
MATERNAL AND CHILD NUTRITION (BN&D-GE-05)

Time: 2hrs

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**. Each question carries equal marks.

- Q.1 Why maternal care is important for healthy child? Write the recent guidelines in infant and complimentary feeding.
10

PART-A

- Q.2 Explain the risk factor during pregnancy. Discuss the physiological changes which occur during this period.
10
- Q.3 What is the significance of growth monitoring?
10
- Q.4 Discuss the nutritional needs and dietary modification suggested during the first six months of lactation.
10

PART-B

- Q.5 Write the strategies to improve the maternal and child health in India.
10

- Q.6 Discuss the role of BPNI in promotion of breast feeding in India and the importance of world breast feeding week.
10
- Q.7 Discuss the growth and development during preschool children and what are the nutritional problems seen during pre-school children?
10

End Semester Examination, Dec. 2017

B.Sc. (N&D) - Third Semester FOOD LABELING (BN&D-GE-06)

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**. Each question carries equal marks.

- Q.1 Define Food Labeling and its related glossary terms.
10

PART-A

- Q.2 How is the information on food labels interpreted? Explain using suitable examples.
10
- Q.3 Describe the different parts a food label constitutes, with their significance.
10
- Q.4 Design a food label consisting of all the essential information.
10

PART-B

- Q.5 What are the requirements of food labeling as per FSSAI?
10
- Q.6 Outline the labeling requirements kept in mind for imported foods.
10

- Q.7 Briefly describe the health and nutritional claims, generally found on pre-packaged foods.
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
COMMUNITY DEVELOPMENT PROJECT (BN&D-GE-07)

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**. Each question carries equal marks.

- Q.1 Discuss the role of community development workers help in developing a community. **10**

PART-A

- Q.2 Explain the following points:
a) Philosophy behind community development programme.
b) Objectives of community development.
5x2

- Q.3 Describe the cultural factors responsible in community development.
10

- Q.4 Explain the steps involved in community development process.
10

PART-B

- Q.5 Explain “development of women and children in rural areas programme” in detail. **10**
- Q.6 Write short notes on the following:
a) Participatory Rural Appraisal (PRA).

b) Participatory Resource Mapping (PRM).
5x2

Q.7 Discuss the following:

- a) Swarnjayanti Gram Swarozgar Yojana.
- b) Importance and types of Community Need Assessment (CNA).
5x2

End Semester Examination, Dec. 2017
B.Sc. (N&D) – Fourth Semester
ENTREPRENEURSHIP MANAGEMENT (BN&D-GE-08)

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**. Each question carries equal marks.

Q.1 Write short notes on:

- a) Myths of entrepreneurship.
- b) Exploring opportunities in the environment.
- c) Limited liability partnership.
- d) Production strategies of an entrepreneur.
- e) Negotiation significance.

2x5

PART-A

Q.2 Why country need more entrepreneurship? Explain functions, process, advantages and disadvantages of entrepreneurship.

10

Q.3 “Selecting the right opportunity is a first step of entrepreneurship journey”. Justify the statement.

10

Q.4 Whether 'Problem identification', 'spotting-trends' and 'creativity and innovations' are key success factors for any start-up venture? Put forth your comments on it. **10**

PART-B

Q.5 Describe the role of social media in creating brand.
10

Q.6 How one should maintain good customer relationship and ensure quality, timeliness and customer satisfaction for any business enterprise?
10

Q.7 What are the different modes by which any entrepreneur can raise funds? Among that which will be the most appropriate resource for any start-up venture?
10

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Fifth Semester
FERMENTATION TECHNOLOGY (BN&D-GE-09)

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**. Each question carries equal marks.

- Q.1
- a) Vinegar is produced by _____.
 - b) What is the full form of EMP pathway?
 - c) Name one open system reactor.
 - d) What is the source of Malt extract?
 - e) For purpose which purpose Turbidimeter is used?
 - f) Nathan fermentor is used in _____.
 - g) Name is the Methionine-rich SCP producing micro-organism.
 - h) Renin produced by _____.
 - i) Give an example of secondary metabolite.
 - j) For which purpose Liquid nitrogen is used?
- 1x10**

PART-A

Q.2 Describe the Glycolysis process.
10

Q.3 Explain the following:

- a) Fast metabolism
- b) Anti-Foam

5x2

Q.4 Write short notes on:

- a) Sulfite waste liquors
- b) Cellulose

5x2

PART-B

Q.5 What is the purpose of media-sterilization? What are the advantages of batch sterilization over continuous sterilization?

10

Q.6 Discuss the following immobilization techniques:

- a) Cross-Linking
- b) Entrapment

5x2

Q.7 Describe the common techniques for preserving microbes.

10

End Semester Examination, Dec. 2017

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

FOOD SCIENCE (BND-601)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 What are the toxic constituents which are present in pulses?

10

Q.2 Explain the role of fat and oil in cookery.

10

Q.3 How can one determine the quality of Egg? Explain all the methods.

10

Q.4 What is sensory Evaluation? What are the different sensory characteristics of food? **10**

PART-B

Q.5 What is the difference between crystalline and non-crystalline candies?

5

- Q.6 Fill in the blanks:
a) Recombined milk contains _____ fat content and _____ solids not fat.
b) Flash point is _____.
c) Plasticity is _____.
d) Neurotoxin responsible for Lathyrism is _____.
e) pH of Egg is _____.
5
- Q.7 Explain (**any two**):
a) Winterization.
b) Caramelization.
c) Homogenisation.
5
- Q.8 Describe the process of post-mortem changes in meat.
5
- Q.9 What are the losses of nutrients that occur during cooking of vegetables?
5
- Q.10 Describe the role of egg in cookery.
5
- Q.11 Write notes on the following:
a) Germination.
b) Fermentation.
2½x2

End Semester Examination, Dec. 2017
B.Sc. (N&D) - Sixth Semester
INSTITUTIONAL FOOD ADMINISTRATION (BND-602)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Discuss storage space in food service institutions in detail.
10
- Q.2 What do you understand by costing? Explain different types of costing.
10
- Q.3 Explain the steps involved in staff employment.
10

Q.4 What do you mean by 'standard recipes'? Give the benefits of standardized recipes. **10**

PART-B

Q.5 Write down the points to be kept in mind while selecting and buying of spices and condiments.
5

Q.6 Explain the term "Table Decoration".
5

Q.7 Explain points to be considered while planning of institutional kitchen and equipments.
5

Q.8 What are the points to be considered while doing table setting?
5

Q.9 Explain the history of development of food service institutions.
5

Q.10 Give the advantages of meal management.
5

Q.11 Write a short note on "Storage of Food".
5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Fifth Semester

MARKETING MANAGEMENT (BPT-002)

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**. Each question carries equal marks.

Q.1 Answer the following:
a) What is marketing?

- b) What is positioning?
 - c) Name any five products that use age on basis of segmentation.
 - d) Mention any two functions of Human Resource Management.
 - e) Explain the elements of marketing mix.
- 2×5**

PART-A

- Q.2 Name and explain the various functions of management.
10
- Q.3 What is recruitment? Describe the detailed process of selection
10
- Q.4 Write short notes on:
a) Employee discipline.
b) Performance appraisal.
10

PART-B

- Q.5 What is market segmentation? Explain the various bases of market segmentation in detail.
10
- Q.6 What is consumer behavior? What are the factors that affect consumer behavior? **10**
- Q.7 What do you understand by quality management? Explain some quality assurance programs in hospitals.
10

End Semester Examination, Dec. 2017

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

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**. Each question carries equal marks.

- Q.1 Answer the following:
a) What is management?

- b) What is consumer behavior?
 - c) Name any five products that use age as basis of segmentation.
 - d) Two benefits of consumer behavior.
 - e) Four ways of promotion.
- 2×5**

PART-A

- Q.2 Write short notes on:
- a) Planning.
 - b) Organizing.
 - c) Directing.
 - d) Controlling.
- 10**

- Q.3 What is recruitment? Explain the complete process of recruitment.
- 10**

- Q.4 What is the staffing function of management? Write briefly about performance appraisals.
- 10**

PART-B

- Q.5 What is market segmentation? Briefly explain the bases of segmentation.
- 10**

- Q.6 What is marketing? Explain the elements of marketing-mix (product, price, place, promotion).
- 10**

- Q.7 What is quality management? Explain hospital as an organization.
- 10**

End Semester Examination, Dec. 2017
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.

Note: Draw labeled diagram, wherever necessary.

- Q.1 Describe the radial nerve under following headings:
- a) Course.

- b) Branches.
- c) Distribution.
- d) Applied anatomy. **5×4**

PART-A

- Q.2 Write short notes on:
- a) Morphological classification of bones.
 - b) Differences between arteries and veins.
 - c) Differences between Skeletal, smooth and cardiac muscles.
 - d) Different types of cartilages. **5×4**
- Q.3 Describe briefly the following:
- a) Arterial supply and venous drainage of heart.
 - b) Synovial joints. **10×2**
- Q.4 Describe origin insertion, nerve supply and action of following muscles:
- a) Deltoid.
 - b) Triceps brachii.
 - c) Soleus.
 - d) Tibialis anterior. **5×4**

PART-B

- Q.5 Describe knee joint under following headings:
- a) Type of joint.
 - b) Articular surfaces.
 - c) Ligaments, nerve supply.
 - d) Possible movements and muscles responsible for these movements.
 - e) Applied anatomy. **4×5**
- Q.6 Write short notes on:
- a) Carpel tunnel syndrome.
 - b) Femoral triangle.
 - c) Erb's paralysis.
 - d) Rotator cuff. **5×4**
- Q.7 Write short notes on:
- a) Cubital fossa.
 - b) Wrist drop.
 - c) Foot arches.
 - d) Popliteal fossa. **5×4**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – First Semester
PHYSIOLOGY-I (BPT-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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) What is endocytosis?
 - b) Write about intercellular connections.
 - c) What are the different types of haemoglobins present?
 - d) What is APLON?
 - e) What is Kupffer cells?
 - f) What is law of intestine?

- g) What is force-velocity relationship of muscle?
 - h) What is all or none law?
 - i) What do you mean by vagus escape?
 - j) Define 'Marey's Law'.
- 2x10**

PART-A

Q.2 With a neat diagram describe the different organelles of a cell. How action potential generated and what are the molecular phenomenon occurred during the action potential?
20

Q.3 Describe the function of Saliva and Liver. How small intestine moves?
20

Q.4 With a neat diagram describe the NM Junction transmission. Classify muscles in different way.
20

PART-B

Q.5 Describe the blood coagulation process with schematic diagram. Write about different types of anemia.
20

Q.6 Describe the excitability and action potential of heart. What is the difference between skeletal and cardiac muscle? Describe the cardiac cycle.
20

Q.7 Define blood pressure. How it can be regulated? Write about coronary circulation. **20**

End Semester Examination, Dec. 2017
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**. All questions carry equal marks.

- Q.1 Answer the following:
- a) Which cell organelle is called as Power House of cell and why? Explain its structure and functions.
 - b) Define Metabolism. Also, mention its types with examples.

- c) What are other names of Krebs cycle? Justify various nomenclatures of it.
d) Define Acids and Bases, with major examples.
e) What are Micronutrients? Give any five examples.
4x5

PART-A

- Q.2 Why Glycolysis is a major metabolic pathway in carbohydrate metabolism? Write its reactions in detail.
20
- Q.3 What is stored form of energy? Which Metabolic Pathway is meant for storing glucose and how? Explain all its steps in detail.
20
- Q.4 How are Proteins classified? Write all its types with proper examples. Also, mention its functions.
20

PART-B

- Q.5 What are Enzymes? How are they classified? Explain its types with examples. Also explain various models of Enzyme classification.
20
- Q.6 How are vitamins important for our body? Write the role of vitamin A, D, E and K. Also, mention what will be the deficiency disorders related to these vitamins.
20
- Q.7 What are liver function tests? How liver functioning can be checked? Mention all the tests related to liver and kidney.
20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy - First Semester
SOCIOLOGY (BPT-104A)

Time: 2hrs
50

Max Marks:

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 Answer the following:
a) Define 'juvenile delinquency'.

- b) What are different types of social groups?
- c) What is social security?
- d) Enumerate social factors affecting health and disease.
- e) What is social control?

2×5

PART-A

- Q.2 Write about the importance of studying sociology for healthcare professionals. **10**
- Q.3 Discuss various problems faced by women in employment. How does it affect health?
10
- Q.4 Discuss the influence of nuclear and joint families on health of an individual. **10**

PART-B

- Q.5 Define social change. Discuss various factors affecting social change.
10
- Q.6 What are population explosion and unemployment? Discuss its causes, effects on health and its remedies.
10
- Q.7 What is socialization? What are different types and agencies of socialization? **10**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – First Semester
FUNDAMENTALS OF PHYSIOTHERAPY (BPT-105)

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 **Write short notes on following:**
- a) Transistors.
 - b) Hooke's Law.
 - c) Ohm's Law.

- d) Condensers.
- e) Work and Energy.
- f) Centre of Gravity.
- g) Centre of Buoyancy.
- h) Pulley and its examples.
- i) Fuse.
- j) Conductors and Insulators.

2x10

PART-A

Q.2 What is Electromagnetic Spectrum? Explain uses and practical application of all radiations.

20

Q.3 What is Electric Shock? Explain along with its managements, dangers and precautions to prevent it.

20

Q.4 a) Draw circuit diagram for SWD and VS.

10

b) Explain physical principles of ultrasound and superficial and deepheat.

10

PART-B

Q.5 Define axes and planes of body. Classify them and explain different movements around these axes and planes.

20

Q.6 Write in detail about classification of joints along with movements taking place at joints.

20

Q.7 What is Hydro Therapy? Give its principles in detail along with its uses.

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy — First Semester

FUNDAMENTALS AND PHILOSOPHY OF YOGA (BPT-106)

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**. Each questions carry equal marks.

Q.1 **Answer the following in brief:**

- a) Give the principle of Yoga.
- b) Meaning of Hatha Yoga.

- c) Benefits of Yoga.
- d) Importance of Yoga in today's world.
- e) Concept of Bhakti Yoga.

2×5

PART-A

- Q.2 a) Discuss the importance of Yoga.
5
b) Throw light on the History and development of Yoga.
5
- Q.3 Explain the pre-requisites of Hatha Yoga. Also, add a note on aim, objectives and misconceptions related to practice of Yoga.
10
- Q.4 a) Discuss the psychological aspects and mythological concepts of Yoga.
5
b) Explain the Concept of Yoga according to Upanishads and Puranas.
5

PART-B

- Q.5 What are the various types of Yoga? Throw light on the eight limbs / commandments to be followed in order to practice Yoga.
10
- Q.6 Explain the philosophical Foundations of Patanjali Yoga and Hatha Yoga.
10
- Q.7 a) Discuss the Inter-relationship between Bhakti-Yoga and Karma-Yoga.
5
b) Discuss briefly Karma Yoga.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy-Second Semester
ANATOMY-II (BPT-201)

Time: 3 hrs
100

Max Marks:

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 **Fill in the blanks:**

- a) The type of joint that is distinguished by having a fluid filled joint cavity is a _____ joint.
- b) Kidney is located in _____ of abdomen.
- c) Two cerebral hemispheres join by a bundles of white fibers known as _____.
- d) _____ passing through foramen transversarium.
- e) All the extra ocular muscles of eye ball are supplied by _____ except _____ and _____ which is supplied by _____.
- f) Epithelium of oral cavity is _____.
- g) _____ is the only nerve which is arising from posterior surface of brainstem.
- h) Segmental level of cervical enlargement is _____.
- i) Brain is supplied by _____ and _____ artery.
- j) Collection of cell bodies of the neurons outside the central nervous system is _____.

2x10

PART-A

Q.2 Write short notes on:

- a) Lymphatic drainage of Axilla.
- b) Motor and sensory aphasia.
- c) Blood supply of spinal cord.
- d) Connection of hypothalamus.

5x4

Q.3 Describe cerebellum under following headings:

- a) Parts and lobes.
- b) Nuclei.
- c) Division of vermis.
- d) Applied (clinical anatomy).

5x4

Q.4 a) Write a short note on nuclei, function and clinical anatomy of Thalamus.

10

b) Describe the fiber types, nuclei and distribution of all cranial nerve.

10

PART-B

Q.5 Write short notes on:

- a) Structure of Nephron.
- b) Klienfeltris syndrome.
- c) Circulation of CSF (cerebrospinal fluid).
- d) Oogenesis.

5x4

Q.6 Write short notes on:

- a) Cavity of middle ear.
- b) Floor of Rhomboid fossa.

10x2

Q.7 Write in detail about urinary bladder nerve supply and clinical anatomy.

20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
PHYSIOLOGY-II (BPT-202)

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 Answer the following:

- a) How testosterone helps in sex differentiation?
- b) What is physiological and anatomical dead space?

- c) State the centre from where neural regulation of respirations occur?
- d) During deep sleep which EEG rhythm could be seen.
- e) State atleast four differences between sympathetic and parasympathetic nerve.
- f) Extra glomerular mesangial cells secrete which kidney hormone.
- g) Define 'addison's disease'.
- h) Goiter, cretinism and myxedema seen in which hormone abnormalities?
- i) What is asphyxia and atelectasis?
- j) Write about AGEUSIA.

2x10

PART-A

- Q.2 With a detailed diagram describes the muscle spindle structure and its nervous supply. Mention its function during stretch reflex and maintenance of tone. **20**
- Q.3 With a net diagram describe the visual pathway. State the theories of color visions. **20**
- Q.4 Describe the structure of J-G apparatus and also describe its functions in different level. **20**

PART-B

- Q.5 Discuss the applied physiology of pituitary, thyroid and pancreatic hormone. Why catecholamines are named so? **20**
- Q.6 Discuss in details about the fertility control in various methods? Discuss the functions of estrogen and progesterone hormone in female preprodnctive organs. **20**
- Q.7 What is bucket handle and pump handle movement? How neural and chemical regulations of respiration take place in our body? What is compliance of lung and work of breathing? What do you mean by hyper and hypocapnia? **20**

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Second Semester

ELECTROTHERAPY-I (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**. Each question carries equal marks.

