

**KANNUR UNIVERSITY**

**(Abstract)**

Certificate Course in Fitness Management under the School of Physical Education and Sports Sciences, Mangattuparamba Campus - Regulation, Scheme, Syllabus and model question papers - with effect from 2018 admission - Implemented - orders issued.

**ACADEMIC 'C' SECTION**

U.O. No. Acad/C4/12072/2018

Civil Station (P.O), dated 09-07-2018

- Read: 1. Minutes of the meeting of the Syndicate vide item No. 2017.143 Dated 14/03/2017.  
2. Minutes of the meeting of the BOS in Physical Education(Cd) Dated 14/09/2017.  
3. U.O.No.Acad.A1/14212/2017, Dated 11/06/2018.  
4. Letter No. Nil Dated.26/06/2018 from Dr.P.T.Joseph, former Chairman, BOS in Physical Education(Cd).

**ORDER**

1. As per the paper read (1) above, the Syndicate of the University considered the proposal for starting a Certificate Course in Fitness Management under the School of Physical Education & Sports Sciences, Kannur University, Mangattuparamba Campus and resolved to grant permission for the same.

2. The meeting of the Board of Studies in Physical Education (Cd) held on 14/09/2017, along with the Subject Experts prepared the Draft Scheme and Syllabus for the Certificate Course in Fitness Management vide paper read(2) above. The Board further authorized the Chairman to submit the Regulation, Scheme and Syllabus of the course to the University, for approval.

3. As per paper read (3) above, sanction was accorded to start Certificate course in Fitness Management of 3 months duration with an intake of 20 students under the School of Physical Education & Sports Sciences, Mangattuparamba Campus of the University from the academic year 2018-2019.

4. Dr.P.T.Joseph, former Chairman, Board of Studies in Physical Education (Cd) submitted the Regulation, Scheme, Syllabus and model question papers of Certificate Course in Fitness Management under the School of Physical Education & Sports Sciences vide the reference read (4) above for implementing with effect from 2018 admission.

5. The Vice - Chancellor, after considering the matter in detail, and in exercise of the powers of the Academic Council, conferred under Section 11 (1) of Kannur University Act, 1996 and all other enabling provisions read together with, accorded sanction to implement the Scheme, Syllabus and model question papers for the Certificate

P.T.O

Course in Fitness Management of 3 months duration under the School of Physical Education & Sports Sciences, Mangattuparamba Campus of the University with effect from 2018 admission with an intake of 20 students, Subject to reporting before the Academic Council.

6. The Regulation, Scheme, Syllabus and model question papers for the Certificate Course in Fitness Management implemented with effect from 2018 admission are uploaded in the University Website.

Orders are therefore issued accordingly.

Sd/-

**JOINT REGISTRAR (ACADEMIC)**

**For REGISTRAR**

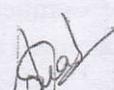
To:

The Head, School of Physical Education & Sports Sciences,  
Mangattuparamba Campus

**Forwarded /By Order**

Copy to:

1. The Examination Branch 4 Copies(through PA to CE)
2. PS to VC/PA to PVC/PA to Registrar/PA to CE.
3. EXCI Section
4. JR/AR-I (Academic). Acad A,D,F Section.
5. Computer Programmer(for uploading in the Website)
6. SF/DF/FC

