

SOLAPUR UNIVERSITY, SOLAPUR  
MASTER OF PHYSICAL EDUCATION COURSE (M.P.Ed.) TWO YEARS SYLLABUS  
(FOUR SEMESTER)  
AS PER NCTE GUIDELINE  
w.e.f. June 2015-16

## **1. Objectives**

1. To develop highly profile scholars in the Field of Physical Education.
2. To make perfection in competencies and skills needed to become professionals in the areas of specialization.
3. To be aware of emerging issues such as health, fitness, wellness and technology.
4. To develop the students critical mind and ability to employ reasoning, rational thinking of the problems and issues relating the field.
5. To provide opportunity for entrepreneurship, self expression and provide information on continued professional growth.

## **2. Eligibilities of Admission**

The course of study for the Master of Physical Education shall be open only to those students who have passed bachelor of Physical Education (B.P.Ed./ B.Ed. Physical Education) at least 50% marks. Or Bachelor of Science (B.Sc.) in Health & Physical Education with at least 50% marks.

The reservation in the seats and relaxation in the qualifying marks of SC/ST/OBC/NT and other categories as per the rules of state government.

## **3. Admission Procedure**

Admission shall be charge only such fees as prescribed by the affiliating body / State Government concerned in accordance with provisions of National Council for Teacher Education (NCTE) (Guidelines for regulations of tuition fee and other fees chargeable by unaided teacher education institutions Regulations. 2002 as amended from time to time and shall not charge donations, capitation fee etc. from the students.

## **4. Duration of the Course**

The M.P.Ed. Programme shall be of a duration of two academic years, that is FOUR SEMESTER. However the students shall be permitted to complete the programme with the maximum period of three years. this period can be extended up to one more year . (i.e four years)

## **5. Working Days**

1. There shall be at least 200 working days in each academic year / one hundred working days in each semester exclusive of period of examination and admission etc.
2. The institution shall work for a minimum of thirty six hours in a week (five of six days a week) during which physical presence in the institution of all the teachers and teacher educators is necessary to ensure their availability for advice guidance and consultation, as and when needed.

## 6. Credits

The term credit refers to a unit by which the programme is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or one and half / two hours of practical work/ field work per week. The term credit refers to the weight given to a course, usually in relation to the instructional hours assigned to it. The total minimum credits, required for completing M.P.Ed. programme is 90 credits and for each semester 20 credits.

### Provision of Bonus credits Maximum 06 Credits in each Semester

Sr.No	Special Credits for Extra Co-Curricular Activities	Credit
1	Sports Achievement at State level Competition (Medal Winner)	1
	Sports Achievement National level Competition (Medal Winner)	2
	Sports participation International Level Competition	4
2	Inter Uni. Participation (Any one game)	2
3	Inter College Participation (Min, Two games)	1
4	National Cadet Corps / National Service Scheme	2
5	Blood donation / Cleanliness drive / Community Services	2
6	Mountaineering- Basic Camp, Advance Camp / Adventure Activities	2
7	News Reposting / Article Writing / book writing/ progress report writing	1

Students can earn maximum 06 Bonus credits in each semester by his/her participation in the above mentioned activities duly certified by the Head of the institution / Department. This Bonus credit will be used only to compensate loss of credits in academic activities.

## 7. Internal Assessment

**Internal assessment marks shall be awarded on the basis of the following**

**a) Theory Break up of 30 Seasonal marks of theory papers shall be as follows**

Attendance	10 Marks
Assignments ( Two )	05 Marks
Test ( Two )	10 Marks
One Seminar	05 Marks
Total	30 Marks

- b) **Specialization:** Seasonal marks of specialization are awarded on the basis of Regularity, imitative in learning, knowledge of rules, officiating and coaching, demonstration of skills and movements.
- c) **Dissertation:** A candidate shall choose area of research of his choice in consultation with the guide and submit the dissertation preferably, experimental / quasi experimental, further he can make use of the pedagogy to collect the data required. He should submit the dissertation to the Office, before one month prior to the fourth semester examination. There shall be an internal Viva-voce for thirty marks for each to be conducted by the departmental council with one external subject expert.
- d) **Pedagogy:** A candidate shall select the area of specialization of his choice keeping in mind the specialization opted in previous semester and shall select the school and preferably teacher training institutions B.P.Ed., to coach and train the skills. Further he has to submit the workbook along with the satisfactory report from the head of the Institution in Coaching, the duration of the pedagogy is as per the NCTE norms.