- Q.1 Answer the following:

- a) What is Motor Point?
- b) What is Nerve Accommodation?
- c) What is brief intense TENS?
- d) Classify Nerve.
- e) Define acute and chronic pain.
- f) What is Resting Membrane Potential?
- g) What are medium frequency currents with example?
- h) What is SD curve?
- i) What are factors affecting Rheobase and Chronaxie?
- j) What is Refractory period?

2x10

PART-A

- Q.2 a) What are Galvanic Currents? Explain contraindications and precautions for use of currents.
10
- b) Explain technique of application of Galvanic type of current, explain preparation of patient and testing of machine.
10
- Q.3 a) Explain Faradaic type of current along with therapeutic effect of Faradaic current. **10**
- b) Explain technique for pelvic floor stimulation.
5
- c) What is electromyography?
5
- Q.4 a) What is TENS? Explain various modes of TENS and technique for TENS. Give its indication, contraindication and precaution of TENS.
10
- b) Explain Gate Control theory for pain modulation at different level.
10

PART-B

- Q.5 a) What is IFT? Explain contraindication and therapeutic effect of IFT.
10
- b) Explain various treatment parameters for IFT:
- i) Amplitude modulated frequency.
 - ii) Frequency Sweep
 - iii) Quadrepolar/Bipolar application.
 - iv) Vector/Scanning mode.
- 10**
- Q.6 a) Explain Sunderland classification for nerve lesion.
10
- b) Explain how action potential travels through nerve in detail.
10
- Q.7 a) What is SD curve? Explain curves for different nerve lesion.
10
- b) What is NCV? Explain NCV for motor and sensory nerve.
10

End Semester Examination, Dec.2017
Bachelor of Physiotherapy – Second Semester
EXERCISE THERAPY-I (BPT-204)

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 Answer the following:
- What is Thomas Test?
 - Write about circuit weight training.

- c) Procedure to increase end range knee extension.
- d) Enumerate types of stretching.
- e) Define 'break test'.
- f) Classify movements.
- g) List uses of finger ladder.
- h) Define 10 RM.
- i) List principles of manual muscle testing.
- j) What are different parts of Goniometer? Write their use as well.

2x10

PART-A

- Q.2 a) Write about determinants of stretching. Also, describe types and effects of stretching.

10

- b) Explain how will you increase hip flexion range of motion, using stretching technique?

10

- Q.3 a) Differentiate between manual resistance and mechanical resistance exercises. **10**

- b) What is the principle of resistance? Explain in detail the techniques of resistance exercises.

10

- Q.4 Explain how will you test the strength for Trunk and Scapular muscles?

20

PART-B

- Q.5 Explain how will you test range of motion for hip joint and knee joint?

20

- Q.6 What is PRE? Explain Re-education techniques on various muscle groups of upper limb.

20

- Q.7 What are fundamental and derived positions? Explain with examples

20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
ENVIRONMENTAL STUDIES (BPT-205)

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**. Each question carries equal marks.

- Q.1 Define the following:

- a) Human rights.
- b) Population explosion.
- c) Noise pollution.
- d) Scope of environmental studies.
- e) Women and child welfare.

2×5

PART-A

Q.2 What do you mean by biodiversity? Classify various types of it with examples. What is the value of it?
10

Q.3 Define 'air pollution'. What are the causes, effects and control measures of it?
10

Q.4 Explain how growing population is affecting the environment? How can we control it? **10**

PART-B

Q.5 What is the role of information technology in environment and human health? Write the benefits and drawbacks of technology on health.
10

Q.6 What are the causes, effects and control measures of noise pollution?
10

Q.7 What are water resources? How these are used by living beings? Write any ten uses of it with proper examples.
10

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy–Third Semester

PHARMACOLOGY (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on:**

- a) Define Pharmacokinetics.

- b) What are the advantages of parenteral routes of drug administration?
- c) What are the advantages of Nitrous Oxide?
- d) What are routes of excretion of drugs?
- e) Define drug tolerance.
- f) Describe stages of anesthesia.
- g) What is an opioid analgesics?
- h) Name hormones secreted by the anterior pituitary gland.
- i) Define a disinfectant.
- j) Name the four main first line drugs of tuberculosis.

2x10

PART-A

Q.2 Write a note explaining various adverse effects of drugs.
20

Q.3 Write a note on various anti parkinsonian drugs.
20

Q.4 Write a note on drugs used in heart failure.
20

PART-B

Q.5 Write a note on anti-malarial drugs.
20

Q.6 Write a note on anti-rheumetoid and anti-gout drugs.
20

Q.7 Write notes on:
a) Chelating Agents.
b) Role of Vitamin K.
10x2

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy-Third Semester
PATHOLOGY AND MICROBIOLOGY (BPT-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.1 Write short notes on the following:

- a) Fatty liver.
- b) Granuloma.
- c) Osteosarcoma
- d) Dysplasia.
- e) Types of shock.
- f) Autoclave.
- g) Bacterial cell wall
- h) Immunoglobulins.
- i) Bacterial growth curve.
- j) Bacterial exotoxins and endotoxins.

2x10

PART-A

Q.2 Define inflammation. Give cardinal signs of acute inflammation. Discuss the vascular and cellular events of inflammation along with its fate.

20

Q.3 Define carcinogenesis. Discuss chemical and viral carcinogenesis in detail.

20

Q.4 Define and classify Anaemias. Explain in detail the etiology pathogenesis, clinical features and laboratory findings of Iron deficiency Anaemia.

20

PART-B

Q.5 Write the pathogenesis and laboratory diagnosis of typhoid.

20

Q.6 Write the structure of HIV, mode of transmission, laboratory diagnosis and post exposure prophylaxis.

20

Q.7 Give a detailed account of pathogenesis and laboratory diagnosis of syphilis.

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy-Third Semester

ELECTROTHERAPY-II (BPT-303)

Time: 3 hrs

100

Max Marks:

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 Answer the following:
- a) Write the molecular theory of Magnetism.
 - b) What is Lenz's law?
 - c) What is Joule's law?
 - d) Give one advantage of combination therapy.
 - e) Enumerate two methods of application of ultrasonic therapy.
 - f) Write a short note on fluidotherapy.
 - g) Why should therapist and patient protect their eyes while applying laser therapy?
 - h) Why is moving of the ultrasonic head applicator important when using the continuous mode of application?
 - i) 'A patient with metallic implant in both the knee joints can be given SWD'. State whether its True/False. Give reason, in support of your answer.
 - j) Write a note on Hydrocollator Packs.
- 2x10**

PART-A

- Q.2 a) Describe the physiological effects of UVR.
10
- b) Write the method of calculation for UVR Test Dose.
5
- c) Write a note on PUVA.
5
- Q.3 a) Write the therapeutic effects of SWD.
7
- b) Describe the method of application of SWD to the back and knee joint of a patient. **7**
- c) Write the effect of ultrasonic therapy on tissues.
6
- Q.4 a) Explain the production of therapeutic ultrasound. (Use appropriate diagram) **10**
- b) Write the contraindications of Cold Therapy and Laser Therapy.
10

PART-B

- Q.5 a) Discuss the application of Biofeedback on Muscle-re-education.
10
- b) Discuss the principles of Combination Therapy. Give an appropriate example. **10**
- Q.6 a) Discuss the physiological application of local effects of Cold Packs.
10
- b) Write the contra-indications of MWD.
5
- c) Write the method of application of LWD to the neck region.
5
- Q.7 a) Write the classification of Laser Therapy.
5

b) Discuss the types of IRR lamps. Enumerate the therapeutic effects of IRR. List two precautions while IRR application to patients.

15

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy-Third Semester
EXERCISE THERAPY-II (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**. Each question carries equal marks.

Q.1 Explain in brief:

- a) Two point gait.
- b) Fatigue.
- c) Anterior pelvic tilt.
- d) Gluteus medius gait.
- e) PNF upper limb patterns.
- f) Axial suspension.
- g) Hemiplegic gait.
- h) Crutch palsy.
- i) Coordination.
- j) Local relaxation.

2x10

PART-A

Q.2 Explain types of crutches and its measurement.

20

Q.3 Define 'relaxation and fatigue'. Explain various techniques of relaxation.

20

Q.4 Explain muscles responsible for normal gait cycle.

20

PART-B

Q.5 Explain slow reversal and hold relax technique of proprioceptive neuromuscular facilitation.

20

Q.6 Explain postural drainage.

20

Q.7 Explain in detail types of suspension.

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Fourth Semester

MEDICINE (BPT-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**. Each question carries equal marks.

Q.1 Write short notes on the following:

- a) Candidiasis.
- b) LFT.
- c) Jaundice.
- d) Insulin.
- e) Immuno Compromised Patient.

4x5

PART-A

Q.2 Define 'Thyrotoxicosis'. What are the clinical features of Thyrotoxicosis? Mention the treatment in detail.

20

Q.3 Define 'pneumonia'. What are the types of pneumonia? Mention clinical features and it's treatment in detail.

20

Q.4 What is nephrotic syndrome? Explain clinical features and its treatment in detail.

20

PART-B

Q.5 What is conjunctivitis? Write in detail the types, clinical features, etiology and treatment of conjunctivitis.

20

Q.6 Define 'Otitis Media'. Explain the types, clinical features and treatment of Otitis Media.

20

Q.7 What is hepatic encephalopathy? What are the precipitating factors of hepatic encephalopathy? Mention the important investigations and treatment of hepatic encephalopathy.

20

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Fourth Semester

SURGERY INCLUDING GYNAECOLOGY AND OBSTETRICS (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on:
- Carbuncle.
 - Types of incisions.
 - Complications of colostomy.
 - Difference between 'FCAP' and 'GRAFT'.
 - Permanent methods of contraception (Names).
 - Types of low birth babies.
 - Define stage three of normal labor.
 - What are the types of Anesthesia?
 - What are the degrees of burns?
 - Define 'Puerperium'.
- 2x10**

PART-A

- Q.2 Write a note on history taking and examination of a surgical patient.
20
- Q.3 Write a note on care of a surgical patient before surgery (important) investigations and post-operative care.
20
- Q.4 What is a wound? What are its types and explain the treatment of various wounds? **20**

PART-B

- Q.5 Write a note on physiological changes seen during pregnancy in each trimester. **20**
- Q.6 What is the definition of the following?
- Lochia.
 - Grand Multipara.
 - Para and gravida.
 - Types of high risk pregnancies.
 - Physiological changes in breast in pregnancy.
- 4x5**
- Q.7 Write notes on:
- Carcinoma cervix and cervicitis.
 - Ectopic pregnancy.
- 10x2**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
BIOMECHANICS AND KINESIOLOGY (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on:
- a) What are the different types of muscle fibre?
 - b) What is pulley?
 - c) Name the rotator cuff muscles.
 - d) Name the carpal bones.
 - e) What is the orientation of plane of scapula?
 - f) Give examples of a fibrous and a cartilaginous joint.
 - g) What is open kinematic chain and close kinematic chain exercise?
 - h) Differentiate between open pack and loose pack position of joint.
 - i) What is carpal tunnel?
 - j) What is the normal ROM of forearm pronation and supination?
- 2x10**

PART-A

- Q.2 a) Write a note on Newton's Laws of Motion. Give examples.
10
- b) Define equilibrium. What are the different types of equilibrium? Explain the factors on which equilibrium depends.
10
- Q.3 a) What are the different types of muscle contraction? Explain.
10
- b) Classify muscles according to the orientation of muscle fibre with appropriate diagrams.
10
- Q.4 Describe in detail the biomechanical properties of viscoelastic structures.
20

PART-B

- Q.5 Explain the structure of articular surfaces, ligaments, muscles and ROM of Glenohumeral joint. What do you mean by Gleno-humeral rhythm? Give its importance.
20
- Q.6 What is the structure and ROM of elbow joint? Write down the biomechanics of elbow joint.
20
- Q.7 Explain in detail the different types of human grasps.
20

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
BIOMECHANICS AND KINESIOLOGY (BPT-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**. Each question carries equal marks.

- Q.1 Write short notes on:
- What are the intrinsic muscles of hand?
 - Write down Newton's first Law of Motion.
 - What do you mean by scalar and vector quantity?
 - Name the various ligaments of elbow complex.
 - What is negative ulnar variance?
 - What are the factors affecting motion?
 - Classify Diarthrosis.
 - Write briefly about Eccentric contraction of muscles.
 - What are the angles of inclination and angle of version of humeral head?
 - Write briefly about concave-convex rule.
- 2x10**

PART-A

- Q.2 Define 'equilibrium'. Give its classification and factors affecting equilibrium.
20
- Q.3 Write about the articulating surfaces, ligaments, muscles and normal ranges of motion of glenohumeral joint.
20
- Q.4 Classify muscles according to the arrangement of its fibres. Differentiate between Type-I and Type-II fibres.
20

PART-B

- Q.5 What do you mean by stress, strain and young's modulus? Explain the stress-strain curve in detail with appropriate diagram.
20
- Q.6 Discuss the kinematics of elbow complex. Explain the load distribution at the elbow. **20**
- Q.7 a) What do you mean by Ulnar variance? Describe its types.
10
b) Write about the arches of hand.
10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
PSYCHOLOGY AND PSYCHIATRY (BPT-404)

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 Answer the following:
- What is unconditional and instrumental learning?
 - Explain balance theory of attitude.
 - What is Anterograde Amnesia?
 - Draw a labeled diagram of eye.
 - Write a short note on ECT.
 - Explain psychosomatic illness.
 - Write a short note on drug misuse.
 - Explain phobias.
 - What is behavior therapy?
 - Explain hurdles to problem solving.
- 2x10**

PART-A

- Q.2 Define 'mania'. Write difference between 'bipolar-I' and 'bipolar-II disorder'.
20
- Q.3 a) Explain Erikson psychosocial theory for development.
10
b) Explain theory of ageing and death in detail.
10
- Q.4 a) Write a short note on 'neuron and nerve transmission'.
10
b) How does nervous system guide behavior in human beings?
10

PART-B

- Q.5 a) Explain various type of social motives.
10
b) What is frustration? Explain different type of conflict.
10
- Q.6 Define 'OCD (Obsessive Compulsive Disorder)'. What are etiological factors of OCD? Write treatment of OCD.
20
- Q.7 a) What are emotions? Explain various theories of emotions.
10
b) Explain learning, throwing light on Pavlov experiment. Explain conditioned, unconditioned and neutral stimulus.
10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy — Fourth Semester
ETHICS AND ADMINISTRATION (BPT-405)

Time: 3 hrs.

Max Marks: **100**

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 Write short notes on:
- Expand IAP and DCPTOT.
 - Define 'communication and its types'.
 - Confidentiality.
 - Importance of staffing.
 - Define 'CUPRA'.
 - Types of referral.
 - Methods of filling.
 - History of physiotherapy-timeline.
 - Importance of records maintenance.
 - Define 'correspondence and its types'.
- 2x10**

PART-A

- Q.2 Describe the various medico-legal laws applicable to medical practice in India. **20**
- Q.3 Discuss the relationship of physiotherapist with:
- Patient.
 - Other therapist.
 - Other medical professional.
- 20**
- Q.4 What are the points to be kept in mind while planning for setting up of a new physiotherapy clinic centre? Discuss under various heads. **20**

PART-B

- Q.5 Define 'planning'. Explain in detail about planning cycle with examples. What do you understand by planning change? **20**
- Q.6 Write in detail about:
- Points to be kept in mind for a job interview. **7**
 - How do you plan for development of your career? **7**
 - Discuss the importance of time management. **6**
- Q.7 Describe in detail about:
- Scope of professional practice.
 - Provision of services and advertising.
 - Education standards in physiotherapy.
 - Transparency and responsibility.
- 5x4**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fifth Semester

ORTHOPEDICS (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on:**

- a) Define Fractures.
- b) Myocytis Ossificans.
- c) Coxa Vera.
- d) Tennis Elbow.
- e) Signs and symptoms of fractures.
- f) Volkman's Ischemic Contractures.
- g) Ganglion.
- h) Carpel Tunnel Syndrome.
- i) Septic Arthritis.
- j) Define Osteotomy.

2x10

PART-A

Q.2 Explain the treatment, including on-the-spot, in emergency and definitive in case of closed fractures.

20

Q.3 Write notes on initial treatment of:

- a) Polytrauma.
- b) Spinal Injury.

10x2

Q.4 Write a note on definition, features, types and treatment of dislocation.

20

PART-B

Q.5 Write notes on:

- a) Sprengel's shoulder.
- b) Pyogenic Arthritis.
- c) Meningomyelocele.
- d) Osteogenesis Imperfecta.

5x4

Q.6 Explain the clinical features and management of:

- a) Cartilage Dysplasia.
- b) Congenital Torticollis.

10x2

Q.7 Write notes on:

- a) Spina Bifida.
- b) Multiplex Congenita.

10x2

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy — Fifth Semester
ORTHOPAEDIC PHYSIOTHERAPY (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**. Each question carries equal marks.

Q.1 Answer the following briefly:

- a) Define scoliosis.
- b) Define Colles' fracture.
- c) Define plantar fasciitis.
- d) Define Dupuytren's contracture.
- e) Define trigger finger.
- f) Define Pott's disease.
- g) Define Arthroplasty.
- h) Enlist the components of patient assessment sheet.
- i) Differentiate between OA and RA.
- j) Define Osgood - Schlatter's disease.

2×10

PART-A

Q.2 Describe PT management of fracture in terms of impairments, goals and intervention. Also, describe the precautions thereof. **20**

Q.3 What do you understand by club foot? Describe its components. Discuss its signs and symptoms along with PT management. **20**

Q.4 Discuss the causes, signs and PT management for radial nerve injury above elbow. **20**

PART-B

Q.5 Describe the pathophysiology, clinical manifestations, diagnostic tests and PT management for PIVD. **20**

Q.6 Describe clinical symptoms, diagnostic tests and PT management for frozen shoulder. **20**

Q.7 a) Discuss the components of pre-prosthetic assessment. **5**

b) Discuss various parts of prosthesis. **15**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fifth Semester
APPLIED BIOMECHANICS, KINESIOLOGY AND ERGONOMICS
(THEORY) (BPT-503)

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 **Write short notes on the following:**

- a) Name the ligaments of HIP joint.
- b) Angle of Toe Out.
- c) Define Ergonomics.
- d) FSU.
- e) Importance of Inter Vertebral Disc.
- f) Functions of Spine.
- g) Name the Ligaments of Ankle Joint.
- h) Hemiplegic Gait.
- i) Hallux Varus.
- j) Femoral Neck Shaft Angle.