  
**SECTION OFFICER**





**KANNUR UNIVERSITY**

**SCHOOL OF PHYSICAL EDUCATION AND  
SPORTS SCIENCES**

**REGULATION, SCHEME AND SYLLABUS**

**FOR**

**CERTIFICATE COURSE IN FITNESS MANAGEMENT**

**Appendix to U.O.No. Acad/C4/12072/2018 Dated 9/7/2018**



**KANNUR UNIVERSITY**

**SCHOOL OF PHYSICAL EDUCATION AND SPORTS SCIENCES**

**Regulation, Scheme of Examination and Syllabus for  
Certificate Course in Fitness Management**

1. **NAME OF THE COURSE** : Certificate Course in Fitness Management
2. **AIMS AND OBJECTIVES OF THE COURSE**
  - a) To understand the basic concept of Fitness Training and their effect on the body.
  - b) To produce well trained Fitness Trainers
  - c) To study the principles of training related to exercise.
  - d) To study the kinesiology aspects of Exercise.
  - e) To study the posture related deformities and corrective exercises.
  - f) To study the anthropometry and fitness related tests.
  - g) To study the basics of Nutrition, weight management and safety measures.
  - h) To learn the duties and responsibilities as Gym Instructor
  - i) To enable the student to prepare the Fitness programme for different age groups.
3. **NATURE OF THE COURSE:** The course shall be full time regular and co-educational.
4. **DURATION OF THE COURSE:** The duration of the course shall be three months with 60 working days.
5. **ELIGIBILITY FOR ADMISSION**
  - (i) Candidates for admission to the Certificate Course in Fitness Management shall have passed HSC/+2/VHSC/10+3 Diploma or any other higher examinations recognized by the Kannur University.
  - (ii) Should be below 40 years as on the date of notification of the course. Age relaxation as per University Rules in the case of deserving candidates be given for maximum 5 years.
  - (iii) Should be physically and mentally fit to undergo Fitness Training.
6. **RESERVATION OF SEATS**  
Reservation of seats shall be as per rules framed by the Government/University from time to time.

## 7. SELECTION CRITERIA

The course shall have 20(Twenty) seats in a batch. The selection of candidates for admission to the course shall be based on the merit determined by the following criteria:

i)	Entrance examination *	-	50 marks
ii)	Physical Fitness test	-	25 marks
iii)	Marks of the qualifying examination	-	25 marks
	<b>Total</b>	-	<b>100 marks</b>

\* *Entrance examination shall be multiple choice questions based on the knowledge of Structure and functions of the body, Health, Objective English of HSC/+2 syllabus, General Knowledge and Current affairs. Candidates should score atleast 40% marks in the selection tests to place in the ranklist.*

## 8. MEDIUM OF INSTRUCTION AND EXAMINATION

The medium of Instruction and Examination of the course shall be English.

## 9. COURSE CONTENT AND SCHEME OF EXAMINATION

Course Code	Course Content	Marks			Total Teaching hours
		Internal	External	Total	
CCFM01	Principles and Methods of Fitness Training	40	60	100	60
CCFM02	Human Anatomy Physiology and Kinesiology	40	60	100	60
CCFM03	Fitness Training Practical	40	60	100	180
	<b>Total</b>	<b>120</b>	<b>180</b>	<b>300</b>	<b>300</b>

## 10. ATTENDANCE

The minimum attendance for both theory and practical required for each paper shall be 85% of the total number of classes conducted for the course. Those who secure the minimum attendance alone will be allowed to register for the University examination.

### Attendance ( For Internal Valuation)

Above 95 % - 5 marks

90 to 94 % - 4 marks

85 to 89 % - 3 marks

Below 85 % - 0 marks.

Condonation of shortage of attendance, to a maximum of 5 days of the working days during the whole period of the course may be granted as per the existing university rules. A student who is not eligible for such condonation shall repeat the Course along with the subsequent batch.

**11. SCHEME OF EVALUATION**

The evaluation of a course consists of two parts: Internal Evaluation (IE) and External Examination (EE). The total marks allotted for the theory papers and Practical shall be 100, with 40 % marks for Internal Evaluation and 60% marks for the External Examination (EE).

**12. INTERNAL EVALUATION**

Internal Evaluation for theory and practical shall be on the basis of test papers , assignments, seminars and attendance. The valuation shall be conducted by the concerned teacher. The students shall also maintain a record book which should be submitted at the time of the University examinations.

**Internal Evaluation of Theory Papers**

<b>Details of Internal Assessment</b>	<b>Marks</b>
Test Papers	15
Assignment	10
Seminar Presentation	10
Attendance	5
<b>Total</b>	<b>40</b>

**Internal Evaluation of Practical Examination**

<b>Details of Fitness Training practical</b>	<b>Marks</b>
Demonstration	20
Instructions, Skills, Communications, etc.	10
Viva Voce	10
<b>Total</b>	<b>40</b>

**13. EXTERNAL EXAMINATION**

The external examinations in theory and practical shall be conducted by the University after the completion of the required theory and practical classes of the course. The duration of University Examination for each theory paper shall be for 3 hours. The Head of the Department of the Course shall submit the attendance certificate, marks of internal assessments of eligible candidates for attending the University examination.

External Examination of Practicals shall be conducted by the university with two examiners-one internal and one external. There shall be no provision for revaluation. There shall be no supplementary examinations. For reappearance / improvement, the students can appear along with the next batch. There shall be no improvement chance for internal evaluation.

