

# P.G DIPLOMA IN FITNESS MANAGEMENT

(Under the Self Finance Scheme of Autonomous P.G. College, Chhindwara)



(Under the flag of NAAC, RUSA, IQAC & #आत्मनिर्भर\_भारत)

**Govt. Autonomous P.G. College**  
**Department of Physical Education & Sports**  
**Chhindwara (M.P.) 480001**

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## Ordinance

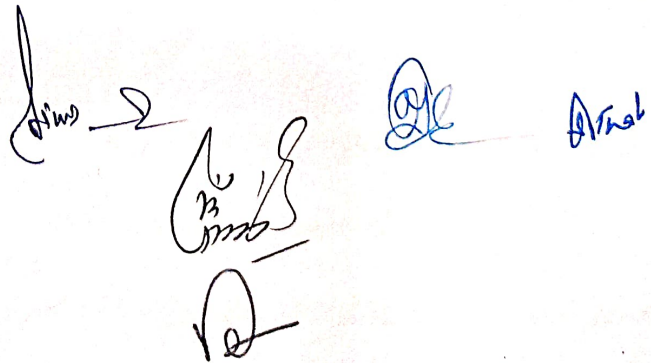
Post graduate diploma in Yoga the examination for the PG diploma in Fitness Management shall consists of one part only which will known PG diploma in Fitness Management the duration of course will be one academic (2semester) year

a candidate who after taking his bachelor degree of any discipline i.e. (B.sc,B.A.,B.com.,B.P.E. etc )of the university or of any statutory University of India or any other examination. Examination of any statutory as equivalent to the graduate degree of the university shall be admitted to the PG diploma of Fitness Management for the PG diploma of Fitness Management.

The scope of the examination and the number and eligibility of a students to be admitted etc. shall be determined by the academic Council and given in the detailed course of studies

For the examination a candidate will be declared successful if he/she obtained at least 32% of the aggregate marks in the subject. The examinee must pass separately in both theory and practical. The division in which a candidate is placed shall be determined on the basis of aggregate of marks obtained in both theory and practical exams.

Successful candidate who obtain 60% or more of the aggregate marks shall be placed in first division. Candidate who obtained 45% or above but less than 60% of the aggregate marks will be placed in the second division. All successful candidates obtaining less than 45% will placed in Third division.

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# POST GRADUATE DIPLOMA IN FITNESS MANAGEMENT

(P. G. DIPLOMA COURSE AFTER GRADUATION)

## SEM:- 1

PART – A	(THEORY PAPER) -	INT.+THEORY=TOTAL
PGD/1A-101.	FOUNDATONS OF FITNESS	25 + 75 =100
PGD/1A-102.	INTRODUCTION TO THE HUMAN BODY & FUNCTIONS	25 + 75 =100
PART – B -	(PRACTICAL)	
PGD/1B-103.	PRACTICAL- CALISTHENICS / FREE EXERCISES , STRETCHING EXERCISES & BARBELL EXERCISES (PRACTICAL NOTE BOOK) & VIVA –VOCE	25 + 75 = 100

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TOTAL = 300

## SEM:-2

PART –A	(THEORY PAPER) -	INT.+THEORY=TOTAL
PGD/2A-104.	METHODOLOGY OF FITNESS TRAINING	25 + 75 = 100
PGD/2A-105.	FACILITY MANAGEMENT	25 + 75 = 100
PART – B -	(PRACTICAL)	
PGD/2B-106.	PRACTICE OF TEACHING – FIVE LESSON PLAN ON ANY SKILL (Fitness Exercise Part) ON LESSON FORMAT WITH CHART & VIVA-VOCE	25 + 75 = 100

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TOTAL = 300

### NOTE –

- (I) MINIMUM PASSING MARKS PER THEORY EXAM SHALL BE 33% SEPERATALLY IN THEORY AND INTERNAL ASSESSMENT.
- (II) MINIMUM PASSING MARKS PER PRACTICAL - EXTERNAL AND INTERNAL EXAM SHALL BE 50% SEPERATALLY.
- (III) THE MATTER WHICH NOT COVERED IN THIS SCHEME SHOULD BE APPLICABLE FROM UNIVERSITY GENERAL ORDINANCE.