2x10

PART-A

Q.2 Answer the following:

- a) Kinematics of Knee joint.
10
- b) Add a note on Screw Home mechanism of knee.
5
- c) Importance off Menisci in knee.
5

- Q.3
- a) Define Posture. Name the various assessment methods of assessing the posture. **5**
 - b) Factors affecting posture.
10
 - c) Name the postural deviations seen in posterior view.
5

- Q.4 Define GAIT. What are the different phases of GAIT? Explain the determinants of GAIT, in detail.
20

PART-B

- Q.5
- a) Describe the physiological risk factors related to musculoskeletal disorders in Business and Industry.
10
 - b) Mention the stages of musculoskeletal disorders related to physiological risk factors.
10

- Q.6 a) Mention the risk factors associated with gardening.
10
- b) Mention the ergonomic designs for gardening.
10
- Q.7 a) What are the ergonomic recommendations for lifting children?
10
- b) Describe the ergonomics required for bathing and dressing the child.
10

Bachelor of Physiotherapy – Fifth Semester
CONSULTATION AND SCREENING (BPT-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**. Each question carries equal marks.

Q.1 **Write short notes on the following:**

- a) Importance of consultation and screening.
- b) Importance of communication in screening.
- c) Name four pain assessment tools or scales.
- d) What are open ended and closed ended questions?
- e) Enumerate characteristics of pain.

2×5

PART-A

Q.2 Explain WCPT's ethical principles for physiotherapy practice.

10

Q.3 What is subjective examination? Why is it important for a physiotherapist to do a thorough subjective examination?

10

Q.4 Explain assessment of vital signs and its importance.

10

PART-B

Q.5 Discuss various parameters for skin assessment.

10

Q.6 Discuss systemic versus musculoskeletal pain patterns.

10

Q.7 What are six major areas to assess in neurological system? Explain in detail.

10

FOREIGN LANGUAGE (SPANISH) (BPT-GE-01)

Time: 2hrs

Max Marks: **50**

No. of pages: 2

Note: Attempt any five questions.

Q.1 **Completa las frases con la conjugacion correcta del verbo SER (Complete the following sentences with the form of SER):**

- a) Usted _____ muy amable.
- b) Carlos _____ alto y guapo.
- c) Vosotros _____ estudiantes.
- d) Ellos _____ estudiantes nuevos.
- e) Maria y yo _____ cubanos.
- f) Carlos y Pedro _____ ricos.
- g) Yo _____ una persona inteligente.
- h) Nosotros _____ alumnos buenos.
- i) Ana, María y yo _____ amigas.
- j) Yo _____ una persona inteligente.

1x10

Q.2 **Relaciona (Match the following)**

1. Médico	a. Lawyer
2. Enfermero	b. Police
3. Policía	c. Waiter
4. Pintor	d. Mechanic
5. Cocinero	e. Teacher
6. Camarero	f. Doctor
7. Arquitecto	g. Cook/chef
8. Mecánico	h. Architect
9. Abogado	i. Nurse
10. Maestro	j. Painter

10

Q.3 **Escribe la conjugacion del verbo ESTUDIAR:**

Yo	Estudio

10

Q.4 **Traduce las siguientes palabras. Translate the following words**

- a) Noviembre
- b) Febrero
- c) Marzo
- d) Abril
- e) Julio

- f) Agosto
- g) Septiembre
- h) Domingo
- i) Lunes
- j) Amarillo

10

Q.5 **Escribe los números en español (Write the nos. in Spanish)**

- a) 6
- b) 1
- c) 5
- d) 10
- e) 11
- f) 15
- g) 20
- h) 12
- i) 7
- j) 13

1x10

Q.6 **Responde a las preguntas. Answer the questions.**

- a) ¿Cómo está José?/ enfermo - José está enfermo.
- b) ¿Cómo está usted?/ cansada-
- c) ¿Cómo estáis vosotros?/ bien-
- d) ¿Cómo están Pilar y Carmen?/ resfriadas-
- e) ¿Cómo está la habitación?/ desordenada-
- f) ¿Cómo están ustedes?/ cómodos-
- g) ¿Cómo estás tú?/ no bien-
- h) De dónde eres tú?/ Inglaterra
- i) ¿Estudia usted informática? la medicina
- j) ¿Ella estudia español para viajar? francés
- k) ¿Es Juan periodista? maestro

10

Q.7. Presentate en español (Introduce yourself in Spanish five sentences)

10

Q.8. **Rellena los campos con la forma correcta del verbo ESTAR. Fill in the blanks with correct form of ESTAR:**

- a) María y Ana _____ en Colombia.
- b) Él _____ enfermo.
- c) Nosotras _____ en la misma clase.
- d) Yo _____ triste (sad) hoy.
- e) Tú y yo _____ en Arkansas.
- f) ¿Cómo _____ la chica rubia?
- g) Ustedes _____ muy contentas.
- h) ¿Cómo _____ los alumnos cubanos?
- i) José y Miguel _____ cansados.
- j) ¿Dónde _____ tú?

10

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
PERSONALITY DEVELOPMENT PROGRAM (BPT-GE-02)

Time: 3 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**. Each question carries equal marks.

- Q.1 Write short notes on **(any two)** of the following:
a) Qualities of an effective counsellor.
b) Benefits of positive attitude.
c) Seven habits of highly effective people by Stephen R. Covey. **5x2**

PART-A

- Q.2 What is time management? Why is it important for your career? How can you manage your time well?

10

- Q.3 What is career planning? How does self-assessment help you in effective career planning?

10

- Q.4 What is negotiation? Explain the negotiating process.

10

PART-B

- Q.5 What are the various competencies desired by the organizations? Explain how you will answer and respond to competency related questions?

10

- Q.6 Explain barriers to effective persuasion.

10

- Q.7 Define 'empathy'. How you can use the power of empathy in healing someone? **10**

End Semester Examination, Dec. 2017
B. Sc. (HHA) – First / Third Semester
**TECHNOLOGY OF FERMENTED, CHEESE, ICE CREAM AND BY
PRODUCTS (MOOC-UGC-012)**

Time: 2 hrs.

Max Marks: **50**
No. of pages: 2

Note: Attempt **FOUTREEN** questions in all; **Q.1 to Q.10 are compulsory**. Attempt any **FOUR** questions from **Q.11 to Q.15**. Marks are indicated against each question.

Multiple choice questions:

- Q.1 Cheese is made from
a) Milk
b) Water
c) Yoghurt
d) Buttermilk **1**
- Q.2 Gelato origins from
a) Italy
b) France
c) Germany
d) None of the above. **1**
- Q.3 By Product of fermentation are:
a) CO₂ & water
b) CO₂ & alcohol
c) CO₂, alcohol & water
d) Hydrogen **1**
- Q.4 Curd is a product we gets from the process of:
a) Cheese making
b) Yoghurt making
c) Ice cream making
d) None of the above **1**
- Q.5 Rennet is
a) Bacteria
b) Virus
c) Fungus
d) None of the above **1**
- Q.6 Sherbet is
a) Frozen dessert
b) Ice cream
c) Drink
d) None of these **1**
- Q.7 Why is
a) Protein
b) Carbohydrate
c) Vitamin
d) Mineral **1**
- Q.8 Shri Khands is made from
a) Yoghurt
b) Milk
c) Cheese
d) Ice cream **1**

- Q.9 Paneer origins from
a) India
b) Australia
c) Germany
d) France. **1**
- Q.10 Gorgonzola origins from
a) UK
b) USA
c) France
d) Italy **1**
- Q.11 Describe in detail the process of paneer making. **10**
- Q.12 What is the difference between Shrikhand and Amrakhand? **10**
- Q.13 What is Gelato? List down different types of frozen desserts. Describe each in detail. **10**
- Q.14 What is the process of making Yoghurt commercially? Describe in detail. **10**
- Q.15 What is whey? Name two different types of protein found in milk and their uses in the dairy industry. **10**

End Semester Examination, Dec. 2017
Master of Physiotherapy – First Semester
BUSINESS DEVELOPMENT IN HEALTH CARE (MPT-001)

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**. Each question carries equal marks.

- Q.1 Answer the following:
a) Give an example using information technology (ICT) for mental health.
b) Importance of e-Health.
c) Explain patient safety in health care.
d) Write down in brief about Quality Management.
e) What is safety net system?
2×5

PART-A

- Q.2 Define Quality in Health Care. Explain its importance. What are the factors affecting the quality in health sector?
10
- Q.3 What are the healthcare system improvement challenges? What are the measures to improve them?
10
- Q.4 Write down the steps of Quality Assurance? Explain in detail.
10

PART-B

- Q.5 What are the workforces required for delivering the care in health care sectors? Explain their roles.
10
- Q.6 Explain the different sectors of the Health Care System.
10
- Q.7 Explain the role of Policy options for Health System Improvement.
10

End Semester Examination, Dec. 2017
Master of Physiotherapy – First Semester
RESEARCH METHODOLOGY AND BIostatISTICS
(MPTM/MPTN/MPTS-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**. Each question carries equal marks.

- Q.1 Answer briefly:
- Define content validity.
 - Define/mention the different types of variables.
 - Differentiate between discrete and continuous series.
 - Define measurement.
 - Define hypothesis and its types.
 - Define p-value.
 - Tabulate types of errors in research.
 - Enlist components of research proposal.
 - Differentiate between incidence and prevalence.
 - Define skewness.
- 2×10**

PART-A

- Q.2 Define scientific research. Discuss the importance of research in clinical practice with examples. Discuss various research designs. **20**
- Q.3
- What are the various sampling techniques used in research? Explain any two in detail, with examples. **15**
 - Discuss various referencing models used in research.
- Q.4 Discuss the various ethical principles used in clinical research. **20**

PART-B

- Q.5 The marks obtained by a group of ten students in graduation and MBA entrance test were found as under:
 Graduation : 50, 52, 55, 60, 62, 65, 65, 66, 70, 75
 Entrance Test: 52, 50, 57, 65, 65, 62, 65, 65, 71, 78
 Find the regression equations from the above data. **20**
- Q.6
- Explain Normal Distribution with diagram.
 - Differentiate between parametric and non-parametric tests.
 - Explain the sources of errors in measurements.
 - What do you understand by plagiarism? **5×4**

- Q.7 A certain drug is claimed to be effective in curing cold. In an experiment on 500 patients with cold, half of them were given the drug and half of them were given the sugar pills. The patient's reactions are recorded in the following table.

	Helped	Harmed	Non effect	Total
Drug	150	30	70	250
Sugar Pills	130	40	80	250
Total	280	70	150	500

On the basis of the above data, can it be concluded that there is significant difference in the effect of the drug and sugar pills?

End Semester Examination, Dec. 2017
Master of Physiotherapy – First Semester
KINESIOLOGY AND BIOMECHANICS (MPTM-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**. Each question carries equal marks.

Q.1 Write short notes on the following:

- a) 2nd order lever.
- b) Genu varum.
- c) Convex-Concave Rule.
- d) Kinematics and kinetics.
- e) Palmar and dorsal interossei – action only.

- f) Anatomical pulley – only example.
- g) Young's modulus.
- h) Types of motion.
- i) Power grip.
- j) Q - Angle.

2×10

PART-A

- Q.2 Explain Scapular-Humeral rhythm with muscle kinetics in rhythm. Describe the kinematics of flexion, abduction and external rotation of shoulder joint.
20
- Q.3 Explain synovial joint with diagram. Describe different types of joint categories.
20
- Q.4 a) Explain stress - strain curve with diagram. **10**
b) Describe the effect of temperature, ageing and immobilization on mechanical properties of ligaments. **10**

PART-B

- Q.5 Discuss the biomechanics of Running in detail. **20**
- Q.6 Describe the importance of biomechanics in manual therapy. **20**
- Q.7 Describe the temporal and spatial parameters of gait. What are the determinants of gait?
20

End Semester Examination, Dec. 2017
Master of Physiotherapy - First Semester
PHYSIOTHERAPEUTICS - I (MPT-M/N/S-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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) Define pain and its types.
 - b) Define lateral pelvic tilt.
 - c) Define balance.

- d) Define closed kinematic chain exercises.
- e) Enumerate indications of stretching.
- f) Define muscle fatigue.
- g) Indications of low frequency currents.
- h) Grades of Mobilization.
- i) Write indications of cryotherapy.
- j) Define plyometric exercises.

2x10

PART-A

- Q.2 Describe various theories of pain and various scales of pain assessment.
20
- Q.3 What is balance? Explain various strategies for maintaining balance. Describe various management techniques for impaired balance.
20
- Q.4 Discuss movement with mobilization, in detail, and describe three types of dysfunction as described by Maitland.
20

PART-B

- Q.5 Discuss various biomechanical factors for maintaining posture along with physiotherapy management of flat back posture.
20
- Q.6 Write, in detail, various principles and techniques of relaxation.
20
- Q.7 Discuss, in detail, various low, medium and high frequency currents.
20

End Semester Examination, Dec. 2017

Master of Physiotherapy (MUSCULOSKELETAL) - Second Semester
EXERCISE PHYSIOLOGY (MPTM-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**. Each question carries equal marks.

- Q.1 **Define in brief the following:**
- a) Fick's equation.
 - b) Glycogenolysis.
 - c) Respiratory Quotient and its normal value.

- d) Lactate Threshold.
 - e) MET.
 - f) Mention the events in sliding filament theory.
 - g) Motor end plate potential.
 - h) Decompression sickness.
 - i) What is normal WBGT equation?
 - j) HACE.
- 2x10**

PART-A

- Q.2 Describe the various energy transfer systems in the human body according to time.
20
- Q.3 Discuss the effect of chemical and mechanical events during muscle contraction. Discuss the structure of muscle spindle. What are the different types of muscle fibers?
20
- Q.4 a) Explain how pulmonary ventilation varies during different forms of exercises. **10**
b) Explain different factors that effects blood flow during exercises.
10

PART-B

- Q.5 Describe the androgen, insulin and catecholamine effects on exercise.
20
- Q.6 Describe the role of carbohydrate feedings before, during and in recovery from exercise. Describe the food intake for different exercise needs. Add a note on military requirements.
20
- Q.7 a) Describe the mechanism of thermoregulation.
10
b) Discuss the effect of altitude and cold on exercise.
6
c) Add a note on AMS.
4

End Semester Examination, Dec. 2017

Master of Physiotherapy (Musculoskeletal) - Second Semester EVALUATION, DIAGNOSIS AND MANAGEMENT IN MUSCULOSKELETAL-I (MPTM-202)

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 Write short notes on:
- a) Limb length measurement.
 - b) Classify amputation.
 - c) Radiological findings of degenerative lumbar spine.
 - d) Neer's stages of impingement.
 - e) What is Lisfranc's amputation?
 - f) Clinical presentation of T4 syndrome.
 - g) Nerve injury classification.
 - h) Types of burns.
 - i) Clinical presentation in gout.
 - j) What is tenosynovitis?
- 2x10**

PART-A

- Q.2 Describe ulnar and radial nerve injury causes, clinical features, assessment and physiotherapy management.
20
- Q.3 What are different sensory and motor examination methods in patient? How will you do examination of function in a patient?
20
- Q.4 Write in detail about osteoarthritis.
20

PART-B

- Q.5 Write in detail about post prosthetic assessment and physiotherapy management of below knee amputation.
20
- Q.6 What are different stages of adhesive capsulitis? Write about patient presentation and treatment of adhesive capsulitis.
20
- Q.7 Discuss the importance of following in physiotherapy - radiography, ultrasonography, CT scan, MRI, EMG and BMD.
20

End Semester Examination, Dec. 2017

Master of Physiotherapy (Musculoskeletal) - Second Semester
PHYSIOTHERAPEUTICS-II (MPTM-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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) Brick wall concept of Maitand.
 - b) Therapeutic planes according to Kaltenborn.
 - c) Define regular and irregular patterns.
 - d) Enumerate principles of taping.
 - e) Write about ground clearance in case of active wheelchair.
 - f) What are the differences between active, semiactive and passive wheelchair?
 - g) Define 'yoga as per Patanjali'.
 - h) Write the name chakras of body as per yogic scriptures.
 - i) Enumerate the contraindication of manual mobilization.
 - j) Define 'isokinetic dynamometry'.
- 2x10**

PART-A

- Q.2 Describe movement diagram. Draw movement diagram for various clinical groups. What are the principles of selection of mobilization and manipulation techniques for these clinical groups?

20

- Q.3 Explain McKenzie mobilization in detail. Write about the extension exercises protocol for derangement with diagrams.

20

- Q.4 What are the principles and effects of taping? Write the procedure for taping of medial arch support.

20

PART-B

- Q.5 Describe all the basic wheelchair skills in active and semiactive wheelchair.

20

- Q.6 a) What do you understand by pranayamas? Explain the therapeutic application of pranayama for the benefits of humanity.

10

- b) Give the clinical application of yoga in various musculoskeletal conditions.

10

- Q.7 Write in detail about EMG and functional electrical stimulation.

20

End Semester Examination, Dec. 2017

Master of Physiotherapy (Musculoskeletal) - Second Semester

APPLIED PSYCHOLOGY (MPTM-204)

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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) What is perception?
 - b) What are executive functions?
 - c) List different personality types.
 - d) Define 'memory'.
 - e) Define 'ADHD'.
- 2x5**

PART-A

- Q.2 a) Define 'cognitive mapping'. Explain its components.
5
- b) Discuss proportional representation with examples.
5
- Q.3 What is Autism? Explain causes and treatment for the same.
10
- Q.4 Write a note on MMSE.
10

PART-B

- Q.5 How can one test the orientation, attention and cognition in a person?
10
- Q.6 a) What is psycho social adaption?
5
- b) Write a short note on 'anxiety'.
5
- Q.7 What is perception? Discuss in detail various perceptual deficits.
10

EVALUATION, DIAGNOSIS AND MANAGEMENT IN MUSCULOSKELETAL-II (MPTM-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**. Each question carries equal marks.