**External Examination of Theory Papers: Question Paper Pattern**

Type of questions	Number Questions	Questions to be answered	Marks	Total Marks
Section A- Essay Questions	4	2	15	30
Section B -Short Essay Questions	4	2	10	20
Section C -Short Answer Questions	8	5	2	10
<b>Total Marks</b>	<b>16</b>	<b>9</b>		<b>60</b>

**Practical Examination (External Valuation)**

Details of Fitness Training Practical	Marks
Demonstration	20
Instructions, Skills, Communications, etc.	15
Viva Voce	10
Record	15
<b>Total</b>	<b>60</b>

14. **PROMOTION AND PASS**

Students who secure not less than 50% marks in aggregate and separately in internal and external assessments in each of the theory papers and in practical shall be declared to have passed the certificate course in Fitness Management Examination. There will not be ranking and classification of marks/ results.

15. **GRIEVANCE REDRESSAL MECHANISIM**

As per the Regulations framed by the University

16. **FACULTY**

This Course comes under the faculty of Sports Science and Physical Education.

## SYLLABUS

### CCFM01 : PRINCIPLES AND METHODS OF FITNESS TRAINING

#### UNIT-1- INTRODUCTION TO FITNESS AND TRAINING PRINCIPLES

Meaning and definition of physical activity, exercise and physical fitness- Dimensions of Fitness: Health related Fitness and Performance related Fitness- Components of Health related Fitness -Components of Performance related fitness- Misconceptions about fitness - Basic Principles of training -The FITT principles -Periodization- Meaning – Definition – periodization in Training and conditioning- Principles of conditioning - Importance of training - training load- Factors of load, Load & adaptation , Over load, Recovery.

#### UNIT II- METHODS FOR DEVELOPING HEALTH RELATED PHYSICAL FITNESS.

Methods of developing **Cardio respiratory fitness** : Aerobics, Continuous method- Slow- Fast- Variable – Fartlek Method -Repetition Method - Interval Method - Means and methods of developing **Muscular strength**- Dynamic Concentric Method ,Dynamic Eccentric Method , Iso- Kinetic Method, Static Method - Means and methods of developing **Muscular Endurance** :Extensive interval Method, Intensive Interval Method, Circuit Training -Means and methods of developing **Flexibility** :Dynamic stretching, Ballistic stretching, Static Active stretching, Static Passive stretching, Isometric stretching and PNF stretching -

#### UNIT -III PHYSICAL FITNESS ASSESSMENT AND FIRST AID

Cardio respiratory fitness assessment - Assessment of Muscular strength and Endurance Assessment Flexibility - Body composition assessment- Assessment of Resting Heart rate, Resting Respiratory Rate and Blood Pressure. Assessment of functional fitness of elderly- First Aid– First Aid Kit - Responsibility of the First Aider -The PRICE principles of first aid -**The ABC and steps involved in Cardiopulmonary Resuscitation (CPR)**- First aid for sprain and Strain ,Fracture.

#### UNIT-IV FITNESS FACILITY MANAGEMENT

Introduction to Fitness facility Management : Infrastructure facilities for fitness centre- Weight training equipments , cardiovascular equipments , weight plates, Dumbbells - Barbells , Audio- visual facilities -Reception room- Dressing room- Lockers, showers , toilet.- Hygienic facilities & Fitness centre daily cleaning check list - Operation and Management of Fitness Facilities - Set-up and placement and maintenance of Gym equipment -Exercise Prescription for different ages: Older adults, children , Adolescents, Youth, Adult and Middle aged, women .

#### UNIT- V -NUTRITION

Basics of Nutrition :Macro Nutrient, Micro Nutrient- Sources and functions of Nutrients- Balance diet- Factors affecting diet - Calories & diet- Exercise & Diet- Role of diet and exercise in management of overweight and obesity- Designing diet plan and exercise schedule for weight gain and loss - Malnutrition, definition, causes of malnutrition ,Diseases due to deficiency of vitamins and minerals, prevention of malnutrition.

**References:**

1. Uppal . A.K. (2004) Physical Fitness and Wellness Friends publications India.
2. Jeanette winter son(1986) fit for the future. British Library cataloguing in
3. publication.
4. Edward T. Howley B. Dov Franks(1986) Health and Fitness instructor's Handbook second edition.
5. Anita Bean (1998) Food for Fitness.
6. Corbin, Charles B. et.al: Concepts of Fitness and Welness, Boston: McGraw Hill 2000
7. Gibney, et.al, Public Health Nutrition, Oxford, Blackwell Publishing, 2005
8. Dick, Frank W. (1980) sports Training Principles. London Lepus Books
9. Clark N (1997) Nancy Clark's Sports Nutrition Guidebook. Second Edition. Human Kinetics, Champaign Illinois.
10. Sharad Chand Mishra. Dr. (2005) Concepts & issues in sports Nutrition
11. Hardman Adrienne E. and Stensel, DavidJ. Physical Activity and health, London: Routledge 2004
12. Practical guide to First Aid Dr. PippaKeechMBchB MRCGP ,published by Lorens Books, 2003
13. 'First Aid the Vital Link' The Canadian Red Cross Society , Mosby Lifeline 1994
14. Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson
15. Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