Part A  
Foundations of Physical Fitness  
Max. Marks-100

UNIT -I

Definition and meaning of fitness- Dimensions of fitness-Relationship between fitness - Wellness and Health - Benefits of Fitness – Role of Fitness among various populations and age groups – Misconceptions about fitness- National solutions for fitness problems.

UNIT -II

Categories of fitness: Health Related fitness – Components of Health Related Fitness –Muscular strength and Endurance- Flexibility –Cardio-respiratory endurance-Body competitions. Motor Related –Performance related fitness components-Speed, strength –Endurance-Agility – Power –co-ordination – reaction time. Eight Technology of Training: - Weight training –resistance training

UNIT -III

Factors influencing fitness –(Age - Sex – Climate – Diet – Exercise and training-Types of exercises used up in fitness - Aerobic -Anaerobic -Isometric – Isotonic- Isokinetic - Stretching - Types of exercise programming for -Aerobic Conditioning - Strength - Resistance Training -Suppleness and Speed Conditioning .

UNIT -IV

Preparing for fitness programme – General Guideline of Fitness programme.

Facts to consider before beginning physical activity - During physical activity – Physical activity in the heat, cold and other environments.

UNIT -V

- Using self management skills to adhere to Healthy life style behaviors changing
- Life style to promote healthy life
- Establish support system-Behavior as well as outcome oriented goals
- Avoiding self Defecting behaviors
- Designing a Reward system changing unhealthy eating Patten
- Committing to life large maintenance
- heories and models Associated with Healthy lifestyle Adaptation
- Fitness management daily life fitness Mobile Application and Software

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reference

1. Havley E. T. and Franks B . D. (1997) Health Fitness instructions handbook . Third edition . Human Kinetics Champaign Illinois .
2. Carry Egger , Nigel champion and Allan Bolton compiled buy the fitness header's handbook A& C black London .
3. Thompson C.W. and R.T. Floyd (1994) manual of structural Kinesiology . Twelfth edition . Human Kinetics, Champaign Illinois
4. Uppal . A.K. (2004) Physical Fitness and Wellness Friends publications India.
5. Kumar . R., Meenal Kumar. Dr (2004) Guide to total Fitness or body and mind.
6. Gordon Edlin, Eric Golanty ,. Kelli McCormack Brown(1997) Essentials for Health and Wellness.
7. De Vries Herbert (1962) : "Evaluation of static stretching procedures for improvement of flexibility" : Research Quarterly , May . 1962
8. Fukuchima Sho (1980) : " Physical Conditioning ", International Gymnast, May.
9. Fox E : Physical Training methods and effects , 1971 , Orthop, Clin. N.Am . 8(3), 545.
10. Chopra , R.L. (1983) : " Socio – Economic aspects of physical fitness," Report and papers on orientation course inscientific aspects of physical fitness.
11. Gordon Edlin, Eric Golanty ,. Kelli McCormack Brown(1997) Essentials for Health and Wellness.

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## PAPER – II

# INTRODUCTION TO THE HUMAN BODY & FUNCTIONS

### UNIT – I

- Constructional Units: Structure and properties of cell-Tissues
- Organs Systems. Frame work of human body-classification of bones-Axial skeleton
- Appendicular skeleton and their function
- Classification of Joints: Ball and socket joint, Hinge joint, Gliding joint , Pivot joint ,Saddle joint ,Condylloid joint.

### UNIT – II

- Operational Lines: Circulatory system – Structure and function of the Heart circulation of Blood-Systemic circulation – Pulmonary circulation- portal circulation –Coronary circulation –Blood pressure –pulse.
- Respiratory system: Respiratory Passage -Structure and function of the lungs ,Exchange of Gases ,Mechanism of respiration.