Q.1 Answer in briefly the following:

- a) Describe dupuytren's contracture.
- b) Describe trigger finger.
- c) Define wrist sprain.
- d) Discuss the clinical test for CTS.
- e) Enlist the principles of use of assistive devices.
- f) Define falls in elderly.
- g) Define Triple Arthrodesis.
- h) Differentiate between impairment and disability.
- i) Enlist the mental problems in elderly.
- j) Define external fixator.

2×10

PART-A

Q.2 Describe the principles of disability assessment, in detail. **20**

Q.3 Describe the physiotherapy management of fractures in detail. Also discuss the precautions thereof. **20**

Q.4 Describe PIVD along with signs and symptoms, diagnostic test (clinical) and physiotherapy management. **20**

PART-B

Q.4 Discuss the pre and post-operative assessment and rehabilitation of THR. Also, describe the precautions. **20**

Q.5 Discuss the functional assessment of elderly. **20**

Q.6 a) Classify assistive devices. Describe each one, in detail. **10**

b) Discuss measurement of walking aids. **10**

CURRENT CONCEPT AND SCIENTIFIC RATIONALE IN MUSCULOSKELETAL (MPTM-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.1 Explain the following:
- a) Principles of MET.
 - b) Mechanical and physiological properties of nerves.
 - c) Three tier model for assessing spinal stability.
 - d) DAISE model for developing touch.
 - e) Difference between trigger points and tender points.
 - f) Sacral release.
 - g) Write in brief about end-feel according to Cyriax.
 - h) Neutral Zone.
 - i) Frontal lift.
 - j) Segmental stabilization.
- 2x10**

PART-A

- Q.2 What is positional release technique? Describe treatment techniques, indications, contraindications and clinical application of PRT.
20
- Q.3 Define adverse neural tension (ANT). Describe various tests to diagnose ANT. Write about management of ANT.
20
- Q.4 Explain in detail the principle of cyriax mobilization. Explain the technique with example.
20

PART-B

- Q.5 Describe clinical assessment of deep muscles of lumbar spine. How will you treat motor control problem of lumbopelvic region?
20
- Q.6 Explain the principle of cranio sacral therapy.
20
- Q.7 Explain the principle of Pilates and the types of Pilates. Give three examples of each level.
20

INTERDISCIPLINARY LEARNING (MPTM-402/MPTS-402/MPTN-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**. Each question carries equal marks.

- Q.1 Explain how the study of interdisciplinary learning will help students to understand the dynamics of teaching and learning process. **20**

PART-A

- Q.2 a) Write short notes on:
i) Private health care insurance. **5x2**
ii) Diagnosis and prognosis. **10**
b) Explain in detail giving suitable examples any one type of medical record. **10**
- Q.3 a) What is performance appraisal? Explain different types of performance appraisals. **10**
b) Write short notes on:
i) Quality assurance.
ii) Market segmentation. **5x2**
- Q.4 a) Write short notes on:
i) Code of ethics.
ii) Principles of collaborations. **5x2**
b) Explain the role of International Health Agencies. **10**

PART-B

- Q.5 a) Differentiate between:
i) Formal and Informal Education. **5x2**
ii) Trends in higher education. **10**
b) Explain any one educational philosophy and its implication for education. **10**
- Q.6 a) Write short notes on:
i) Meaning and concept of guidance.
ii) Dynamics of behavior. **5x2**
b) Define curriculum. Explain the factors affecting curriculum development. **10**
- Q.7 a) Write short notes on:
i) Projected and Non-Projected Av Aids.
ii) Need for educational measurement. **5x2**
b) Explain in detail bloom's taxonomy of instructional objectives. **10**

End Semester Examination, Dec. 2017
Master of Physiotherapy
(MUSCULOSKELETAL, NEUROLOGY AND SPORTS) – First Semester
ADVANCED BASIC MEDICAL SCIENCE (MPTM/MPTN/MPTS-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
- a) What is Rigor Mortis?
 - b) Explain walk-Along theory of contraction.
 - c) What is Occlusion and Subliminal fringe?
 - d) Describe 'Reciprocal Inhibition'.
 - e) What does LD 50 means?
 - f) What is Sodium Nitroprusside?
 - g) What is Cubital Fossa.
 - h) What is bursistis?
 - i) Define Motor Unit.
 - j) What is Osteopenia?

2×10

PART-A

- Q.2 Discuss about the length-tension relationship and force-velocity relationship of muscle. What is the significance of aerobic training and strength training? What are slow oxidative, fast glycolytic and fast oxidative-glycolytic fibers? Also, write about oxygen consumption after exercise. **20**
- Q.3 State the difference between skeletal, cardiac and smooth muscle. Write about the electrical, metabolic changes occur in muscle contraction. Discuss about muscle fatigue. Write about reflex property. **20**
- Q.4 Define 'joint'. Describe different types of joints in detail. Explain the features of typical synovia! joint with diagram. **20**

PART-B

- Q.5 What is Volkmann's contracture? Discuss about myasthenia gravis. Enumerate the difference between apoptosis and necrosis. Write about one important DJD. State few differences between osteomalacia and rickets. **20**
- Q.6 Write about a typically acting drugs use, adverse effects and mechanism of action. Discuss about local anaesthetics and muscle relaxant. **20**
- Q.7 Discuss the use, adverse effects, administration and mechanism of action of drugs for managing pain. Discuss about steroid drugs. **20**

End Semester Examination, Dec. 2017

Master of Physiotherapy – Third Semester

WOMEN HEALTH (MPT-M/N/S-303)

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**. Each question carries equal marks.

Q.1 **Answer the following in brief:**

- a) Causes of Infertility in Women.
- b) Importance of Geriatric health assessment.
- c) Clinical features of Polycystic Ovarian disease.
- d) Types of Sexual disorders in women.
- e) Importance of exercises in women health.

2x5

PART-A

Q.2 Discuss the various health risks women face at work.

10

Q.3 Discuss the etiology, patho-physiology and clinical features of breast cancer. Also, add a note on post-operative physiotherapy management of Breast cancer.

10

Q.4 a) Write a short note on Endometriosis.

5

b) Discuss briefly various occupational hazards among women workers.

5

PART-B

Q.5 What is Postnatal depression? Discuss the various measures for its prevention and management.

10

Q.6 Explain the various Fall prevention strategies in the management of balance in an elderly female.

10

Q.7 Discuss briefly Eating disorders.

5

b) Geriatric incontinence management.

5

End Semester Examination, Dec. 2017
Master of Physiotherapy (Neurology) – First Semester
ADVANCED BASIC MEDICAL SCIENCE (MPTN-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 **Answer the following in brief:**

- a) Motor Unit Action Potential.
- b) Stages of Nerve degeneration.
- c) Saltatory Conduction.
- d) Signs of cerebellar damage.
- e) Classification of Nerve fibres.
- f) Myotome of Ankle jerk, Knee jerk, Biceps jerk, Triceps jerk.
- g) Functions of Autonomic Nervous System.
- h) Functions of Neuroglia.
- i) Functions of VIII cranial Nerve.
- j) Erb's paralysis.

2x10

PART-A

Q.2 Discuss the organization of the Nervous System. Also, elaborate the functions of various parts of the Brain.

20

Q.3 Explain the blood supply of brain and spinal cord.

20

Q.4 What are Pyramidal and Extra Pyramidal System of the brain? Discuss the signs and symptoms arising due to insult of extra Pyramidal System.

20

PART-B

Q.5 What is Tone? Discuss the various Neuro-physiological processes for the regulation of Tone under various circumstances.

20

Q.6 Discuss the process of cell injury to repair. Also, highlight the role of Immune system in the healing of tissues.

20

Q.7 Discuss the Pharmacokinetics of the drugs used in pain.

20

End Semester Examination, Dec. 2017
Master of Physiotherapy (Neurology) – First Semester
KINESIOLOGY AND BIOMECHANICS (MPTN-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**. Each question carries equal marks.

Q.1 **Answer the following in brief:**

- a) What is Functional spinal Unit?
- b) What is Mechanical advantage?
- c) Anatomical pulley in Human Body.
- d) What is Q angle? How do we measure it?
- e) Temporal variables of gait.
- f) What are the various conditions of practice in Motor Learning?
- g) Concave-convex rule.
- h) Classification of joints.
- i) What is Augmented feedback?
- j) Explain features of Hand to knee gait.

2x10

PART-A

Q.2 a) Discuss the changes in the mechanical properties of Muscle due to ageing. **10**

b) Explain the application of Newton's Laws of Motion in Physiotherapy.
10

Q.3 Describe the various degenerative changes and compensatory actions taking place in weight bearing joints.

20

Q.4 Explain the Biomechanics of spine.

20

PART-B

Q.5 a) Explain the determinants of Gait.

10

b) Discuss the biomechanics of running.

10

Q.6 Explain the various physical and biomechanical risk factors for various WRMSD's. **20**

- Q.7 Explain the various factors affecting Motor learning.
20

End Semester Examination, Dec. 2017
Master of Physiotherapy (Sports) – First Semester
ADVANCED BASIC MEDICAL SCIENCE (MPTS-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 Attempt following:
- Define 'inflammation'.
 - Mention the names of two steroid drugs.
 - What is osteochondritis?
 - Write a short note on 'Delayed Onset Muscle Soreness'.
 - What are opioid analgesics?
 - Enumerate the muscles of sacro-coccygeal region.
 - Define 'action potential'.
 - Enumerate the types of muscles.
 - Define 'muscle spindle'.
 - What is sagittal plane? Mention the movements in sagittal plane. **2×10**

PART-A

- Q.2 Describe the contractile mechanism of skeletal muscle in detail. **20**
- Q.3 What are the drugs acting on musculoskeletal system? Enumerate and describe in detail.
20
- Q.4 Describe the structure of a tendon. What are the implications of each structure with regard to pathological injuries? **20**

PART-B

- Q.5 Describe the Length-Tension Relationship in skeletal muscle co-relate with types of contraction. **20**
- Q.6 What are the types of muscle tissue fibres and their significance in sports? **20**
- Q.7 Describe the course of nerves of the region around elbow and forearm with a neat diagram. **20**

End Semester Examination, Dec. 2017
Master of Physiotherapy – First Semester
KINESIOLOGY AND BIOMECHANICS (MPTS-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**. Each question carries equal marks.

Q.1 Write short notes on the following:

- a) 2nd order lever.
- b) Genu varum.
- c) Convex-concave rule.
- d) Kinematics and kinetics.
- e) Action of palmar and dorsal interossei muscles.
- f) Examples of Anatomical pulley in human body.
- g) Young's modulus of elasticity.
- h) Types of motion.
- i) Power grip.
- j) Phases of throwing.

2×10

PART-A

Q.2 Explain scapular-humeral rhythm with muscles kinetics in rhythm. Describe the kinematics of flexion, abduction and external rotation of shoulder joint.

20

Q.3 Explain synovial joint with diagram. Describe different types of joint categories.

20

Q.4 What is stress-strain curve? Describe the effect of temperature, ageing and immobilization on the mechanical properties of ligaments.

20

PART-B

Q.5 Discuss the biomechanics of running in detail.

20

Q.6 Describe the principles of ergonomics. Write a short note on work related musculoskeletal disorders.

20

Q.7 Describe the temporal and spatial measurements of gait. What are the determinants of gait?

20

End Semester Examination, Dec. 2017
Master of Physiotherapy (SPORTS) –Second Semester
EXERCISE PHYSIOLOGY (MPTS-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**. Each question carries equal marks.

- Q.1 Answer the following:
- a) Explain the term second wind.
 - b) Differentiate between fast and slow twitch muscle fibers.
 - c) Write about gluconeogenesis.
 - d) What is RQ? Write the normal value.
 - e) Write about oxygen debt.
 - f) Define 'fatigue'.
 - g) Write about decompression sickness.
 - h) Define 'MET'.
 - i) Write the normal WBGT equation.
 - j) Define 'heat syncope'.

2x10

PART-A

- Q.2 Discuss the recruitment of Various Energy Systems during an athletic performance.

20

- Q.3 Explain the factor affecting adaptations to strength and endurance training.

20

- Q.4 Discuss the metabolism of thermo regulation. How high altitude and cold affect an exercise? Write briefly about acclimatization and altitude related health problems.

20

PART-B

- Q.5 a) Explain how Pulmonary Ventilation varies during different form of exercise. **10**
- b) Explain different factors that effect blood flow and effect of exercise on these factors.

10

Q.6 Discuss the effect of various hormone on exercise.

20

Q.7 Discuss the Carbohydrate Feeding prior to, during and in recovery from exercise. Write the role of fluid intake during and post exercise.

20

End Semester Examination, Dec. 2017
Master of Physiotherapy (Sports) – Second Semester
EVALUATION, DIAGNOSIS AND MANAGEMENT IN SPORTS
(MPTS-202)

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 Write short notes on:

- a) Hyphema.
- b) Tests for Shoulder impingement.
- c) Importance of subacromial space.
- d) Importance of scapulo-humeral rhythm.
- e) FABER test.
- f) Patrick test.
- g) PFPS.
- h) Contraindications to bandaging.
- i) Footballer's Ankle.
- j) Goalkeeper's thumb.

2x10

PART-A

Q.2 Discuss in detail about the mechanism / etiology of sports injuries with examples. **20**

Q.3 Enumerate the injuries seen in overhead athletes and discuss shoulder impingement in detail.

20

Q.4 Write about clinical features, mechanism of injury, special test, and management of the following:

- a) Concussion.
- b) Osgood schlatter's.

10x2

PART-B

Q.5 Enumerate the commonly sports injuries seen in geriatric population / Athlete and discuss any one in detail.

20

Q.6 Write down the advantages of EMG and Dexa for sports rehabilitation.

20

Q.7 Enumerate the various heat related disorders seen in sports and discuss in detail heat stroke.

20

End Semester Examination, Dec. 2017
Master of Physiotherapy (Sports) - Second Semester
PHYSIOTHERAPEUTICS-II (MPTS-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**. Each question carries equal marks.

- Q.1
- a) Brick wall concept of Maitand.
 - b) Therapeutic planes according to Kaltenborn.
 - c) Define 'regular and irregular patterns'.
 - d) Enumerate principles of taping.
 - e) Write about ground clearance in case of active wheelchair.
 - f) What are the differences between active, semiactive and passive wheelchair?
 - g) Define somatotype.
 - h) Name chakras of body as per yogic scriptures.
 - i) Enumerate the contraindication of manual mobilization.
 - j) Name the four skinfold for calculating somatotype.

2x10

PART-A

Q.2 Describe movement diagram. Draw movement diagram for various clinical groups. What are the principles of selection of mobilization and manipulation techniques for these clinical groups?

20

Q.3 Define 'body composition'. Enumerate the various methods of estimating body fat. Write a short note on BIA.

20

Q.4 What are the principles and effects of taping? Write the procedure for taping of medial arch support.

20

PART-B

Q.5 Describe the basic wheelchair skills in active and semiactive wheelchair.

20

- Q.6 a) What do you understand by pranayamas? Explain the therapeutic application of pranayama for the benefits of humanity. **10**
- b) Give the clinical application of yoga in various musculoskeletal conditions. **10**
- Q.7 Write in detail about EMG and functional electrical stimulation. **20**

End Semester Examination, Dec. 2017
Master of Physiotherapy (Sports) – Second Semester
SPORTS PSYCHOLOGY (MPTS-204)

Time: 2hrs

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**. Each question carries equal marks.

- Q.1 Write short notes on:
- Benefits of yoga and meditation.
 - What are the different types of sentiment?
 - Briefly discuss the importance of biofeedback training in sports.
 - Name some eating disorders.
 - Briefly describe the psychological changes associated with doping.

2x5

PART-A

- Q.2 What do you mean by emotion? Discuss its characteristics. Explain the contribution of sports to emotional health. **10**
- Q.3 Explain in detail the techniques of psychological preparation used in sports. **10**
- Q.4 What are the principles of stress management? Discuss the techniques in detail. **10**

PART-B

- Q.5 Write short notes on:
- Progressive muscle relaxation.
 - Concentration awareness exercises.
- 5x2**
- Q.6 Write short notes on:
- Motivational inhibitors.
 - Effect of pre-competitive anxiety on performance.
- 5x2**

- Q.7 Write short notes on:
a) Management of aggression.
b) Qualities of leadership.
5x2

End Semester Examination, Dec. 2017
Master of Physiotherapy (Sports) – Third Semester
EVALUATION, DIAGNOSIS AND MANAGEMENT IN SPORTS-II
(MPTS-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**. Each question carries equal marks.