**CCFM 02 : HUMAN ANATOMY PHYSIOLOGY AND KINESIOLOGY****UNIT- I**

Meaning of Anatomy and Physiology -**Cell**: Structure & Functions - The Cell theory - Types, shapes and size of cells -Organelles and their functions - Process of Active and Passive Transport in cells, DNA, Genes and Chromosomes- **Tissues**- Types of Tissues - Structure and functions of tissues :Epithelial tissue-Connective tissue -Muscular tissue - Nervous tissue

**UNIT-II : SKELETAL SYSTEM**

Axial and Appendicular skeleton - Classification of bones - Skeletal development from embryo to maturity - Classification of joints- Spinal Column& its Common Structural Deformities - Effect of Exercise on Skeletal System.

**UNIT III: CARDIO RESPIRATORY SYSTEM**

Structure and functions of the Heart- The organization of systematic and pulmonary circulation, Heart rate measurement , cardiac cycle, Cardiac output - Blood pressure (systolic/ Diastolic) - stroke volume- Calculation of Target Heart Rate zone -Respiration mechanism- Respiratory rate-  $VO_2_{Max}$ . - Minute Ventilation- - Effect of Exercise on Cardio Respiratory System.

## **UNIT IV: NERVOUS SYSTEM, ENDOCRINE SYSTEM AND DIGESTIVE SYSTEM**

**Nervous System** Structure and functions of Neuron - Central nervous system (Brain and spinal cord) - Peripheral nervous system- Autonomic nervous System (Sympathetic and Para sympathetic nervous systems) -Effect of Exercise on nervous system. **-Endocrine System-** Location, structure and function of endocrine glands - Effect of exercise on Endocrine system. **-Digestive System-** Structure of digestive system - Mechanism of ingestion, digestion, absorption, assimilation & excretion - Effect of Exercise on Digestive system.

## **UNIT V: KINESIOLOGY**

Kinesiology, Meaning and definition– Importance of Kinesiology – Fundamental concepts : Anatomical position, Body Cavities-, Axis, Planes and Directional terms – Fundamental movements- Major muscles of the upper body and lower body and their functions - Muscle Movement Classification –Agonist, Antagonist, Target , Synergist , Stabilizer, Connective tissues of muscular system - Tendons, Ligaments, Cartilage, Fascia , Bursa -Muscle Attachments : Origin , Insertion - Types of muscle contraction – Isotonic contraction- Concentric and Eccentric, Isometric (Static)- Posture and Movement analysis.Effect of Exercise on Muscular System.

## **References**

1. Saladin – Anatomy & Physiology : The Unit Form and Function, Published by
2. McGraw –Hill New Yord, 3 Ed, 2004
3. Gerard J. Tortora “Principles of Anatomy & physiology, Published by John Wiley & Sons, Inc, New York, 9<sup>th</sup> Ed, 2000
4. William Peter. L. Gray's Anatomy. Edinburgh; Churchill living stone, 1980.
5. Pearce Ecelyn C. Anatomy and Physiology for Nurses, Oxford University press, Kolkatta, 1978.
6. Thimpson, Elern. W. and R.T. Floyd; Manual of structural Kinesiology, St, Louis Morby 1994.
7. Hamilton, Nancy, Kinesiology, Boston , McGraw Hill, 2002
8. Crouch James E. – Essential Human Anatomy A Text – Lea & Febriger , Philladelphia, 1980.
9. Hay, James G & Reid J.G. – Anatomical and Mechanical Basis of Human Motion, Prentice hall, New Jeresy, 1985.
10. Jenson C.R. & Schultzer G.W. – Applied Kinesiology and Biomechnics, Mc Grow hill book Co. New York, 1984,
11. Lock Hurt and others – Anatomy of the human body, Feber & Feber Oxford University, 1975
12. Pearce Evelyn – Anatomy and Physiology for Nurses, Oxford University, 1975.
13. Rasch & Bruke – Kinesiology and applied Anatomy, Lea Febriger, Philladelphia, 1978.
14. 13. Rasch, Philip J. – Kinesiology and Applied Anatomy, Lea Febriger, Philladelphia, 1989.