### 8. Attendance, Progress and conduct

Attendance shall be taken as a component of continuous assessment, even though the students should have **minimum 75% attendance** in each course. In addition to continuous evaluation component, the end semester examination, which will be **written type examination of at least 3 hours duration** and for **specialization examination duration is 1 hours** would also form an integral component of the evaluation. The ratio of marks to be allotted to continuous internal assessment and to end semester examination is 30:70. The evaluation of practical work, whenever applicable, will also be based on continuous internal assessment and on an end-semester practical examination.

### 9. Appearance for the Examination:

Candidates on satisfactorily completing a semester shall apply for examination in all the courses of study papers prescribed for that semester.

### 10. Scheme of Examination:

There shall be a university examination at the end of each semester. the scheme of Examination shall be as follows:

a. **Theory :** Each paper shall be valued by University appointed examiner.

b. **Specialization:** Evaluation in specialization shall be done by two examiners, one internal and one external as per the following scheme. The average of the two shall be credited.

i) Demonstration of skills/ techniques/ movements	20 marks
ii) Coaching ability	20 marks
iii) Specialization Record	15 marks
iv) Viva-Voce	15 marks
Total	70 marks

**c. Dissertation** : Evaluation of dissertation shall be done for 70 marks by University Examination.

**Note : - Whenever assessment is made for two games / activity the 50% of the above marks shall be divided for the evaluation of the each game / activity.**

Practicum / game specialization / game coaching / internship / Classroom teaching will be the internal evaluation, the Evaluation is purely based on the attendance, ability of the teacher and competency in handling the classes ( Classroom and Field Coaching, Training). It will be evaluated by the Head master of the School, Subject Expert from the school, one faculty member from the university / Department / College. The evaluation will be done immediately after the class by the above said committee. The assessment will be done for 70 marks, in each semester as per the regulation.

For smooth conduct of University practical examination the college should appoint one organizer & two peons and they should be paid local conveyance allowance & Remuneration by the university.

For theory examination an overall chairman must be appointed. For practical examination an overall chairman and senior examiner must be appointed.

## **11. Course**

The course content lecturer / Tutorials / Laboratory work / Field work/ Outreach Activities / Project Work/ Vocational Training / VIVA / Seminars / Term Papers / Assignments / Presentations / Self-Study etc. or a combination of some of these.

## **12. Course of Programme**

The M.P.Ed. Programme consists of a number of courses, the term 'Course' applied to indicate a logical part of subject matter of the programme and is invariably equivalent to the subject matter of a paper in the conventional sense. The following are the various categories of courses suggested for the M.P.Ed. Programme.

### **A. Theory**

- 1) Core Course
- 2) Elective Course

### **B. Practicum**

- 1) Compulsory Course (Track and Field)
- 2) Elective Course
- 3) Teaching / Coaching Practices
- 4) Internship

## Semesters:

An academic year is divided into two semesters. Each semester will consist of 17-20 weeks of academic work equivalent to 100 actual teaching days. The institution shall work for a minimum of 36 working hours in a week (Five or six days a week)

### 13. Fee

The institution shall charge only fee as prescribed by the affiliating body / State government concerned in accordance with provision of N.C.T.E. Guideline and as per University Guidance .