- Q.1 Define the following
- a) Buoyancy.
 - b) Archmidie Principle.
 - c) Protective equipment for lower limb.
 - d) Ergogenic Aids.
 - e) Blood Doping.
 - f) Gene Doping.
 - g) Effects of Effleurage.
 - h) Protective equipment for face.
 - i) SOAP notes.
 - j) Indications of Pre-competition massage.
- 2x10**

PART-A

- Q.2 What do you understand by Contact and Non-Contact Sports? What are the common overuse injuries seen in Non-Contact Sports? Write the etiological factors, sign & symptoms and management for Rotator cuff Symptoms.
20
- Q.3 What are the different levels of injury prevention? Discuss the principles involved in choosing/selecting the protective equipment. Name the various protective equipments used in Soccer and Hockey.
20
- Q.4 Define Massage. Discuss the contraindications of Massage, in detail. Write in detail about the different sports massage according to the timing and their effects.
20

PART-B

- Q.5 a) Define Hydrotherapy. Write down the indications & contraindications of Massage. **10**
 b) Discuss the importance of Hydrotherapy in Sports Physiotherapy. **10**
- Q.6 a) Discuss the principles of Training in detail. **10**
 b) Discuss Periodization in detail. **10**
- Q.7 Define doping. What are the different methods of Doping? Write a note on therapeutic use of banned drugs. Write a note on the duties of chaperone. **20**

End Semester Examination, Dec. 2017
 Master of Physiotherapy – Third Semester
CURRENT CONCEPT AND SCIENTIFIC RATIONALE IN SPORTS
(MPTS-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.1 Answer the following:
 a) Define 'inflammation'.
 b) Mechanical and physiological properties of nerves.
 c) Explain, in brief, the three tier model for assessing spinal stability.
 d) DAISE model for developing touch.
 e) Differentiate between trigger points and tender points.
 f) Explain sacral release.
 g) Write, in brief, about end-feel according to Cyriax.
 h) Define 'neutral zone'.
 i) Frontal lift.
 j) Define 'segmental stabilization'. **2×10**

PART-A

- Q.2 Define 'Kinesiotaping'. Describe indications, contraindications and principles of application of taping. **20**
- Q.3 Define 'adverse neural tension (ANT)'. Describe various tests to diagnose ANT. Write about management of ANT. **20**
- Q.4 Explain, in detail, the principle of cyriax mobilization. Explain the technique with example. **20**

PART-B

- Q.5 Describe clinical assessment of deep muscles of lumbar spine. How will you treat motor control problem of lumbopelvic region? **20**
- Q.6 Explain the principle of cranio sacral therapy. **20**

- Q.7 Explain the principle of pilates? Explain types of pilates and give three examples of each level. **20**

End Semester Examination, Dec. 2017
Master of Physiotherapy – Fourth Semester
APPLIED CLINICAL NUTRITION (MPTS-403)

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**. Each question carries equal marks.

- Q.1 Explain how nutritional assessment help in identifying various disorders of human body? Explain any two methods, in detail. **10**

PART-A

- Q.2 Discuss the fundamentals of meal planning, in detail. **10**

- Q.3 Explain different mode of feeding. Discuss any one, in detail. **10**

- Q.4 Write short notes on the following:

a) Food groups.

b) Food pyramid.

5x2

PART-B

- Q.5 Explain the nutritional management of hypertension, in detail. **10**

- Q.6 Discuss the following:

a) Types of Diabetes.

b) Metabolism of Gout.

5x2

- Q.7 Write short notes on the following:

a) Gluten Enteropathy.

b) Phenylketonuria.

5x2

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy- First Semester
ANATOMY-I (PT-101)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **NINE** questions in all; Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 Describe the origin, insertion, nerve supply and action of following muscles:
a) Biceps
b) Quadriceps
10
- Q.2 Describe the muscles and difference between skeleton, cardiac and smooth muscles.
10
- Q.3 Draw the labeled diagram of heart.
10
- Q.4 Define the bronchopulmonary segment.
10

PART-B

- Q.5 Write the definition and classification of joints.
5
- Q.6 Explain the types of blood circulation.
5
- Q.7 Explain Lymphatic drainage of lower limb.
5
- Q.8 Describe the arches of foot.
5

Q.9 Describe Ligaments of shoulder joint.

5

Q.10 Write a short note on cubital fossa.

5

Q.11 Describe the types of cartilage along with examples.

5

Q.12 Describe the brachial plexus.

5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – First Semester
PHYSIOLOGY-I (PT-102)

Time: 3 hrs.

Max Marks: **60**

No. of pages:

1

Note: Attempt **NINE** questions in all; Attempt any **THREE** questions from **PART-A** and **SIX** questions from **PART-B**. Marks are indicated against each question.

PART-A

Q.1 Explain about different cellular transport. **10**

Q.2 Explain the ECG and enumerate the clinical significance. **10**

Q.3 How intestinal movements take place in human body? **10**

Q.4 Describe about coagulation of blood. **10**

PART-B

Q.5 Write about the metabolic changes of muscle during contraction? **5**

Q.6 Write about the function of liver? **5**

Q.7 What are the functions of plasma protein? **5**

Q.8 State the difference between isometric, isotonic and isokinetic contraction? **5**

5

Q.9 How coronary and pulmonary circulation take place? **5**

- Q.10 Write about RBC, WBC functions. **5**
- Q.11 What is afterload and preload? **5**
- Q.12 What do you mean by blood typing? **5**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy- First Semester
BIOCHEMISTRY (PT-103)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 How Glycolysis leads to formation of Pyruvate? Explain all the steps with Enzymes and Co-enzymes.
10
- Q.2 What is the role of Urea Cycle? How liver detoxifies toxic Ammonia? Explain in detail.
10
- Q.3 What do you mean by Carbohydrates? Explain its classification with proper examples.
10
- Q.4 Write all the functions of proteins. Explain in detail its various types with suitable examples.
10

PART-B

- Q.5 What are fats? How are they significant for our growth?
5

Q.6 Explain clinical importance of Enzymes.

5

Q.7 Enumerate Kidney Function tests.

5

Q.8 Define Lipoproteins. Mention its various types, in brief.

5

Q.9 What are Saturated and Unsaturated fats?

5

Q.10 Draw the structure of Glucose and Mannose.

5

Q.11 What are Amino Acids? Draw its basic structure.

5

Q.12 Differentiate between Monosaccharides and Polysaccharides.

5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - First Semester
FUNDAMENTALS OF PHYSIOTHERAPY (PT-104)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 a) Explain different types of muscle contraction.

5

b) Explain muscle group actions.

5

Q.2 Explain in brief, the Planes and Axes and the movements taking place in them. **10**

Q.3 Explain Transformers along with their construction, types and uses.

10

Q.4 Explain in brief, Electromagnetic Spectrum along with its uses.

10

PART-B

- Q.5 Draw the circuit diagram for SWD.
5
- Q.6 What is a fuse? Explain its function.
5
- Q.7 Explain pulley and state some examples in Human Body.
5
- Q.8 Explain the precautions which can be taken to prevent electric shocks.
5
- Q.9 Write a short note on the following:
a) Ohm's Law.
b) Capacitors.
2½x2
- Q.10 Explain the role of buoyancy on movements performed in water.
5
- Q.11 Write in brief, about the physical principles of Cold Therapy.
5
- Q.12 Write a short note on centre of gravity and line of gravity and their alterations. **5**

End Semester Examination, Dec. 2017 Bachelor of Physiotherapy - Second Semester **ANATOMY-II (PT-201)**

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **THREE** questions from **Part-B**.

PART-A

- Q.1 Write short notes on:
a) Lymphatic drainage of axilla.
b) Muscles of anterior abdominal wall.
5x2

Q.2 Enumerate the ascending and descending tracts of spinal cord, with description on pain temperature pathway.

10

Q.3 Write short notes on:
a) Thalamic hand syndrome.
b) Lateral wall of nose.

5x2

Q.4 Describe the muscles of tongue, with their nerve supply, and action in detail.

10

PART-B

Q.5 Describe the thyroid gland under following headings:
a) Structure.

3

b) Blood supply.

5

c) Applied.

2

Q.6 Write short notes on:
a) Function areas of frontal lobe.
b) Motor aphasia and sensory aphasia.

5x2

Q.7 Write short notes on:
a) Femoral sheath.

3

b) Inguinal ligament.

2

c) Iliotibial tract.

2

d) Carotid sheath.

3

Q.8 Write short notes on:
a) Floor of 4th ventricles.
b) Spermatogenesis.

5x2

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
PHYSIOLOGY-II (THEORY) (PT-202)

Time: 3 hrs.

Max Marks: **60**
No. of pages: 1

Note: Attempt **NINE** questions in all. Attempt **THREE** questions from **Part-A** and any **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 Describe the different pathway for pain management. Give about muscle spindle structure. **10**
- Q.2 Write about micturition reflex. Describe the motor pathway of human nervous system. **10**
- Q.3 Write about pituitary and pancreatic hormones. With diagram, describe the menstruation cycle. **10**
- Q.4 What is mechanics of breathing and how these are taking place with maintaining respiration? **10**

PART-B

- Q.5 Describe the different types of hypoxia.
- Q.6 Write about contraceptives.
- Q.7 Describe the role of juxtaglomerular apparatus.
- Q.8 Write about cerebrospinal fluid.
- Q.9 Describe about receptor and its properties.
- Q.10 What is autonomic nervous system and its differences?
- Q.11 Write about thyroid and adrenal cortex hormone.
- Q.12 Write about the function of hypothalamus.

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy- Second Semester
ELECTROTHERAPY-I (PT-203)

Time: 3 hrs

Max Marks: **60**
No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Write note on faradic currents.
10
- Q.2 Describe the treatment of hyperhidrosis using Iontophoresis.
10
- Q.3 Discuss about electrical properties of nerve and muscle-tissue.
10
- Q.4 What are the methods of application of IFT? Write about its indications, contraindications and adverse-effects.
10

PART-B

- Q.5 Write short note on AC and DC.
5
- Q.6 Write indications and contraindications of TENS.
5
- Q.7 Classify Currents.
5
- Q.8 a) Define chronaxie and rheobase.
b) Define S.D. Curve.
2½x2
- Q.9 Write about pain gate theory.
5
- Q.10 Write short note on EMG.
5
- Q.11 Give classification of nerve lesions.
5
- Q.12 What is Iontophoresis?
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Second Semester
EXERCISE THERAPY-I (PT-204)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **EIGHT** questions in all. Attempt **SIX** questions from **Part-A** and any **THREE** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 Explain any five anatomic movements.
- Q.2 What are the types of range of motion exercises?
- Q.3 Write any five benefits of resistance exercise.
- Q.4 Write down the precautions for stretching exercises.
- Q.5 Explain the muscle work required for standing.
- Q.6 Write down the grades of MMT.
- Q.7 What are accessory movements?
- Q.8 Explain the types of end feel.

PART-B

- Q.9 Define stretching. What are the indications and contraindications for stretching? **10**
- Q.10 Write down the indications and goals for passive range of motion exercises. **10**
- Q.11 Write down the determinants for resistance exercise. **10**
- Q.12 Write down the causes of joint range limitations and prevention of joint stiffness. **10**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Third Semester
ELECTROTHERAPY-II (PT-303)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **EIGHT** questions in all. Attempt **THREE** questions from **Part A** and any **SIX** questions from **Part B**. Marks are indicated against each question.

PART-A

- Q.1 Classify the types of UVR. What are different types of UVR lamps? Explain the construction of Kromayer lamp. **10**
- Q.2 Write about therapeutic effects and indications of IRR in detail. **10**
- Q.3 Explain non-thermal effects of ultrasound in detail. **10**
- Q.4 Explain the various types of electrode placement is SWD. **10**

PART-B

- Q.5 Give indications for MWD.
- Q.6 Write a short note on 'generation of LASER'.
- Q.7 Explain in brief about contrast bath.
- Q.8 What are various modes of heat transfer? Explain in brief.
- Q.9 Write a short note on 'biofeedback'.
- Q.10 What is combination therapy? Explain with examples.
- Q.11 What are physiological effects of heat?
- Q.12 Explain Lewis - Hunting reaction in brief.

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy-Third Semester
EXERCISE THERAPY-II (PT-304)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt **ANY THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Explain types of crutch walking along its indications.
10
- Q.2 Explain gait cycle and various determinants of gait.
10
- Q.3 Explain Jacobson's progressive relaxation technique.
10
- Q.4 Explain various causes of incoordination and its management.
10

PART-B

- Q.5 Explain, in brief, two point gait.
5
- Q.6 Describe scissoring gait.
5
- Q.7 Explain hold relax.
5
- Q.8 Discuss, in detail, Rhythmic initiation.
5
- Q.9 Explain D1 Flexion pattern upper limb.
5
- Q.10 Describe, in detail, anterior pelvic tilt.
5
- Q.11 Explain various breathing exercises.
5
- Q.12 Explain the crutch palsy.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
BIOMECHANICS (PT-403)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **NINE** questions in all; Attempt any **THREE** questions from **Part-A** and any **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 State the Newton's laws of Motion and give examples from the human body. **10**
- Q.2 Define biomechanics and write the uses of biomechanics in the field of physiotherapy. **10**
- Q.3 Define 'equilibrium'. Give its classification and explain the factors affecting stability. **10**
- Q.4 Discuss the biomechanics of elbow joint and write a note on carrying angle. **10**

PART-B

- Q.5 Write a note on concave-convex rule with diagram. **5**
- Q.6 Discuss the importance of scapula humeral rhythm. **5**
- Q.7 Differentiate between scalar and vector quantities with examples. **5**
- Q.8 Differentiate between 'isometric' and 'isotonic type of muscle contraction'. **5**
- Q.9 Write a note on 'length tension relationship' with diagram. **5**
- Q.10 Briefly describe different types of hand grip with diagram. **5**

Q.11 Write the classification of motion with examples.

5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fourth Semester
ADMINISTRATION AND ETHICS (PT-405)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **THREE** questions from **Part-A** and any **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

Q.1 What are the various sources of recruitment? What are the merits and demerits of internal sources of recruitment?

10

Q.2 Explain Consumer Protection Act, in detail.

10

Q.3 What are medico-legal cases? Discuss the precautions one should take while documenting an MLC.

10

Q.4 Describe the services of hospital. Also, classify hospital set ups in India.

10

PART-B

Q.5 Write a note on documentation.

5

Q.6 Explain Confidentiality.

5

Q.7 Define Referral. Explain process of referral.

5

- Q.8 Explain accreditation and evaluation principles in physiotherapy practice.
5
- Q.9 Explain the importance of record keeping in physiotherapy practice.
5
- Q.10 Comment on medical-insurance in India.
5
- Q.11 Design for Physiotherapy Department in a hospital setup.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Fifth Semester
ORTHOPEDECS PHYSIOTHERAPY (PT-502)

Time: 3 hrs.

Max Marks: **60**
No. of pages:

1

Note: Attempt **NINE** questions in all; Attempt any **THREE** questions from **PART-A** and **SIX** questions from **PART-B**. Marks are indicated against each question.

PART-A

- Q.1 Explain frozen shoulder. What are the clinical features, pathophysiology and management for the same? **10**
- Q.2 Describe parts of PTB prosthesis. **10**
- Q.3 Explain lumbar canal stenosis. Describe pathophysiology, clinical manifestations and PT management for the same. **10**
- Q.4 Explain the scoliosis including assessment and PT management. **10**

PART-B

- Q.5 Explain trigger finger. **5**
- Q.6 Explain diagnostic test for bicipital tendinitis. **5**
- Q.7 What are variants of tennis elbow? **5**

Q.8	What is the capsular pattern of the joints of upper limb?	5
Q.9	Methods to control stump oedema.	5
Q.10	Describe general complications of fracture.	5
Q.11	Tests for ACL tears.	5
Q.12	Describe the pes planus along with PT management.	5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - Fifth Semester
BIOMECHANICS-II (THEORY) (PT-503)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 Discuss the biomechanics of HIP Joint in detail. Write a short note on Lumbo Pelvic Rhythm.
10
- Q.2 Define One GAIT cycle. What are the various phases of GAIT? Explain with the help of diagram.
10
- Q.3 Describe the physiological risk factors related to musculoskeletal disorders in Business and Industry.
10
- Q.4 Define Ergonomics. What is the importance of Ergonomics in Physiotherapy field? **10**

PART-B

- Q.5 Write a short note on Screw home mechanism.
5

Q.6 Discuss any two Work related musculoskeletal disorders.

5

Q.7 Name the various Ligaments of Spine with their function.

5

Q.8 What are the factors effecting the posture.

5

Q.9 Write a short note on various deformities seen in foot.

5

Q.10 Discuss the Parkinson's GAIT in detail.

5

Q.11 What are the ergonomic recommendations for lifting and carrying a child?

5

Q.12 Explain the various Determinants of GAIT.

5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy- Sixth Semester

NEUROLOGY AND NEUROLOGY SURGERY (PT-601)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 Explain the neurophysiology in reference to bowel and bladder control.

10

Q.2 Explain features of:

- a) Poliomyelitis.
- b) Neurosyphilis.

10

Q.3 Write an explanatory note on:

- a) Dystonia.

b) Writer's Cramps.
10

Q.4 Write a note on various peripheral nerve injuries.
10

PART-B

Q.5 Write the features of polymyocitis.
5

Q.6 What are cognitive features of traumatic brain injury?
5

Q.7 Write a short note on 'features of spinal arachnoiditis'.
5

Q.8 What are the features of lumbar disc disease?
5

Q.9 Write a note on the types of chorea.
5

Q.10 Define:
a) Stupor.
b) Coma.
c) Hemianopia.
d) Hypertonia.
5

Q.11 Write a note on the 'features of hydrocephalus'.
5

Q.12 Write a note on the features of first aid in traumatic brain injury.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - Sixth Semester
NEUROLOGY PHYSIOTHERAPY (PT-602)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 Explain in detail the ICU management of a 10 year old boy suffering from meningitis. **10**

Q.2 A 26 year old man has suffered incomplete T4 spinal cord injury. Explain in detail the assessment and management of the case.

10

Q.3 What is the basis of Bobath treatment? Highlight the importance of reflex inhibiting postures in the treatment planning. Explain the reflex inhibiting postures in a cerebral injured patient in side lying position.

10

Q.4 Explain the assessment and detailed treatment of idiopathic Parkinsonism.

10

PART-B

Q.5 Explain Gower's Sign and why it is seen? Explain in detail the principles of treatment in the condition in which it is seen.

5

Q.6 Write the assessment and management of carpal tunnel syndrome.

5

Q.7 What do you understand by PPRP? Devise the treatment protocol for a 12 year old child 3 years post-polio having difficulty in walking.

5

Q.8 Explain the clinical features of various types of Cerebral Palsy based on Physiological classification.

5

Q.9 Enlist the principles of PNF.

5

Q.10 Explain the assessment of V and XII Cranial Nerve.

5

Q.11 What do you understand by co-ordination? Explain various types of tests to evaluate the co-ordination of 65 year old man.

5

Q.12 Define multiple sclerosis. Write its signs and symptoms. Enumerate the goals of treatment for managing the symptoms.