**CCFM03 -FITNESS TRAINING PRACTICAL****UNIT: - I**

General Warm up Exercises

Limbering down Exercises

Calisthenics / Free Exercises

**UNIT II**

Various types of Stretching Exercises.

**UNIT III**

Barbell Exercises

Dumbbell Exercises

Swiss ball Exercises

**UNIT:IV****WEIGHT MACHINES**

01. Lat pull down
02. Low pulley
03. Peck deck
- 04 Lateral raise
05. Bench press
06. Shoulder press
07. Chest press
08. Leg curl
09. Leg extension
10. Leg press
11. Abdominal crunch
12. Hyper extension
13. Hip adductor
14. Hip abductor
15. Hack squat
16. Half squat
17. Roman bench
18. Abdominal conditioner
19. Dipping
20. Chinning
21. Leg raise

**UNIT V****AEROBIC TRAINING**

01. Treadmill
02. Elliptical crossbar
03. Bicycle ergo meter
05. Exercise cycle

**AEROBIC DANCE**

**OTHER TYPES OF EXERCISES - ROPES, TYRES etc.**

**References:**

1. Batman P. and Van Capelle M.(1995) The Exercise Guide to Resistance training .FITAU publications. Australia.
2. Fleck S.J.and Kraemer W.J. (1997) Designing Resistance Training Programs.Second Edition. Human Kinetics,
3. Havley E. T. and Franks B . D. (1997) Health Fitness instructions handbook. Third edition . Human kinetics Champaign Illinois .
4. Heyward V.H. Adanced Fitness Assessment Exercise Prescription. SecondEdition . Human Kinetics, Champaign Illinois1997
5. Brown M.C. & Sommer B.K. – Movement Education- Its Evaluation and Modern Approach, Adchison, wesely publication, London, 1978.
6. ACSM. (1990). The Recommended Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory and Muscular Fitness in Healthy Adults. Medicine and Science in Sports and Exercise. 22, 2, 265-274.
7. American College of Sports Medicine (1995). ACSM's Guidelines for Exercise Testing and Prescription. 5th ed. Media, PA: Williams & Wilkins.
8. American Council on Exercise. (1991). Personal Trainer Manual. San Diego: American Council on Exercise.

**CERTIFICATE COURSE IN FITNESS MANAGEMENT****Model Question Papers**

Name.....

Question Code.....

Reg.No.....

**CCFM 01: PRINCIPLES AND METHODS OF FITNESS TRAINING****Time : Three hours****Maximum marks : 60****Section A**Answer any *two* of the following . Each question carries *15* marks

1. What are the components of health related fitness? Discuss the standard health related physical fitness tests
2. What are the principles of Training ? Discuss the methods of Fitness Training
3. Discuss periodization training
4. Discuss the infrastructure required for a fitness center

**Section B**Answer any *two* of the following. Each question carries *10* marks

5. Chalk out a training program for cardio vascular fitness for elderly
6. What are the methods of developing Muscular strength
7. What are the various methods of training for building the muscles.
8. What are the sources and functions of Nutrients?

**Section C**Answer any *five* of the following. Each question carries *2* marks

9. Circuit training
10. Misconceptions about fitness
11. Body mass index
12. The PRICE principles of first aid
13. Factors affecting diet.
14. Aerobics
15. First aid for fracture
16. Gym equipments for upper body.

**CERTIFICATE COURSE IN FITNESS MANAGEMENT**

**Model Question Papers**

Name.....

Question Code.....

Reg.No.....

**CCFM 02 : HUMAN ANATOMY PHYSIOLOGY AND KINESIOLOGY**

**Time : Three hours**

**Maximum marks : 60**

**Section A**

Answer any *two* of the following. Each question carries *15* marks

1. Cell is the structural and functional unit of an organism. Explain with diagram.
2. Discuss different types of bones and synovial joints giving example for each.
3. Explain the process of Digestion and absorption of the products of digestion
4. What is Anatomical position? Explain Body Cavities, Axis, Planes, Directional terms Fundamental movements with diagrammes.

**Section B**

Answer any *two* of the following. Each question carries *10* marks

5. Why Pituitary is called the master gland of endocrine system. Discuss
6. Discuss the important muscles in the upper body and their functions
7. Briefly discuss the function of the heart
8. Draw a neat diagramme of neuron and discuss its functions.

**a. Section C**

Answer any *five* of the following Each question carries *2* marks

9. Muscle Movement Classification
10. Lungs volume
11. Inter vertebral disc
12. Types of muscle contraction
13. Types of tissues
14. Thyroid
15. Autonomic nervous System
16. Mechanics of respiration