### 14. Standard of passing

1. To pass in any one of the semester of M.P.Ed Examination a candidate shall have to obtain at least 50% of marks in each theory paper and 50% in practical ( Internal as well as External).

i. To pass M.P.Ed in 2<sup>nd</sup> class: 50% and above but below 55% in aggregate.

ii. To pass Higher Second class: 50% and above but below 60% in aggregate.

iii. To pass First class: 60% and above but below 70% in aggregate.

iv. To pass Distinction: 70% and above in aggregate.

- I. **If the student who is fail in semester –I**, theory & practical in university exam he / she is allow to take admission to semester – II . But he/ she should pass the internal works
- II. **If the student who is fail in semester –II**, theory & practical university examination will be given admission to semester – III. But he/ she should pass the semester-I and also he/she should pass the internal work of semester-II
- III. **If the student who is fail in semester – III**, in theory & practical, university examination he/ she is eligible to take admission to the semester – IV But he / she should pass the semester-II. But he/she should pass the internal work of semester-III
- IV. **The student is allowed to appear for the semester-III & IV Theory & Practical examination together**

## 15. Lesson

A minimum of 30 lessons out of which 10 teaching, 10 coaching and 10 officiating in the school / college/ institution / department shall be conducted.

### Semester: I

Semester	Course Code	Title of the Practical	Internal Work & Marks	External Exam & Marks	Total Marks
I	MPPC 101	Track & Field-I ( Sprint , Middle , Long distance run, High Jump ) Swimming / Gymnastic ( Any One )	Yes 30	Yes 70	100
I	MPPC 102	Game Specialization-I ( Any one game mentioned below )	Yes 30 (4 Lesson)	Yes 70 (1 Lesson)	100
I	MPPC 103	Yoga ( Performance in Asanas , Kriyas , Bandhas & Pranayama	Yes 30	Yes 70	100
I	MPPC 104	Class room teaching lessons on theory of Sports & Games	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100

### Semester: II

Semester	Course Code	Title of the Practical	Internal Work & Marks	External Exam & Marks	Total Marks
II	MPPC 201	Track & Field-II ( Shot Put , Discus , Javelin Throw, Long Jump) (Performance in any two Event)	Yes 30	Yes 70	100
II	MPPC 202	Game Specialization-II ( Any one game mentioned below )	Yes 30	Yes 70	100
II	MPPC 203	Teaching Lesson of Track and Field Sem I / Sem II	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100
II	MPPC 204	Teaching & Officiating Lesson on Specialization-II	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100

### Semester: III

Semester	Course Code	Title of the Practical	Internal Work & Marks	External Exam & Marks	Total Marks
III	MPPC 301	Track & Field-III ( Triple Jump , Pole Vault , Relay) (Performance in any two Events)	Yes 30	Yes 70	100
III	MPPC 302	Game Specialization-III ( Any one game mentioned below )	Yes	Yes	100
III	MPPC 303	Coaching Lesson on Specialization Game -III	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100
III	MPPC 304	Internship-Pedagogy	Yes 30	Yes 70	100

### Semester: IV

Semester	Course Code	Title of the Practical	Internal Work & Marks	External Exam & Marks	Total Marks
IV	MPPC 401	Track & Field-IV ( Hammer Throw , Huddles) (Performance in two Events)	Yes 30	Yes 70	100
IV	MPPC 402	Game Specialization-IV ( Any one game mentioned below )	Yes 30	Yes 70	100
IV	MPPC 403	Coaching Lessons of Track & Field-Sem. III/IV	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100
IV	MPPC 404	Coaching Lessons of Game Specialization-IV	Yes ( 4 Lesson) 30	Yes ( 1 Lesson) 70	100

Note: Every Semester one game should be selected as specialization and it should not be repeated in other Semester.( i.e. Four games should be selected as Specialization)

List of Specialization Game:-1.Kabaddi 2.Kho-Kho 3.Volleyball 4.Handball 5.Softball

6. Baseball 7.Hockey 8.Football 9.Table tennis 10.Teniss 11.Cricket 12. Basketball

13. Badminton 14.Netball 15.Squash 16.Wrestling.

**NOTE:- Each lesson carry 70 Marks & Duration of Lesson is 40 minutes**

CONDUCT OF PRACTICAL EXAMINATION

Examiners should be paid local conveyance allowance, remuneration and T.A D.A by the University

**Note: The candidate are allowed to answer the question in English / Hindi / Marathi**

## **16. Grievance Redressed Committee:**

The college / department shall form a Grievance Redressed Committee for each course in each college / department with the course teacher / principal/ Director and HOD of the faculty as the members. This committee shall solve all grievances of the students.