### UNIT – III

- Digestion and Excretion: structure and functions of digestive system –Juices secreted in the digestive system - Process of digestion and absorption.
- Excretory system – Skin - Structure and function of skin - Heat and water formation – Role of skin in water and hear removal .structure and function of kidneys.

### UNIT – IV

- Endocrine system –Location and function of the endocrine glands-Pituitary – structure and function of pituitary gland – Thyroid and function of Thyroid gland – Para thyroid and Function of parathyroid gland-Adrenal gland-Sex Glands Islands of Langerhons.

### UNIT – V

- Communication line : Nervous system –Structure and function central nervous system –Brain structure – Functions of the various parts of the brain-cerebrumcerebellum, medulla oblongata – Autonomic Nerve system –para sympathetic and sympathetic Nerve system –Reflex arc –Reflex action.

### Reference:

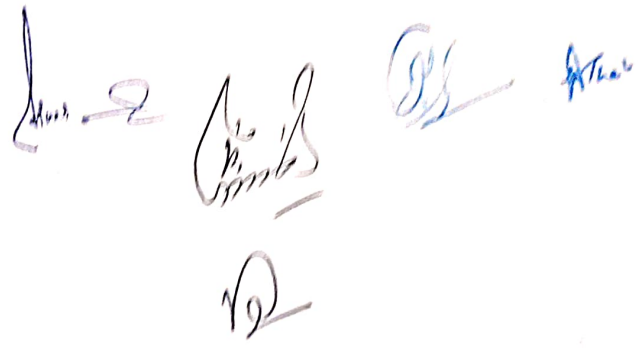
1. Pearce Ecelyn C. Anatomy and physiology for Nurses, Oxford University press, Kolkatta 1978.
2. Donnelly, Joseph.E. 1990 Living Anatomy, Champaigne, Illinois; Kumaran Kinetic books.

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William Peter. L. Gray's Anatomy. Edinburgh; Churchill livingstone 1980.

- 4. Charles M. Tipton, ACSM'S Advanced Exercise Physiology, [www.acsm.org](http://www.acsm.org), Lippincott Williams & Wilkins
- 5. Lany G. shower(1981) Essentials or Exercise physiology, subject publication
- 6. Costill, D.L ., Coyle , E.G , Fink , W.F., Lesmese, G.R and Witzmann, F.A(1979) ; " Adaptations in skeletal muscle following strength training ," J.Appl.Physiol, 46 = 96 ,
- 7. Clarke David, H. (1975) ; Exercise physiology , Prentice Hall inc., Engle wood cliffs , New Jersey.
- 8. Bass, A.L.: Treatment of muscle , tendon and minor joint injuries in sport, Proc, Roy,Soc ,Med., 62,920,1969.
- 9. Stanley P, Brown, Wayne K. Miller. Jane M. Eason (1978) Exercise physiology basic of Human movement in health and disease.
- 10. Scott .K. (1976) Powers Edward T. Howley Exercise Physiology theory and Application to Fitness and Performance. Annex.51.G -PG Dip. in Fitness Mgt


  
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# PART – B (PRACTICAL)

## FITNESS MANAGEMENT PRACTICAL

### I: - CALISTHENICS / FREE EXERCISES

- 01. Arm swinging – forward – downward – side wards and circling backward
- 02. Trunk bending forward & backward
- 03. Leg-(Hands on hips) Hopping with leg swinging sideways
- 04. Arm circles with hops
- 05. Alternate toe touch
- 06. Jumping jack
- 07. Prone alternating arm and leg raises
- 08. Prone alternating arm raises
- 09. Pelvic raises
- 10. Squat thrusts
- 11. Running in place
- 12. Push—up- or dip
- 13. Knee push – ups
- 14. Dips form bench
- 15. Pull – ups
- 16. Sit – ups
- 17. Leg rises
- 18. Trunk curl-ups
- 19. Trunk twister
- 20. Trunk side bends
- 21. Trunk raises
- 22. Half squats
- 23. Squat jumps
- 24. Inner thigh lift

