

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION, MUMBAI**

1	Name of Syllabus	<b>C. C. IN EXERCISE PHYSIOLOGY (404136)</b>																																																
2	Max.Nos of Student	25 Students																																																
3	Duration	6 Month																																																
4	Type	Part Time																																																
5	Nos Of Days / Week	6 Days																																																
6	Nos Of Hours /Days	4 Hrs																																																
7	Space Required	Play ground + Class Room = 200 Sq feet																																																
8	Entry Qualification	S.S.C. + Any course in Sport Group of MSBVE																																																
9	Objective Of Syllabus/ introduction	To provide systematic training about <b>EXERCISE PHYSIOLOGY</b>																																																
10	Employment Opportunity	Can run training institute or can work in supervisory/ teaching activities of the sport																																																
11	Teacher’s Qualification	Diploma / Certificate holder in concern Subject.																																																
12	Training System	Training System Per Week																																																
		Theory		Practical		Total																																												
		6 Hours		18 Hours		24 Hours																																												
13	Exam. System	<table><tr><td>Sr. No.</td><td>Paper Code</td><td>Name of Subject</td><td>TH/PR</td><td>Hours</td><td>Max. Marks</td><td>Min. Marks</td></tr><tr><td>1</td><td>40413611</td><td>EXERCISE PHYSIOLOGY - I</td><td>TH I</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>2</td><td>40413612</td><td>EXERCISE PHYSIOLOGY - II</td><td>TH II</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>3</td><td>40413621</td><td>EXERCISE PHYSIOLOGY - I</td><td>PR-I</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td>4</td><td>40413622</td><td>EXERCISE PHYSIOLOGY - II</td><td>PR-II</td><td>3 hrs</td><td>100</td><td>50</td></tr><tr><td></td><td></td><td>Total</td><td></td><td></td><td>400</td><td>170</td></tr></table>							Sr. No.	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks	1	40413611	EXERCISE PHYSIOLOGY - I	TH I	3 hrs	100	35	2	40413612	EXERCISE PHYSIOLOGY - II	TH II	3 hrs	100	35	3	40413621	EXERCISE PHYSIOLOGY - I	PR-I	3 hrs	100	50	4	40413622	EXERCISE PHYSIOLOGY - II	PR-II	3 hrs	100	50			Total			400	170
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## **Theory - I - EXERCISE PHYSIOLOGY - I**

### **1. Structure and functions of Muscle:**

Classification of muscles, Structure of Muscle tissues, various theories of muscular, contraction. Hypertrophy of muscles in relation to physical activity.

### **2. Neuromuscular Physiology**

Neuro motor units, Neuro muscular junction, bioelectric potential, kinesthesia, Tone, Moisture and Equilibrium.

### **3. Bio-Energetics**

Feel for muscular work, and energy for muscular contraction, aerobic and anaerobic system, interrelationship of aerobic and anaerobic system with special reference to different activities. Anaerobic – Threshold training.

### **4. Physiological Changes due to exercise and training**

Effect of exercise and training on various systems. Oxygen debt, Second wind, Micro-circulation. Effect of exercise on carbohydrate, fat and protein metabolism.

### **5. Work and Environment**

Work capacity under different environmental conditions such as hot, humid, cold and high altitude.

### **6. Sports and Nutrition**

Physiological considerations of diet in relation to components, quantities and significance, sports and diet, diet before during and after competition.

### **7. Glycogen boosting:**

Determination of energy cost of various sports activities

## **Theory - II - EXERCISE PHYSIOLOGY - II**

### **1. Role of Sports Medicine in the field of Physical education and sports.**

### **2. Effect of smoking, drinking and drugs on athletic performance, Dope testing.**

### **3. Prediction and Performance by lab and field testing.**

### **4. Role, importance and construction of any National Physical Fitness Programme – a Physiological approach.**

### **5. Growth and Development**

#### **5.1 Individual rate of growth and development.**

#### **5.2 Role of heredity and environment on sports performance**

### **6. Instrumentation**

Various instruments/equipment used in the field of exercise physiology lab in bio-chemical, histological and other studies.

### **7. Sex difference and Sports:**

Exercise – Aging and Cardio-vascular diseases.

## **Practical - I - EXERCISE PHYSIOLOGY - I**

### **1. Structure and functions of Muscle:**

Classification of muscles, Structure of Muscle tissues, various theories of muscular, contraction. Hypertrophy of muscles in relation to physical activity.

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Neuro motor units, Neuro muscular junction, bioelectric potential, kinesthesia, Tone, Moisture and Equilibrium.

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