5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy- Sixth Semester

MANUAL THERAPY (PT-603)

Time: 3 hrs

Max Marks: **60**

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Write in detail about the mulligan mobilization principles. Explain about mulligan mobilization techniques for Ankle sprain and for increasing Dorsi flexion and plantar flexion.
10
- Q.2 Explain McKenzie mobilization in detail. Write about the extension exercises protocol for derangement with diagrams.
10
- Q.3 Write in detail about pressure manipulation.
10
- Q.4 Classify massage techniques. What are indications and contraindications of massage therapy?
10

PART-B

- Q.5 What are the four themes of Maitland concept? Write about brick wall approach. **5**
- Q.6 What is the tree part concept according to neurodynamics?
5
- Q.7 Explain physiological effects of massage on muscular, nervous and circulatory system. **5**
- Q.8 Explain sequence of massage techniques for lower limb.
5
- Q.9 Write a short note on 'vibratory techniques'.
5
- Q.10 What are the indications and contraindication of mobilization?
5
- Q.11 Briefly describe the mulligan technique for tennis elbow.
5
- Q.12 Write a short note on 'percussion techniques'.
5

End Semester Examination, Dec. 2017
 Bachelor of Physiotherapy - Sixth Semester
RESEARCH METHODOLOGY AND BIOSTATISTICS (PT-604)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 Discuss the different type of correlation. Calculate and comment on the type of correlation for the following data:

X:	65	68	62	70	65	72	67	66	68	70
Y:	128	140	120	152	138	160	135	130	125	165

10

Q.2 Goals scored by two teams in a Football session were as follows:

No. of Goals scored in a football match	0	1	2	3	4	5	Total
No. of Football matches played Team A	15	10	7	5	3	2	42
No. of Football matches played Team B	20	10	5	4	2	1	42

Calculate coefficient of variation and state which team is more consistent?

10

Q.3 Define Sampling. Classify and explain different types of sampling.

10

Q.4 What do you mean by Research Design? Explain different types of research design. **10**

PART-B

Q.5 Calculate mean, median and mode for following frequency distribution:

No. of Branches 'classes'	0-3	3-6	6-9	9-12	12-15
No. of Plants frequency 'f'	4	8	22	10	4

5

Q.6 Discuss the different ethical principles in research.

5

Q.7 What do you understand by level of significance?

5

Q.8 What are the characteristics of research?

5

Q.9 What is hypothesis? Give its types.

5

Q.10 Describe types of data.

5

Q.11 Write the difference between 'Parametric' and 'non-parametric test'.

5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy - Seventh Semester

CARDIO PULMONARY AND CARDIO PULMONARY SURGERY (PT-701)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 Write an elaborate note on myocardial infarction with its causes, presentation, investigations, treatment and complications.

10

Q.2 Write the classification, clinical features, diagnosis and treatment of pneumonia. **10**

Q.3 Write down the basic features and treatment of:

- a) Lung Abscess.
- b) Flail Chest.
- c) Pneumothorax.
- d) Fracture of Ribs.

10

Q.4 Write a note on:

- a) Infective Endocarditis.
- b) Balloon Angioplasty.

10

PART-B

Write short notes on the following:

Q.5 Deep Vein Thrombosis.

5

Q.6 Bronchiectasis.

5

Q.7 Asbestosis.

5

- Q.8 Types of Respiratory failure.
5
- Q.9 Patent Ductus Arteriosus (PDA).
5
- Q.10 Chest Wall Deformities.
5
- Q.11 Atherosclerosis.
5
- Q.12 Features of left ventricular failure.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - Seventh Semester
CARDIO PULMONARY PHYSIOTHERAPY (PT-702)

Time: 3 hrs

Max Marks: **60**
No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**. Marks are indicated against each question.

PART-A

- Q.1 A patient has undergone lobectomy. Write pre and post-operative physiotherapy management for the patient.
10
- Q.2 Patient have altered breathing. Write breathing pattering technique for this patient. **10**
- Q.3 Patient undergone surgery and after surgery patient have collapse of apical and lower lobe (due to secretion). Write postural drainage position for patient. **10**
- Q.4 Patient aged, 50 year having myocardial infarction, diabetic, and hypertensive with increase HDL/LDL. Write phase second and Phase third for Cardiac Rehabilitation. **10**

PART-B

- Q.5 Explain the following techniques:
a) Rib Springing.
b) Auscultation of chest.

2½x2

- Q.6 Patient having cystic fibrosis. Write indication contraindication and techniques find stages for Autogenic drainage.
5
- Q.7 Explain oxygen transport and factor affecting the curve.
5
- Q.8 Explain Emphysema pathophysiology, clinical feature and physiotherapy treatment for Emphysema.
5
- Q.9 Write short notes on:
a) Active cycle of breathing along with technique and therapist patient position.
b) Atopic/Nonatopic asthma.
2½x2
- Q.10 Define different modes of Ventilator. Write manual hyperinflation technique for Ventilated patient.
5
- Q.11 a) Write difference between coughing and huffing and stages of Cough.
2½
b) Sniffing and diaphragmatic inhibition techniques.
2½

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy – Seventh Semester
PEDIATRICS AND PEDIATRICS PHYSIOTHERAPY (PT-703)

Time: 3 hrs.

Max Marks: **60**

No. of pages: **1**

Note: Attempt **NINE** questions in all; Attempt any **THREE** questions from **PART-A** and **SIX** questions from **PART-B**. Marks are indicated against each question.

PART-A

- Q.1 What is Cerebral Palsy? Discuss the various classifications of cerebral palsy alongwith their clinical features. Add a note on gait training in cerebral Palsy.
10
- Q.2 What is Scoliosis? Explain the various methods of assessment of Scoliosis. Also, throw light on the management of Scoliosis.
10
- Q.3 Discuss the role of early identification and evaluation in diagnosis, treatment and rehabilitation. Also, discuss the various stages of Planning

for prevention of Disability.

10

Q.4 Write down the Neurodevelopment assessment for a 14 month old boy having inability to sit independently. He has post-natal history of high fever with delay in treatment.

10

PART-B

Q.5 Write a short note on Down's syndrome.

5

Q.6 Discuss the management of Club Foot.

5

Q.7 Discuss the role of Development reflexes in development of infant.

5

Q.8 Write a short note on Sinusitis.

5

Q.9 Discuss the process of Development of the Disability.

5

Q.10 Discuss the various Immunization programs of India.

5

Q.11 Discuss the role of feeding in the development of the child.

5

Q.12 Discuss the management of Post-Polio Paralysis.

5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy- Eighth Semester
COMMUNITY BASED REHABILITATION (PT-801)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

Q.1 Describe the evaluation process in CBR and its importance.

10

Q.2 Discuss the roles of the members of CBR program.

10

Q.3 Discuss the diaphragm and IUD with their advantages and disadvantages.

10

Q.4 Define 'health education'. Explain the principles of Health education in detail.

10

PART-B

Q.5 Discuss the various health problems in Geriatrics.

5

Q.6 Write a short note on 'bottom up' and 'Top down' approach in CBR.

5

Q.7 Explain the role of nutrition in maintaining good health.

5

Q.8 What are the advantages and disadvantages of condoms?

5

Q.9 Difference between 'education' and 'propaganda'.

5

Q.10 Write down advantages and disadvantages of CBR.

5

Q.11 Define 'CBR'. Write a short note on 'decentralization and empowerment concept'.

5

End Semester Examination, Dec. 2017

Bachelor of Physiotherapy – Eighth Semester

SPORTS MEDICINE AND SPORTS PHYSIOTHERAPY (PT-802)

Time: 3 hrs.

Max Marks: **60**

No. of pages: 1

Note: Attempt **NINE** questions in all; Attempt any **THREE** questions from **PART-A** and **SIX** questions from **PART-B**. Marks are indicated against each question.

PART-A

- Q.1 Discuss in detail the importance of sports physiotherapist in a sports team.
10
- Q.2 Write in detail the etiological factors of sports injuries.
10
- Q.3 Discuss the phases of rehabilitation. Explain the principles and component of rehabilitation.
10
- Q.4 Discuss in detail the principles of training. Write a note on importance of principle of periodization.
10

PART-B

- Q.5 Discuss the various factors affecting maximum oxygen consumption capacity.
5
- Q.6 Enumerate the various facial injuries and add a note on Epistaxis.
5
- Q.7 Write a note on assessment technique on on-field injuries management.
5
- Q.8 Discuss the various special tests for shoulder impingement syndrome.
5
- Q.9 What are the advantages and disadvantages of glucose super composition?
5
- Q.10 Discuss the following in short:
a) NSAID in sports.
b) Diabetic athlete.
5
- Q.11 Write short notes on:
a) Students Elbow.
b) Concussion.
5
- Q.12 Explain the following:
a) Turf toe.
b) Patello-Femoral pain syndrome.
5

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy - Eighth Semester
GENERAL PHYSIOTHERAPY (PT-803)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 Discuss the exercise protocol in all the trimester in uncomplicated pregnancy. **10**
- Q.2 Define Gerontology. Discuss the different physiological changes that take place with ageing. **10**
- Q.3 Discuss the different occupational diseases. Explain in brief its screening and assessment. Also, throw a light on the management of occupational diseases. **10**
- Q.4 Give the indication for Mastectomy. Write in detail about its post-operative PT management. **10**

PART-B

- Q.5 Explain the patho-physiology and management of otitis media. **5**
- Q.6 Explain the types of urinary incontinence. **5**
- Q.7 Write in brief about management of acne vulgaris. **5**
- Q.8 Explain the treatment of CTEV. **5**
- Q.9 Write a short note on fall prevention in elderly. **5**
- Q.10 Explain the role of physiotherapist in wound management. **5**
- Q.11 Discuss estimation of burn. **5**

End Semester Examination, Dec. 2017
Bachelor of Physiotherapy- Eighth Semester
DISABILITY PREVENTION AND REHABILITATION (PT-804)

Time: 3 hrs

Max Marks: **60**

No. of pages: 1

Note: Attempt any **THREE** questions from **Part-A** and **SIX** questions from **Part-B**.

PART-A

- Q.1 What are the types of disability? Describe levels of prevention of disability.
10
- Q.2 What are the different modes of delivery of rehabilitation care? Write down the characteristics, advantages of each mode of delivery.
10
- Q.3 What are architectural barriers? Explain the modification for kitchen and bathroom. **10**
- Q.4 What are orthotics? Explain the orthotics that can be used in case of trunk involvement.
10

PART-B

- Q.5 Write a short note on A.D.Ls.
5
- Q.6 Explain different dynamic stump exercises.
5
- Q.7 Write a short note on brachial plexus injuries.
5
- Q.8 Explain physical therapy management for burns.
5
- Q.9 Write a short note on 'brown sequard syndrome'.
5
- Q.10 Briefly describe types of employment in vocational rehabilitation for differently abled persons.
5
- Q.11 Write a short note on different components of the prosthesis.
5

End Semester Examination, Dec. 2017
Master of Physiotherapy-First Semester
PRESENTATION AND COMMUNICATION SKILLS (PT-GE-01)

Time: 3 hrs

Max Marks: **50**

No. of pages: 2

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

Q.1 **Fill in the blanks:**

- a) People who process information better on hearing are called _____ learners.
- b) People who learn better through experience and movement are called _____ learners.
- c) Hand and body movements during presenting are called _____.
- d) It is important to stand in the right _____ while public speaking.
- e) The presenter must always face the _____ while speaking.

1x5

State whether the following statements are TRUE or FALSE:

- f) You must not carry out an audience analysis before making a presentation.
- g) To make visually appealing slides one must always stick to a colour scheme.
- h) The presentations should be loaded with information.
- i) It's OK to arrive late for presentations.
- j) Your content should always be unique and proprietary.

1x5

PART-A

Q.2 What are Visual Aids? What are the different types of visual aids? Explain in brief different ways to use different visual aids.

10

Q.3 What are the 4 key elements that you will need to keep in mind to deliver effective presentations? Explain.

10

Q.4 a) List the differences between Rapport and Authority.

5

b) How will you establish 'Brand You'?

5

PART-B

Q.5 Write notes on:

a) The 5 Ps of voice quality.

b) The importance of colours in making visually appealing slides.

5x2

Q.6 What are the different learning styles? Explain each one briefly. Also state how can you incorporate varied methodology to suit the learning styles of diverse learning audience.

10

Q.7 Read the following essay carefully and design a 5-6 slide 'Effective presentation' on Physiotherapy.

Physiotherapy has existed as a form of treatment for dysfunctions and disabilities for thousands of years. It is considered a key treatment in the rehabilitation of patients suffering from debilitating conditions as a result of accidents or diseases.

Despite the fact that, since ancient times there have been references to the use of physical agents in order to prevent and treat diseases, but it was in ancient Greece with Hippocrates when they began to take the first steps in the development of physiotherapy as a profession.

Hippocrates used massages as a form of therapy to help restore and maintain the body's motor and functional abilities.

Even today massages still continue to be associated with the physiotherapist precisely because of the importance that they have always had throughout the history of physiotherapy. However, the field of physiotherapy intervention and the techniques used by the therapist go far beyond massages.

What is physiotherapy?

According to the WCHPT (World Confederation for Physical Therapy), it is defined as the area of health responsible for promoting, developing, maintaining and restoring people's maximum movement and functional ability throughout their lives.

Its main interest and objective is to identify and maximise the quality of life and potential for movement of each person in the areas of promotion, prevention, treatment or intervention, in addition to adaptation and rehabilitation of health.

The physiotherapist: When a person's function or mobility is affected by pain, ageing, injury, disease, disability or long periods of inactivity, the physiotherapist is the health professional qualified to complete a full medical check-up of the patient.

This check-up focuses on the person as a whole, that is, the physiotherapist will consider not only the physical but also the psychological, emotional and social wellbeing of each patient with the view to reaching a diagnosis and developing the most appropriate treatment plan.

Thanks to their in-depth anatomical and physiological knowledge of the body and movement, the physiotherapist promotes wellbeing, mobility and independence in people of all ages.

The techniques used in physiotherapy today have evolved 'since the time of Hippocrates' massages. Each area of physiotherapy intervention has its own specialised techniques and is based on scientific evidence. In today's complex world, there are even physiotherapists specialised in just one area, and within that area, in some specific diseases (Parkinson's, stroke, traumatic knee injuries, incontinence, etc.). **10**

End Semester Examination, Dec. 2017

Master of Physiotherapy (Sports)/Musculoskeletal - Third Semester
LOGICAL AND QUANTITATIVE REASONING SKILLS (PT-GE-03)

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**. Each question carries equal marks.

- Q.1 Give short answers of the following:
- Enumerate three Paradigm of Research.
 - Define H index.
 - Differentiate between Vancouver and Harvard system of referencing.
 - Differentiate between citation and referencing.
 - Enumerate four 'database' for Physiotherapy.
- 2x5**

PART-A

- Q.2 Discuss the ethical issues that need to be considered while conducting a research. **10**
- Q.3 Describe how to critically evaluate the different sections of an article.
10
- Q.4 Define Plagiarism. Write different types of plagiarism and methods to prevent it. **10**

PART-B

- Q.5 a) Describe Level of Evidence Pyramid.
5
- b) Differentiate between qualitative and quantitative research.
5

- Q.6 Describe PICOT framework. Give it's utility with an example specific to your speciality. **10**
- Q.7 Describe, in brief, how to write a research report
10

End Semester Examination, Dec. 2017
M. Sc. (Nutrition and Dietetics) – Second Semester
HEALTH PROMOTION (MN&D-001)

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**. Each question carries equal marks.

- Q.1 Describe the methods of health promotion and education in the workplace.
10

PART-A

- Q.2 Explain in detail, with suitable examples, different theories of behavior change. **10**

- Q.3 Explain various components of Bangkok charter of health promotion.
10

- Q.4 Define 'health'. What are the various determinants of health?
10

PART-B

- Q.5 Write short notes on:
a) Program planning.
b) Health educators.
5x2

- Q.6 Define Health Education. How health education orientation can be done at community level?
10

- Q.7 Explain in detail how evaluation of oral health program can be done?
10

End Semester Examination, Dec. 2017

M.Sc. (N&D) – First Semester
BIOCHEMISTRY (MN&D-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 **Explain briefly the following:**

- a) The pentose phosphate pathway and glutathione peroxidase protect erythrocytes against hemolysis.
- b) Role of Vitamin K in activating prothrombin.

10x2

PART-A

Q.2 Explain competitive, uncompetitive and non-competitive inhibition. How can these inhibitors be differentiated by the Lineweaver-Burk plot?

20

Q.3 With the help of chemical structures and enzymes, give the formation of calcitriol. Explain its role in maintaining calcium levels when serum calcium levels fall.

20

Q.4 Explain the following:

- a) Transport of iron in the circulation.
- b) Role of Zinc in the body.

10x2

PART-B

Q.5 What are the essential components that define signal transduction through G protein? Explain how epinephrine signals its action through this pathway?

20

Q.6 a) Explain how purine and pyrimidine bases are recycled by salvage pathways? **10**

- b) Starting from glycerol-3-phosphate, synthesize triacylglycerol.

10

- Q.7 a) With the help of reactions and enzymes give the synthesis of mevalonate. Summarise the biosynthesis of cholesterol from it.
10
- b) Glutamate dehydrogenase is central to amino acid metabolism. Explain.
10

End Semester Examination, Dec. 2017
M.Sc. (N&D) - First Semester
PHYSIOLOGY (MN&D-102)

Time: 3 hrs

Max Marks: **100**

No. of pages: 1

Note: Attempt **FIVE** questions in all; **Q.1 is compulsory**. Attempt **TWO** questions from **Part-A** and **TWO** questions from **Part-B**. All questions carry equal marks.

- Q.1 Answer the following:
- Mention two functions of mitochondria.
 - What are the tracts involved in pyramidal and extra pyramidal system?
 - State two differences between sympathetic and parasympathetic nerves.
 - What are the factors that regulate GFR?
 - What is Bohr effect?
 - Name a surfactant.
 - Name two hormone secreted from G.I. tract.
 - What is haemophilia?
 - State two functions of plasma proteins.
 - What is ECG?
- 2x10**

PART-A

- Q.2 a) Discuss the composition and functions of blood.
10
- b) With diagram, discuss the different intracellular junctions.
10
- Q.3 a) Discuss different movements involved in the small and large intestine.
10
- b) Discuss the digestion and absorption of carbohydrate and protein nutrient. **10**
- Q.4 a) Describe the functions of hypothalamus.
10

- b) Discuss with diagram about spinal cord and their ascending and descending tracts.

