

B.Sc. FITNESS AND LIFESTYLE MODIFICATION
(New Syllabus 2017-2018)

FIRST YEAR

PAPER II – EXERCISE PHYSIOLOGY AND FITNESS ASSESSMENT

Q.P. Code: 802802

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Define glycolysis. Explain anaerobic and aerobic glycolysis.
2. Describe the Conduction System of Heart.
3. Describe various processes in active and passive transport.

II. Write notes on:

(8 x 5 = 40)

1. Draw a diagram of mitochondria and tabulate its parts with its function in cellular respiration.
2. Explain fat breakdown.
3. What are the types of membrane protein and its function?
4. Define blood pressure and list the factors affecting blood pressure.
5. What are the types of skeletal muscle contractions?
6. Define range of motion in a joint and factors affecting joint range.
7. Define muscle strength and add note on muscular endurance.
8. Explain overload principle, specificity and progression in training.

III. Short answers on:

(10 x 3 = 30)

1. What Controls the Heart Rate?
2. Define Lactate Threshold.
3. What are the types of muscle fibres?
4. What are the types of glycogen stores in body?
5. Mention health related fitness components.
6. Define Body Mass Index.
7. Define tidal volume, residual volume and dead space.
8. What is basal metabolic rate?
9. Name any three conditions due to extreme heat.
10. Define anthropometric measurement.

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I. Elaborate on:

(3 x 10 = 30)

1. Define cardiac output and explain the sequences in cardiac cycle.
2. Explain fat metabolism
3. Explain the microscopic structure of skeletal muscle and add a note on sliding filament theory.

II. Write notes on:

(8 x 5 = 40)

1. What is Maximal Oxygen Consumption and how it can be measured?
2. Describe the Myocardial Adaptations to Training.
3. Describe different structures of plasma membrane.
4. What are factors affecting exercise?
5. Tabulate the difference between the terms health and fitness.
6. Explain the principles of resistance training.
7. What are the detraining effects on bone and body composition?
8. Define Body Mass Index and tabulate any one classification.

III. Short answers on:

(10 x 3 = 30)

1. Components of skeletal muscle.
2. Methods to assess body composition.
3. Different types of muscle contraction.
4. Define the following anabolism, catabolism, and diffusion.
5. State three functions of arteries.
6. Mention the properties of skeletal muscle.
7. Define heart rate, stroke volume and cardiac index.
8. Various types of flexibility and how it is measured?
9. What are three body types and add a note on each.
10. Functions of mitochondria and its parts.

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Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain about energy metabolism.
2. Explain about principles of training.
3. What are the various factors that affect performance?

II. Write notes on: **(8 x 5 = 40)**

1. Explain Lactate threshold.
2. What are the various types of muscle contraction?
3. Explain Krebs's cycle.
4. What are the various lung capacities?
5. Explain Basal Metabolic Rate.
6. What is oxygen deficit?
7. Define Range of Motion and factors affecting the joint range.
8. Explain Sliding filament theory.

III. Short answers on: **(10 x 3 = 30)**

1. Define Muscle Spindle.
2. What is Hypertrophy?
3. Body Composition.
4. Define Fatigue.
5. What is Cardiac Output?
6. Explain ATP-PC system.
7. What is Growth hormone?
8. Define Electrolytes.
9. Define Cramps.
10. Mention Skill related fitness components.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 2802

(AUGUST 2020 EXAM SESSION)

B.Sc. FITNESS AND LIFESTYLE MODIFICATION

FIRST YEAR (Regulation 2017-2018 & 2019-2020)

PAPER II – EXERCISE PHYSIOLOGY AND FITNESS ASSESSMENT

Q.P. Code : 802802

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. What are the various factors that affect performance?
2. Define and explain Glycolysis.
3. Explain about principles of training.

II. Write notes on:

(8 x 5 = 40)

1. Explain Resting Metabolic Rate.
2. Define Range of Motion and factors affecting the joint range.
3. What are the various lung Volumes?
4. What is oxygen debt?
5. What are the various types of muscle fibres?
6. Explain Sliding filament theory.
7. Explain Electron Transport Chain.
8. Explain Onset of Blood Lactate Accumulation.

III. Short answers on:

(10 x 3 = 30)

1. Define Golgi Tendon organ.
2. What is Hyperplasia?
3. Define Cardiac cycle.
4. Define All or None Law.
5. What is Blood Pressure?
6. What are the sources of energy for muscle?
7. Explain the function of Pituitary Gland.
8. Define Micronutrients.
9. Define Syncope.
10. Explain about the importance of water in the body.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0422]

APRIL 2022

Sub. Code: 2802

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSIONS)

B.Sc. FITNESS AND LIFE STYLE MODIFICATION

FIRST YEAR (Regulations 2017-2018 / 2019-2020 /2020-2021)

PAPER II-EXERCISE PHYSIOLOGY AND FITNESS ASSESSMENT

Q.P NO. 802802

Time: Three Hours

Answer All questions

Maximum : 100 Marks

I. Elaborate on : (3X10=30)

1. Write in detail about the Pre Exercise Fitness Assessment and Explain the safety and risk factors to be considered before exercise training.
2. Write in detail about Kreb's Cycle and how oxidation of carbohydrates, Fat and proteins take place.
3. Write in detail about the Environmental factors affecting Exercise and suggest protective measures to prevent Heat and Cold related disorders during exercise.

II. Write Notes on : (8X5=40)

1. Principles of Goniometer.
2. Over Load Principle.
3. Types of Muscle Fibres.
4. Techniques to Improve Core Strength.
5. Adenosine Tri-phosphate-Phospho Creatinine System.
6. Mitochondria and its function.
7. Lactate Threshold.
8. Define Blood Pressure and factors affecting Blood Pressure.

III. Short Answers on : (10X3=30)

1. Cardiac Output.
2. Tidal Volume.
3. Types of Calipers.
4. De Training effects on Bones and Muscles.
5. Body Mass Index.
6. Adenosine Tri-phosphate ase (ATPase)
7. Cold Stress during exercise.
8. How cigarette smoking affects exercise performance?
9. Dead Space.
10. Body Composition.