### II: - STRETCHING EXERCISES.

- 01. Heel cord stretch
- 02. Adductor stretch



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- 03. Hamstring stretch
- 04. Quadriceps stretch
- 05. Chest stretch
- 06. Trunk rotations and lower back stretch
- 07. Upper and lower back stretch
- 08. Triceps stretch
- 09. Deltoid stretch
- 10. Internal rotation stretch (shoulder)
- 11. External rotations stretch (shoulder)
- 12. Piriformis stretch
- 13. Iliopsovas stretch
- 14. Upper calf stretch
- 15. Lower calf stretch
- 16. Upper back stretch
- 17. Lower back stretch
- 18. For arm and wrist stretch
- 19. Groin stretch
- 20. Legs apart seated hamstring stretches.

**III: - BARBELL EXERCISES**

- 01. Shoulder press
- 02. Bench press
- 03. Arm curl
- 04. Reverse curl
- 05. Wrist curl
- 06. Wrist roll
- 07. Upright rowing
- 08. Bent over rowing
- 09. Bent arm pullover
- 10. Straight arm pullover
- 11. Triceps extension
- 12. Good morning
- 13. Trunk twist

The bottom right of the page contains several handwritten sketches. From left to right: a vertical line with a hook-like shape at the top; a figure of a person from the back with a barbell resting on their shoulders; a circular diagram with arrows pointing outwards; and a signature that appears to be 'Atrial'.

- 14. Half squat
- 15. Heel raise
- 16. Dead lift
- 17. Hack squat
- 18. Side bends.

**Note:** Students are required to do any 15 Exercise of above mentioned three Parts

- 1. Note book
- 2. Viva – voce

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# PART - A

## PAPER - 3 METHODOLOGY OF FITNESS TRAINING

### UNIT - I

- Training : Meaning of Training – Basic Principles of training – The FITT principles –Frequency –Intensity –time –type.
- The five R. Principles : - Ranges of motion –Resistance –Repetitions –Rest-Recovery.
- Basic principles in training – Specificity –overload principal (load Precession —Reversibility. Points on Fitness and Training : Medical check up, selection of equipment. Breathing regulation selection of right exercise – over training –muscle bounders diet habits.

### UNIT- II

- Type of Training Methods : Weight training – Circuit training – General training –specific circuit internal training-Anaerobic and aerobics sped training intensity –Frequency –Density.
- Fartlek training-polymeric training- cross training concurrent training of various combinations- single bout and multiple bout exercise training – Aerobic training – Intensity –Duration-frequency, type of exercise

### UNIT-III

- General Fitness and specific fitness –warming up-conditioning exercise
- Health habits-Rest –Recreational Needs
- Periodisation in training: - Single Periodisation –Double Periodisation and multiple Periodisation. Pre-season, completion season-off season
- Factors Determining season-preparation of schedules –planning : Long Term plan-short term plan- macro cycle-meso cycle and micro cycle.

### UNIT - IV

- Theory and practice of strength development : - Structure –Maximum strength –Elastic strength –Strength endurance – Absolute strength-relative strength –Isotonic-Isometric-Isokinetic training.
- Designing weight training Programme : Development of strength for static muscle activity –Development of strength for Dynamic muscular activity –Development of strength by eccentric activity –Development of strength by Ballistic activities- Development of maximum strength –Development of Elastic strength – Development of strength endurance-Unit construction for strength – Development – Micro cycle construction.

### UNIT- V

- Modern Resistance Training systems :- Constant resistance – Variable resistance –Accommodating resistance.

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Modern Techniques of over load: Blitzing –forced repetitions – cheating Negative repetition –pre exhaustion  
–Pyramid training -Super set-Compound repetition-Triple drop.