10

PART-B

- Q.5 a) Discuss the mechanics of breathing.

10

- b) Describe O₂ and CO₂ transportation.

10

- Q.6 Describe cardiac output and describe the factors influencing it.

20

- Q.7 Describe the role of kidney in water and electrolyte balance.

20

End Semester Examination, Dec. 2017

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

FOOD AND NUTRITION (MN&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**. Each question carries equal marks.

- Q.1 **Write short notes on the following:**

- a) Psychological function of food.
- b) Enzymatic browning.
- c) Rigor mortis.
- d) Caramelization.
- e) Protein quality.

4x5

PART-A

- Q.2 Describe interaction among immunity, nutrition and infection.

20

- Q.3 Explain various methods of cooking with their advantages and disadvantages. **20**

- Q.4 a) Discuss composition and processing of milk.

10

- b) Describe role of fats and oils in cookery.

10

PART-B

- Q.5 What do you mean by energy balance? Describe components of energy expenditure and factors affecting it.

20

- Q.6 Discuss recommended dietary allowances for adolescents and pregnant women. **20**

Q.7 Explain various commercial methods of food preservation.
20

End Semester Examination, Dec. 2017
M.Sc. (N&D) - First Semester
FOOD AND NUTRITION (MN&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**. Each question carries equal marks.

Q.1 Explain the interaction between immunity, nutrition and infection in detail.
20

PART-A

Q.2 Write short notes on the following:

- a) Microwave cooking.
- b) Grilling.
- c) Boiling.
- d) Baking.

5x4

Q.3 Discuss the functions of food in detail.
20

Q.4 Explain the structure of egg and fish. Also discuss the culinary uses and nutrition value of milk and milk products in detail.
20

PART-B

Q.5 Discuss direct and indirect calorimetry in detail.
20

Q.6 Explain protein quality. Also discuss factors affecting protein quality and methods of improving protein quality in detail.
20

Q.7 Explain different methods of food preservation in detail.
20

End Semester Examination, Dec. 2017
M. Sc. (N & D) – First Semester
NUTRITION FOR VULNERABLE AND SPECIAL GROUP (MN&D-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**. Each question carries equal marks.

Q.1 Discuss the scope of nutrition and dietetics in present context. Explain with examples how this knowledge is helpful in our day to day life. **20**

PART-A

Q.2 What do you understand by complementary feeding? What are the considerations while preparing complementary feeds for the infant? **20**

Q.3 Write short notes on:
a) Food exchange list.
b) Significance of growth monitoring.
c) Edible portion of cereals, fruits, vegetables and nuts.
d) Rooting reflex. **5×4**

Q.4 Describe all the methods of RDA derivation. Give uses and limitation of RDA. **20**

PART-B

Q.5 Compare and discuss the nutrient needs of the elderly with that of the adult for the following:
a) Energy.
b) Protein.
c) Iron.
d) Calcium. **5×4**

Q.6 Write short notes on the following:
a) Complications of pregnancy.
b) Physiology of lactation.
c) Importance of nutrients during pregnancy.
d) Hemodilution. **5×4**

- Q.7 a) Describe the recommended dietary allowances of industrial worker. **10**
b) Discuss dietary concerns suggested during any natural disaster. **10**

End Semester Examination, Dec. 2017
M.Sc. (N&D) – First Semester
NUTRACEUTICALS AND HEALTH FOODS (MN&D-106)

Time: 2hrs

Max Marks: **50**

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**. Each question carries equal marks.

- Q.1 “Nutraceuticals can be used in traditional health sciences”. Justify the statement with appropriate example.

10

PART-A

- Q.2 Write short notes on the following:

- a) Prebiotics.
b) Glucosinolates.

5x2

- Q.3 Explain the categories of Functional Foods with suitable example.

10

- Q.4 Write down the mechanism of action of the following:

- a) Antioxidants.
b) Probiotics.

5x2

PART-B

- Q.5 Explain the health benefits of the following:

- a) Omega 3 fatty acid.
b) Dietary fibre.

5x2

- Q.6 How are various Regulatory Bodies involved in the safety of use of nutraceuticals? Explain.

10

- Q.7 Give Food source and Functional component for the following:

- a) Lycopene.

- b) Soy phytoestrogens.
- c) Probiotics.
- d) Fatty acids.

2½x4

End Semester Examination, Dec. 2017
M. Sc. (N& D) – Second Semester
STATISTICS AND RESEARCH METHODOLOGY (MN&D-201)

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**. Each question carries equal marks.

- Q.1 Discuss the various components involved in research process with example.
10

PART-A

- Q.2 Find the standard deviation and mean of the following distribution:

Age	No. of People
20-25	170
25-30	110
30-35	80
35-40	45
40-45	40
45-50	35

10

- Q.3 Fifteen male and twelve female subjects in a health clinic were asked to express their attitude towards population education. Both the groups of subject were administered the attitude scale and were classified as having either positive or negative attitude towards population education. The distribution of the sample is shown below:

	Positive attitude	Negative attitude	Total
Female	7	5	12
Male	9	6	15
Total	16	11	27

Find out whether there is difference in the attitude of male and female counselor towards population education or not.

10

Q.4 What do you understand by mode? Discuss its relative merits and demerits as a measure of central tendency.

10

PART-B

Q.5 Explain the different types of research design in detail.

10

Q.6 Define 'sampling'. Discuss the various methods of probability sampling in detail.

10

Q.7 Discuss the following:

- a) Good characteristics of a sample.
- b) Types of hypothesis.

5x2

End Semester Examination, Dec. 2017

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

INSTRUMENTATION FOR FOOD ANALYSIS (MN&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**. Each question carries equal marks.

Q.1 a) Explain briefly the following:

- i) Monochromator.
- ii) Developing reagent for paper chromatography.
- iii) Luminescence.
- iv) Zwitterion.
- v) Stationary phase.

2x5

b) Derive the Henderson Hasselbalch equation for an acid.

10

PART-A

Q.2 a) Give reasons why Thin Layer Chromatography is considered superior to paper chromatography?

10

b) What is phenolphthalein used for? Discuss the theory of its use.

10

Q.3 a) Define the following:

- i) Electromagnetic radiation.

- ii) Non-polar compound.
- iii) Wave length.
- iv) Acid.
- v) Mobile phase.

2x5

- b) Using paper chromatography, explain how a mixture of amino acids can be separated?
10

Q.4 a) What do you understand by ion- exchange chromatography?
10

- b) State Beer's Lambert law. Derive the law and also give its deviations.
10

PART-B

Q.5 Explain the working principle of:

- a) High performance liquid chromatography.
10
- b) Fluorescence spectrometry.
10

Q.6 Discuss the principle of:

- a) Enzyme Linked Immunosorbent Assay.
10
- b) Radioimmunoassay.
10

Q.7 a) What is electrophoresis?
5

- b) Discuss the nature and use of agarose gel and polyacrylamide gel.
15

End Semester Examination, Dec. 2017
M.Sc. (N&D) – Second Semester
NUTRITION IN DISEASE (MN&D-204)

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 do you understand by Nutrition Care Process (NCP)? Plan a nutrition care process for a 35 year old female suffering with acute pancreatitis from past six months. She is vegetarian, moderate worker and having BMI>30.

20

PART-A

Q.2 Write short notes on:

- a) Exudative diarrhoea.
- b) Preicteric stage of jaundice.
- c) Synergistic theory of hepatic encephalopathy.
- d) Pathophysiology of peptic ulcers.

5x4

Q.3 Describe the pathophysiology and nutritional management of liver cirrhosis. **20**

Q.4 Describe the pathophysiology and nutritional management of Ulcerative Colitis (UC). **20**

PART-B

Q.5 Write short notes on following:

- a) Lipoproteins.
- b) DASH diet.

- c) Metabolic changes during fever.
- d) Classification of BMI.

5x4

Q.6 Describe the pathophysiology, etiology and nutritional management of atherosclerosis. **20**

Q.7 Write notes on:

- a) Metabolism of Diabetes Mellitus.
- b) Consequences of Diabetes Mellitus.

10x2

End Semester Examination, Dec. 2017

M. Sc. (N&D) – Second Semester

INSTITUTIONAL FOOD ADMINISTRATION (MN&D-207)

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**. Each question carries equal marks.

Q.1 Discuss in detail about the development of food service institutions in India.
10

PART-A

Q.2 Discuss the functions of management in detail.
10

Q.3 What points should be kept in mind while selecting equipments for food service establishment?
10

Q.4 What steps should be taken for maintenance of kitchen equipments?
10

PART-B

Q.5 Write in detail about the components of environmental hygiene in a food service establishment.
10

Q.6 Discuss about the types of menu, giving suitable examples.
10

- Q.7 What are the steps in the selection of personnel for food service institutions? **10**

End Semester Examination, Dec. 2017

M. Sc. (N& D) – Second Semester GERIATRIC NUTRITION (MN&D-208)

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**. Each question carries equal marks.

- Q.1 “Add life in years, not years in life”. Justify these lines in relation to importance of health care for the elderly.

10

PART-A

- Q.2 Define the term Gerontology. Discuss the historical review of health care for the elderly and development of Geriatrics in India.

10

- Q.3 What is aging process? Explain the role of biological, physiological, psychological and social factors in healthy aging.

10

- Q.4 What do you mean by theories of aging? Explain any two theories in detail with suitable examples.

10

PART-B

- Q.5 How do you assess the Health and Nutritional status of elderly? Explain the factors influencing food and nutrient intake among elderly.
10
- Q.6 Write in detail about chronic degenerative diseases, their management, prevention and control, commonly occur during old age.
10
- Q.7 What is the role of National and International agencies working for the welfare of the elderly?
10

End Semester Examination, Dec. 2017

M.Sc. (N&D) – Third Semester

DOPING AND SUPPLEMENT USE (MN&D-307)

Time: 3 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**. Each question carries equal marks.

- Q.1 Discuss the uses of supplements considering its pros and cons in detail.
10

PART-A

- Q.2 Discuss the role of proteins in exercise and sports.
10
- Q.3 Explain the importance of water soluble vitamins for a sports person.
10
- Q.4 Discuss the types of dietary supplements used by a sports person.
10

PART-B

- Q.5 What is doping? Explain the problem of doping in current scenario.
10
- Q.6 Give an account of IOC accredited laboratories.
10
- Q.7 Which prohibited drugs are used for doping by the sportspersons?
10

End Semester Examination, Dec. 2017

M.Sc. (N&D) – First Semester

FOOD LAWS AND FOOD SAFETY (MN&D-GE-02)

Time: 2hrs
50

Max Marks:

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 do you understand by Food Safety? Discuss the role of regulatory agencies in ensuring food safety in India.
10

PART-A

- Q.2 Explain the concept of Total Quality Management in food safety, highlighting its components.
10
- Q.3 Define 'adulterant'. Write the test used to assess adulteration in any five commonly used spices in India.
10

Q.4 Food traceability can ensure food safety. Comment.
10

PART-B

Q.5 What do you understand by consumerism? How consumer education can help in ensuring food safety?
10

Q.6 What is ISO? Discuss the various types of ISO meant by food safety.
10

Q.7 Write short notes on the following:
a) Codex Alimentarius.
b) Consumer Grievance.
c) FSSAI in food labeling.
d) BIS.
10

End Semester Examination, Dec. 2017

M. Sc. (Nutrition and Dietetics) – Second Semester
NUTRITIONAL EPIDEMIOLOGY (MN&D-GE-03)

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**. Each question carries equal marks.

Q.1 Describe the historical developments in nutritional epidemiology.
10

PART-A

Q.2 What is the difference between direct and surrogate biomarkers of exposure?
10

Q.3 a) Explain the goals of nutritional epidemiology.

5

b) Define validity and relative validity.

5

Q.4 Explain the epidemiology of osteoporosis and low bone mass.

10

PART-B

Q.5 Describe the importance of monitoring and surveillance of knowledge, belief and attitude about nutrition.

10

Q.6 What are the components of total energy expenditure? Explain them.

10

Q.7 Explain the metabolic consequences of diabetes.

10

End Semester Examination, Dec. 2017

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

HOSPITAL ADMINISTRATION (MN&D-GE-04)

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain how the study of Hospital Administration helps the students to communicate effectively and develop their leadership and team building abilities? **10**

PART-A

Q.2 Explain in detail Fayol's Principles of Management. **10**

Q.3 Explain any two theories of motivation, giving suitable examples. **10**

Q.4 Write short notes on:
a) Importance of delegation.
b) Types of communication.
5x2

PART-B

Q.5 Define 'team'. Explain ways of creating effective teams. **10**

Q.6 Define 'personality'. Explain various types of personalities. **10**

Q.7 Write short notes on:
a) Importance of two way communication.
b) Traits of a good leader.
5x2

End Semester Examination, Dec. 2017

M. Sc. (N & D) – Third Semester

HOSPITAL ORGANISATION AND MANAGEMENT (MN&D-GE-05)

Time: 2 hrs

Max Marks: **50**

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 Explain how study of Hospital Organization and Management trains graduates in the specialty of the Hospital Administration to meet the growing demand of Hospital Administration at all levels of management.

10

PART-A

Q.2 Explain with suitable examples, the characteristics of a modern hospital.

10

Q.3 Explain principles of management given by Henry Fayol.

10

Q.4 Write short notes on:

a) Importance of decentralization of authority.

b) Espirit -de - Corpse

5x2

PART-B

Q.5 Define 'decision making'. Explain different types of decisions in detail.

10

Q.6 Write short notes on:

a) Group dynamics.

b) Vrooms Motivational Theory.

5x2

Q.7 Define 'leadership'. Explain characteristics of a good leader in detail.

10

End Semester Examination, Dec. 2017

M. Sc. (N & D) – Third Semester

HOSPITAL ORGANISATION AND MANAGEMENT (MN&D-GE-05)

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**. Each question carries equal marks.

- Q.1 Answer the following question:
“Study of Hospital organization and Management helps students to become better managers and health professionals”. Justify the statement.
10

PART-A

- Q.2 Define Planning. Explain the importance of planning in Hospital setup.
10
- Q.3 Explain in detail principles of Management as given by Henry Fayol.
10
- Q.4 Briefly explain the following in relation to Management:
a) Scientific school of thought.
b) Behavioural school of thought
5x2

PART-B

- Q.5 Define Leader. Explain the traits of a good Leader.
10
- Q.6 Briefly explain:
a) Maslow Hierarchy Motivational Theory.
b) X and Y Motivational Theory.
10
- Q.7 “Decision making is considered as a crux of Management” Explain, giving suitable examples.
10

End Semester Examination, Dec. 2017
M. Sc. (Nutrition and Dietetics) – Fourth Semester
NUTRITION RELATED DISORDERS (MNDC-206)

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 Discuss the treatment of cancer including nutritional care of the cancer patients. **20**

PART-A

Q.2 Write the pathophysiology of HIV/AIDS patients including nutritional care of the patients.
20

Q.3 Explain chronic alcoholism complication and what are the steps to be kept in mind while giving nutritional therapy to patients.
20

Q.4 Define 'lactose intolerance and its dietary management'.
20

PART-B

Q.5 Write short notes on:
a) Galactosemia.
b) Wilson's disease.
10x2

Q.6 Define the pathophysiology of Osteoarthritis including nutritional care of the patients. **20**

Q.7 What do you understand by terminally ill patients and explain the nutritional care for symptoms control of the patient.
20

M. Sc. (Nutrition and Dietetics) – Third Semester
CLINICAL NUTRITION (MNDC-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**. Each question carries equal marks.

Q.1 Differentiate between Crohn's disease and ulcerative colitis in regards with symptoms. Give nutritional management of IBD. **20**

PART-A

Q.2 Write the etiology and pathophysiology of the following:
a) Congestive heart failure.
b) Glomerulonephritis. **10×2**

Q.3 Define 'dialysis'. Describe the types and procedure, in detail. Discuss the nutritional management of a dialysis patient. **20**

Q.4 Discuss the following:
a) Physiology of gall bladder.
b) Causes of cholecystitis.
c) Dietary management of liver transplant.
d) Pathophysiology of myocardial infarction. **5×4**

PART-B

Q.5 Explain the pathophysiology and symptoms of the following:
a) Bronchopulmonary dysplasia.
b) COPD. **10×2**

Q.6 Write short notes on:
a) Diet and Nutrient and Drug interaction.
b) Pernicious anaemia – etiology and dietary management. **10×2**

Q.7 Give the symptoms, etiology, pathophysiology and dietary management of osteoporosis. **20**

Time: 2hrs

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**. Each question carries equal marks.

Q.1 Explain the nutritional management of pre and post-surgical conditions.

10

PART-A

Q.2 Write notes on:

- a) Enteral nutrition.
- b) Parenteral nutrition.

5x2

Q.3 Explain the following:

- a) Nosocomial Pneumonia.
- b) Aspiration Pneumonia.

5x2

Q.4 Explain electrolyte / fluid abnormalities.

10

PART-B

Q.5 Explain in detail the dietary management of:

- a) Burn Patients.
- b) Trauma Patients.

5x2

Q.6 a) What is the diagnostic criteria and pathophysiology of burn patients?

5

b) Write a note on signs and symptoms of septic patients.

5

Q.7 Write a note on pathophysiology and dietary management of:

- a) Breast Cancer.
- b) Oral Cancer.

5x2

End Semester Examination, Dec. 2017
M. Sc. (Nutrition and Dietetics) – Third Semester
DIETETIC TECHNIQUES AND COUNSELING (MNDC-303)

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**. Each question carries equal marks.