## **17. Revision of Syllabus**

1. Syllabus of every course should be revised according to the NCTE.
2. Revised syllabus of each semester should be implemented in a sequential way.
3. In courses, where units / topics related to governmental provisions, regulations or laws, that change to accommodate the latest developments, Changes or corrections are to be made consequentially as recommended by the Academic Council.
4. All formalities for revisions in the syllabus should be completed before the end of the semester for implementation of the revised syllabus in the next academic year.
5. During every revision, up to twenty percent of the syllabus of each course should be changed so as to ensure the appearance of the student who have studied the old (unrevised) syllabus without any difficulties in the examinations of revised syllabus.
6. In case, the syllabus of any course is carried forward without any revision, it shall also be counted as revised in the revised syllabus.



**Annexure - II**

**CHOICE BASED CREDIT SYSTEM M.P.Ed., SEMESTER**

**SCHEME OF EXAMINATION - -2015-16**

**SEMESTER-I**

<b>Paper Code</b>	<b>Instruction hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC 101	3 hrs	3 hrs	30	70	100	3
MPCC 102	3 hrs	3 hrs	30	70	100	3
MPCC 103	3 hrs	3 hrs	30	70	100	3
MPEC 101	3 hrs	3 hrs	30	70	100	3
MPEC102	6 hrs	3 hrs				
MPPC 101	6 hrs	3 hrs	30	70	100	3
MPPC 102	6 hrs	3 hrs				
MPPC 103	6 hrs	3 hrs	30	70	100	3
MPPC 104	6 hrs	3 hrs	30	70	100	3
Grand Total	<b>36 hrs</b>	<b>27 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

**Note:-** Total number of hours required to earn 3 credits for each theory course 51 to 60 hrs per Semester where has 102 to 120 hrs for each practicum course.

**SEMESTER -II**

<b>Paper Code</b>	<b>Instruction hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC 201	3 hrs	3 hrs	30	70	100	3
MPCC 202	3 hrs	3 hrs	30	70	100	3
MPCC 203	3 hrs	3 hrs	30	70	100	3
MPEC 201	3 hrs	3 hrs	30	70	100	3
MPEC202	6 hrs	3 hrs				
MPPC 201	6 hrs	3 hrs	30	70	100	3
MPPC 202	6 hrs	3 hrs				
MPPC 203	6 hrs	3 hrs	30	70	100	3
MPPC 204	6 hrs	3 hrs	30	70	100	3
<b>Grand Total</b>	<b>36 hrs</b>	<b>27 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

**Note:-** Total number of hours required to earn 3 credits for each theory course 51 to 60 hrs per Semester where has 102 to 120 hrs for each practicum course.

**SEMESTER -III**

<b>Paper Code</b>	<b>Instruction hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC 301	3 hrs	3 hrs	30	70	100	3
MPCC 302	3 hrs	3 hrs	30	70	100	3
MPCC 303	3 hrs	3 hrs	30	70	100	3
MPEC 301	3 hrs	3 hrs	30	70	100	3
MPEC302	6 hrs	3 hrs				
MPPC 301	6 hrs	3 hrs	30	70	100	3
MPPC 302	6 hrs	3 hrs				
MPPC 303	6 hrs	3 hrs	30	70	100	3
MPPC 304	6 hrs	3 hrs	30	70	100	3
Grand Total	<b>36 hrs</b>	<b>27 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

**Note:-** Total number of hours required to earn 3 credits for each theory course 51 to 60 hrs per Semester where has 102 to 120 hrs for each practicum course.