Reference:

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. Dick, Frank W. (1980) sports Training Principles. London Lepus Books
4. Stephen I. Bull (1999) Adherence issues in sports and exercise.
5. Bergstorm, J. Hermansen, L.,Hultmari, E.,and saltil, B.(1967) " Diet, Muscle Glycogen and physical Performance": Acta Physio. Scand. 71, 140.
6. Buskirk, E.R.and H.L Taylor: "maximal Oxigenintake and its relationship to body composition", J.Applied Physiology, 11: 72-78, 1957.

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# PAPER - 4 FACILITY MANAGEMENT

## UNIT - I

- Developing Infrastructure facilities - fitness center: weight training equipments – weight plates – Dumbbells – Barbells
- Construction of fitness centersize-measurements - facilities of floor exercise- aerobics –swimming pools – indoor and outdoor facilities –
- facilities for fitness evaluation and medical aid - Audiovisual facilities –Reception room-Dressing room – facilities showers and toilet.

## UNIT- II

- Maintenance of facilities – Multi gym – Bench press – Lack pull down – Low pully – Shoulder press – Triceps extension – Peck duck – Lateral raise – Leg extension – Leg curl – Hip adductor – Hip abductor – Roman bench – Smith machines – Abdominal conditioner – Aerobic – Indoor – Outdoor – Swimming pools – Electrical machines – Exercise bikes – Treadmills - Hydraulic machines –
- Criteria to be followed in the selection of equipments – Body wraps – Elastic straps – Vibrating machines.

## UNIT-III

- Functions of food – composition of food: Carbohydrate, proteins - fats - Vitamins- Minerals-Water-Fast food-Vegetarian Diet-Balance diet - Nutritive values of food stuffs.
- Nutrition during Training - Dietary allowance and daily values.
- Food guide pyramid.

## UNIT-IV

- Body Composition and Weight management: Over weight – Obese Methods of determining, estimated percent body fat - Skin fold thickness
- Body mass index - Waist to Hip ratio – Hydrostatic weighting – Girth measurement technique - Electrical Impedance method - Weight control fads and fallacies
- Body warps - Diet pills and Aids – Diet programming - Fasting.

## UNIT - V

- Methods of weight management: Principles of weight management and fat control:
- Diet and fat control – physical activities - Combination of physical activity and diet control – Estimating diet daily caloric requirement
- Behavior modification
- Record keeping
- Developing a support system
- Reward system
- Avoid self defeating behaviors

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Committed lifelong maintenance.

Reference:

1. Howley .E.T and Franks B.D. (1997) Health Fitness Instructor's handbook. Third Edition. Human Kinetics, Champaign Illinois.
2. Lindle J. (1995) Aquatic Fitness Professional Manual. Aquatic Exercise Association, Florida.,
3. Pyke F.S. (1991) Better Coaching – Advanced Coach's Manual. Australian Coaching Council.
4. Thomas D. Fathley Gayle Hutchinson, (1992) weight training for women. Mayfield publishing company mountain view, California London.
5. Steven Roy and Richard Irvin, Sports medicine prevention, evaluation management and rehabilitation, New Jersey. Prentice Hall inc. 1983.
6. Edward T. Howley B. Dov Franks(1986) Health Fitness instructor's Handbook second edition.

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## PART - B (PRACTICAL)

### I: - WEIGHT MACHINES

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

### II: - AEROBIC TRAINING EQUIPMENTS

01. Treadmill (Motorised)
02. Stationary Bicycle
03. Stepper
04. Rowing machine
05. Exercise cycle
06. Double burner
07. Manual treadmill

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III: - AEROBIC EXERCISES

- 01. Walking
- 02. Jogging
- 03. Running
- 04. Swimming
- 05. Stepping on the bench
- 06. Skipping
- 07. Spot running
- 08. Side stepping

Teaching Practice

Practice of teaching of five lesson plan on any exercise part on lesson format with chart and viva-voce.

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A. S.  
A. S.  
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