Q.1 Discuss various stages of counseling process. Prepare a leaflet for the patient suffering from hypertension. **10**

PART-A

Q.2 Briefly enumerate the steps or action that need to be taken care of while establishing rapport with client. **10**

Q.3 Define Nutritional Assessment. Enumerate any two direct methods of nutritional assessment. **10**

Q.4 Define Nutrition Counseling. Explain its goals, in detail. **10**

PART-B

Q.5 Describe factors influencing food choice of an individual. **10**

Q.6 Discuss in detail the roles and responsibility of a Nutrition Counselor. **10**

Q.7 Prepare a counseling prescription for a 17 year old girl suffering from anorexia nervosa. **10**

End Semester Examination, Dec. 2017
M. Sc. (Nutrition and Dietetics) – Fourth Semester
NUTRITION IN EMERGENCIES AND DISASTER (MNDC-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**. Each question carries equal marks.

- Q.1 Give a brief description of public nutrition approach to tackle the nutritional problems in emergency situations.

20

PART-A

- Q.2 What are the factors giving rise to emergency situation in the disasters? Explain any one situation with illustrations using case studies from Indian subcontinent.

20

- Q.3 What are the causes of malnutrition during emergency situation? Explain the prevention and management of major deficiency problems.

20

- Q.4 Discuss the role of immunization to prevent communicable diseases. What is the importance of environmental sanitation to prevent communicable diseases?

20

PART-B

- Q.5 Discuss the indicators of malnutrition in emergencies. Explain the organization of nutrition surveillance and individual screening.

20

- Q.6 Write short notes on:

- a) Food distribution strategies.
- b) Mass and supplementary feeding.
- c) Local food rehabilitation.
- d) Feeding centres.

5x4

- Q.7 What do you mean by emergency preparedness and response programme? Explain in detail.

20

End Semester Examination, Dec. 2017
M.Sc. (N&D) – Second Semester
FOOD SCIENCE AND PROCESSING (MNDF-206)

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 is the inter-relationship between Food Industry and other related industries? Explain.

20

PART-A

Q.2 a) Explain step by step milling process of wheat.

10

b) Describe wet and dry milling of corn.

10

Q.3 Write short notes on the following:

a) Pasteurization of milk.

b) Resazurin test.

c) Fermented milk.

d) COB test.

20

Q.4 Explain in detail the extraction of oil from oilseeds.

20

PART-B

Q.5 a) Explain rigor mortis in meat.

10

b) Describe the quality parameters of fresh egg.

10

Q.6 a) Discuss various preservation methods for fruits and vegetables.

10

b) Explain the processing of fats and oils.

10

Q.7 Discuss the seven principles of HACCP.

20

End Semester Examination, Dec. 2017
M.Sc. (N & D) – Third Semester
ADVANCED FOOD SCIENCE AND CHEMISTRY (THEORY) (MNDF-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**. Each question carries equal marks.

Q.1 Answer the following:

- a) Why ice floats on water? Explain with structure.
- b) What are poly saccharides? Give two examples.
- c) What is the difference between the units of starch (Amylose and Amylopectin)?
- d) What are proteins? How primary and secondary proteins are different in structure?
- e) What are texturized proteins? Give example.
- f) What are oxidoreductase enzymes? Give one example.
- g) What are food flavors? Give two examples.
- h) Write the precursor chemicals of grapefruit, citrus fruits and garlic.
- i) What is the effect of frying on lipids?
- j) Write a short note on hydrogenated fats. **2×10**

PART-A

- Q.2
- a) Explain water activity and how it is useful to predict storage of food products? **10**
 - b) Explain unique properties of water. How many types of aqueous solutions are possible in water? Explain.
 - c) What is phase transition of food containing water? Write WLF equation.
- Q.3
- a) Write the following reactions:
 - i) Oxidation of glucose.
 - ii) Inversion of sugars. **2½×2**
 - b) What are polysaccharides in food? Write short notes on Agar-agar, Pectin, Guar Gums and Xanthan Gum. **10**
 - c) What are non-starch polysaccharides in food? Explain.
- Q.4
- a) What are Amino acids? Write difference between essential and non-essential amino acids. What are the important properties of proteins? **10**

- b) Explain protein isolates and protein hydrolysate.
- c) Write the role of lipids in flavors with explanation.

PART-B

- Q.5 a) Define Enzymes? Explain transferases and hydrolases with examples.
How Enzymes can be isolated? **10**
- b) What are immobilized enzymes? What are their role in food processing?
 - c) Explain how food waste can be treated with the help of enzymes?
- Q.6 a) Explain the phenomenon of freezing in food. Write factors that affect freezing. Explain Thawing. **10**
- b) Write short notes on:
 - i) Food Irradiation.
 - ii) Pasteurization. **5×2**
- Q.7 a) Write major flavors compounds in i) spices ii) fruits and vegetables iii) Thermally induced flavors.
- b) Explain processing of tea in detail. **10**
 - c) What are pigments? Write pigments of plants and animals. Also, give two examples of natural food colors.

End Semester Examination, Dec. 2017
M. Sc. (N&D) – Third Semester
FOOD BIOTECHNOLOGY (MNDF-302)

Time: 2hrs
50

Max Marks:

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**. Each question carries equal marks.

- Q.1 What do you understand by Food Biotechnology? Explain the application of fermentation in Food industry with appropriate examples.
10

PART-A

- Q.2 a) Differentiate between Primary and Secondary metabolites.
5
b) How do bioreactors work? Explain the working principle of the continuous stirred tank reactor with example of metabolite production.
5

- Q.3 Explain cloning vectors. How is cell based DNA cloning carried out?
10

- Q.4 a) Write a short note on Genetically modified foods.
5
b) What are the biosafety issues related to genetically modified foods? Explain. **5**

PART-B

- Q.5 Write down about the functions of the following:
a) Bacteriophage Lamda.
b) DNA recombination.
5x2

- Q.6 Write a short notes on the following:
a) Alcohol production.

b) Vitamin B production.
5x2

- Q.7 a) Discuss about the basic requirements for setting up a Tissue Culture Lab. **5**
b) Write down step by step production method of amylases.
5

End Semester Examination, Dec. 2017

M. Sc. (N & D) – Third Semester

FOOD PRODUCT DEVELOPMENT AND MARKETING (MNDF-303)

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**. Each question carries equal marks.

- Q.1 Discuss innovation with the help of an example with special reference to the nutrition and therapeutic value of the innovated product.

10

PART-A

- Q.2 What is the significance of idea generation in food product development?

10

- Q.3 What are the needs and challenges for the new product development?

10

- Q.4 What is the role of consumer research in the product development cycle? Prepare a sample questionnaire for a “ready to cook” meal/recipe in order to carry out post-launch consumer survey.

10

PART-B

- Q.5 Write short notes on:
a) Packaging and Labeling.

b) Advertising & Marketing.

5x2

Q.6 Explain, with the help of a flowchart, the various activities involved in the launching of the product.

10

Q.7 What do you understand by the “marketing plan” for a new product? Support your answer with the help of a suitable example.

10

End Semester Examination, Dec. 2017

M. Sc. (N&D) – Fourth Semester

MICROBIOLOGY OF FOOD PROCESSING (MNDF-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**. Each question carries equal marks.

Q.1 Define ‘Microbiology’. Explain the general characteristics of microbes important in foods.

20

PART-A

Q.2 Differentiate between:

a) Intrinsic factors and Extrinsic factors.

10

b) High temperature preservation and Thermal processing.

10

Q.3 Explain the industrial uses of the following:

a) Bacteria.

10

b) Yeast.

10

Q.4 Write notes on the following:

a) Microbial toxins.

10

- b) GMP.
10

PART-B

Q.5 Write notes on the following:

a) Food intoxication.

10

b) Food infection.

10

Q.6 Explain the preservation method for the following foods:

a) Fermented milk.

10

b) Cereal foods.

10

Q.7 Explain the role of microbes in the spoilage of the following foods:

a) Fruits and vegetables.

10

b) Meat and fish.

10

End Semester Examination, Dec. 2017
M.Sc. (N&D) – Second Semester
NUTRITION AND PUBLIC HEALTH (MNDP-206)

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 Explain the relationship between nutrition, health and diseases in detail.
20

PART-A

Q.2 Write notes on:
a) Millennium Development Goals.
b) Evolution of the science of public health.
10x2

Q.3 Define epidemiology and also discuss aim and uses of descriptive epidemiology in detail.
20

Q.4 a) Discuss the aim, scope of public health nutrition.
10
b) Write a note on the role of public health nutritionist in National development. **10**

PART-B

Q.5 Discuss assessment of nutritional status for community in detail.
20

Q.6 Explain etiology and preventive strategies for Nutritional Anemia and Zinc deficiency in detail.
20

- Q.7 Describe public health implications and preventive strategies for coronary heart diseases and diabetes in detail.
20

End Semester Examination, Dec. 2017
M. Sc. (N & D) – Third Semester
**PROGRAMS AND POLICIES FOR FOOD AND NUTRITION
SECURITY (MNDP-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**. Each question carries equal marks.

- Q.1 Discuss the reasons for poor coverage of national nutrition security programs in India? Support your answer with the help of suitable examples. **20**

PART-A

- Q.2 Comment on any two of the following:

- a) TPDS.
- b) WASH.
- c) NPA.

10×2

- Q.3 Throw light on various on-going food and nutrition security programs in India. **20**

- Q.4 Describe the significance of inclusion of “Programmes and Policies for Food and Nutrition Security” as a subject in your curriculum. **20**

PART-B

- Q.5 Describe the role of technology in improving food security. Do you think increased involvement of technology can alone help in bringing reforms in

the current system? Support your answer with the help of suitable examples. **20**

- Q.6 Write short notes on the following:
a) Enrichment and fortification.
b) Irradiated foods. **10×2**
- Q.7 Describe any two programs implemented by Government of India to combat micronutrient deficiencies. **20**

End Semester Examination, Dec. 2017
M. Sc. (N & D) – Third Semester
PROGRAMME PLANNING IN PUBLIC HEALTH (MNDP-302)

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**. Each question carries equal marks.

- Q.1 What do you understand by program planning? Do you agree that proper planning of programs enhances the success of work? Comment on it. **10**

PART-A

- Q.2 Discuss precede-proceed model, in detail. **10**
- Q.3 Explain the various steps of planning, in detail. **10**
- Q.4 How the burden of any problem in community can be assessed and why it is important? **10**

PART-B

- Q.5 Discuss the concept of health economics and its impact on health planning, in detail. **10**
- Q.6 Discuss 'Critical Path Method', in detail. **10**
- Q.7 What is Niti Aayog and describe the role of five years plan in development of health sector? **10**

End Semester Examination, Dec. 2017
M. Sc. (N & D) – Third Semester
NUTRITION COMMUNICATION FOR HEALTH PROMOTION (MNDP-303)

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**. Each question carries equal marks.

Q.1 Explain the importance of studying Nutrition Communication for Health Promotion in carrying out various Public Health Nutrition Education Programmes in Rural Community.

10

PART-A

Q.2 Explain International Nutrition Guidelines and their role in Nutrition Promotion, in detail.

10

Q.3 Explain in detail, giving suitable examples the factors affecting food choice.

10

Q.4 Write short notes on:

- a) Strategies for intervention at individual level.
- b) Role of National Guidelines in Health Promotion.

5x2

PART-B

- Q.5 Define Communication. Explain, in detail, development and field testing of Communication material for a community programme.
10
- Q.6 Explain the importance of Nutrition Advocacy for the public interest.
10
- Q.7 Write short notes on:
a) Process of behavior change communication.
b) Stakeholders in Nutrition Promotion.
10

End Semester Examination, Dec. 2017
M.Sc. (N&D) – Fourth Semester
PUBLIC HEALTH ASPECTS OF MALNUTRITION (MNDP-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**. Each question carries equal marks.

- Q.1 What do you understand by nutritional epidemiology and its importance in public health?
20

PART-A

- Q.2 Define epidemiology and discuss measurements of epidemiology in detail.
20
- Q.3 Discuss any four micronutrient malnutrition in detail.
20
- Q.4 Discuss public health implications, prevention and community based management of PEM in detail.
20

PART-B

- Q.5 Describe public health implications and preventive strategies for obesity and cancer in detail.
20

- Q.6 Write notes on:
a) Malnutrition, health and productivity.
10
b) Technology and food supply.
10
- Q.7 Discuss population policy, demography, food distribution and pricing policy in detail.
20

End Semester Examination, Dec. 2017
M.Sc. (N&D) – Second Semester
NUTRITION ESSENTIALS OF SPORTS (MNDS-206)

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 Discuss the role of Nutrition for a sports person.
20

PART-A

- Q.2 Write short notes on:
a) Biological functions of water soluble vitamins.
b) Role of carbohydrate and protein on exercise.
10x2
- Q.3 What are the recommended guidelines for Oral Rehydration Therapy (ORT)?
20
- Q.4 What are the principles, recommendations and considerations for weight loss in sports?
20

PART-B

Q.5 Explain the role of physical activity in weight control.

20

Q.6 Write short notes on:

- a) Bicarbonate loading.
- b) Adverse effects of ergogenic aids.

10x2

Q.7 Write short notes on:

- a) Dietary supplements.
- b) Energy bars and multivitamins.

10x2

End Semester Examination, Dec. 2017

M.Sc. (N&D) – Third Semester

NUTRITION FOR VARIOUS GAMES AND SPORTS (MNDS-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**. Each question carries equal marks.

Q.1 Discuss the role of nutrition in sports fitness and performance. Also state the need to play sports with suitable examples.

20

PART-A

Q.2 Discuss the special issues and requirements of Racket players w.r.t.

- a) Hydration.
- b) Travel.

10x2

Q.3 Explain the need and importance of hydration for sports person in endurance activities.

20

Q.4 Plan a sample menu for competition day eating of Racket Players. Also compute the RDAs for the same.

20

PART-B

Q.5 Describe in detail about the banned substances and their effects in sports person. **20**

Q.6 Explain the nutritional factors which produce fatigue in sports person, supporting your answer with different studies.

20

Q.7 Discuss the impact of diet on menstrual functions in female sports person.

20

End Semester Examination, Dec. 2017

M.Sc. (N&D) – Third Semester

EXERCISE PHYSIOLOGY (MNDS-302)

Time: 2hrs

Max Marks: **50**

No. of pages: 1

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

Q.1 Discuss the role of exercise physiology in designing the nutritional requirement of sports persons.

10

PART-A

Q.2 Discuss oxygen transportation in human with emphasis on 'Bohr' effect.

10

Q.3 Discuss the pulmonary and cardiovascular changes during intensities of exercise. **10**

- Q.4 Explain:
a) Acute Mountain sickness (AMS).
b) HAPO.
c) OBLA.
d) Fast and slow twitch muscle fibers.
2½x4

PART-B

- Q.5 Describe the importance of isometric, isotonic and isokinetic strength testing exercise protocols.
10

- Q.6 Discuss energetics of aerobic and anaerobic exercises.
10

- Q.7 Write short notes on the following:
a) Overtraining and detraining.
b) O₂ debt.
c) Concentric and eccentric action of muscle.
d) Methods of VO₂ max measurement.
2½x4

End Semester Examination, Dec. 2017

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

SPORTS BIOCHEMISTRY (MNDS-303)

Time: 2 hrs
50

Max Marks:

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 Explain the following in brief:
a) How are proteins beneficial for our body?
b) Which biomolecule is stored in adipose tissue? How does it provide energy?
c) What is the role of hexokinase?
d) Draw the structure of glucose.

e) How is cholesterol important for our body?
2x5

PART-A

Q.2 Which biochemical pathway is called central hub of metabolism and why? Explain all steps of it.

10

Q.3 How are fats metabolized? Write all the steps of fatty acid activation transportation and beta oxidation, in detail.

10

Q.4 How is glucose synthesized from non carbohydrate sources? Write in detail all enzymes and steps involved in the cycle

10

PART-B

Q.5 How do muscles and liver play a key role in storing surplus glucose? Explain the metabolic cycle involved in storing the extra glucose to be used in critical demand of glucose.

10

Q.6 How is lactic acid synthesized as well as utilized as a good source of glucose? Which metabolic cycle is meant for the transfer of lactate to liver from muscles? Explain in detail. Support your answer with proper diagrams.

10

Q.7 Classify fats and fatty acids. How are they important for an athlete? Explain the various examples of both.

10

End Semester Examination, Dec. 2017

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

SPORTS BIOCHEMISTRY (MNDS-303)

Time: 2 hrs

50

Max Marks:

No. of pages:

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 **Explain the following in brief:**
- a) Importance of Carbohydrates.
 - b) Functions of proteins for an athlete.
 - c) Structure of Maltose.
 - d) Name of any three enzymes of Kreb's cycle.
 - e) Define Mucopolysaccharides.
- 2x5**

PART-A

- Q.2 Why are proteins important for an individual? How are they classified? Write in detail various types of proteins with proper examples.
10
- Q.3 How glucose can be stored for emergency state in our body? Explain the cycle which is meant to store surplus glucose. Support your answer with suitable diagrams. **10**
- Q.4 Which Metabolic Pathway is meant to produce Glucose from non-carbohydrate sources and how?
10

PART-B

- Q.5 In a sports person is at fasting stage of 5-6 hours, which metabolic pathway will provide the energy to perform his basic activities? Explain all steps.
10
- Q.6 How fats play a key role in providing energy? Explain the cycle of β -oxidation of fats. **10**
- Q.7 How proteins are metabolized? Explain various steps of its catabolism:
- a) Transamination.
 - b) Deamination.
 - c) Urea Cycle.
- 10**

M. Sc. (Nutrition and Dietetics) – Fourth Semester
CURRENT TRENDS IN SPORTS NUTRITION (MNDS-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**. Each question carries equal marks.

Q.1 What are the current trends in sports nutrition? Describe with reference to diet and supplements.
20

PART-A

Q.2 Discuss the current nutritional guidelines for athletes in training.
20

Q.3 Discuss about the career opportunities in sports management companies.
20

Q.4 What is the role of HRD Ministry in development of sports and Physical Education?
20

PART-B

Q.5 Explain the role and function of FIFA in promotion and management of sports. **20**

Q.6 What are the issues that sports administrators face on day to day basis?
20

Q.7 Explain about the product life cycle and factors affecting the price of a product. **20**