**SEMESTER -IV**

<b>Paper Code</b>	<b>Instructi on hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC 401	3 hrs	3 hrs	30	70	100	3
MPCC 402	3 hrs	3 hrs	30	70	100	3
MPCC 403	3 hrs	3 hrs	30	70	100	3
MPEC 401	3 hrs	3 hrs	30	70	100	3
MPEC402	6 hrs	3 hrs				
MPPC 401	6 hrs	3 hrs	30	70	100	3
MPPC 402	6 hrs	3 hrs				
MPPC 403	6 hrs	3 hrs	30	70	100	3
MPPC 404	6 hrs	3 hrs	30	70	100	3
Grand Total	<b>36 hrs</b>	<b>27 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

**Note:-** Total number of hours required to earn 3 credits for each theory course 51 to 60 hrs per Semester where has 102 to 120 hrs for each practicum course.

**Master of Physical Education Degree Programme - 2015-16**

<b>I SEMESTER</b>							
<b>Theory 400</b>							
<b>Paper Code</b>	<b>Papers</b>	<b>Instruction hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC 101	Research Process in Physical Education & Sports Sciences	3 hrs	3 hrs	30	70	100	3
MPCC 102	Physiology of Exercises	3 hrs	3 hrs	30	70	100	3
MPCC 103	Yogic Sciences	3 hrs	3 hrs	30	70	100	3
MPEC 101	Test, Measurement and Evaluation in Physical Education –or- Sports Technology	3 hrs	3 hrs	30	70	100	3
MPEC102							
<b>Practicum 400</b>							
MPPC 101	Athletics ( Track and Field: I) Sprint, Middle and Long distance Running, High Jump Swimming / Gymnastics (any one)	6 hrs	3 hrs	30	70	100	3
MPPC 102	Specialization Game - 1	6 hrs	3 hrs	30	70	100	3
MPPC 103	Yogasananas, Pranayama + Aerobics, Self defence, Taekwondo, Marshal Arts (Performance in any one of the above)	6 hrs	3 hrs	30	70	100	3
MPPC 104	Class Room Teaching lessons on theory of Sports and game	6 hrs	3 hrs	30	70	100	3
<b>Grand Total</b>		<b>36 hrs</b>	<b>24 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

II SEMESTER							
Theory 400							
Paper Code	Papers	Instruction hrs/week	Duration of Exam (Hrs)	IA	Theory/ Practical	Total Marks	Credits
MPCC 201	Applied statistics in Physical Education and Sports	3 hrs	3 hrs	30	70	100	3
MPCC 202	Sports Bio-mechanics and Kinesiology	3 hrs	3 hrs	30	70	100	3
MPCC 203	Athlete care and rehabilitation	3 hrs	3 hrs	30	70	100	3
MPEC 204	i)Sports Journalism and Mass Media OR	3 hrs	3 hrs	30	70	100	3
MPEC 204	ii)Sports Management and Curriculum design in Physical Education						
Practicum 400							
MPPC 201	Athletics ( Track and Field:II) Jumping Events and Hurdles. (any one) Swimming or Gymnastics (Performance in any one from the above games).	6 hrs	3 hrs	30	70	100	3
MPPC 202	Game Specialization :II Individual Skills, Game situation, Officiating, Lead up games ( any one)	6 hrs	3 hrs	30	70	100	3
MPPC 203	Teaching lesson of Track and Field Sem. I/II	6 hrs	3 hrs	30	70	100	3

MPPC 204	Teaching lessons of Game Specialization II	6 hrs	3 hrs	30	70	100	3
<b>Grand Total</b>		<b>36 hrs</b>	<b>24 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

**III SEMESTER**

<b>Theory 400</b>							
<b>Paper Code</b>	<b>Papers</b>	<b>Instruction hrs/week</b>	<b>Duration of Exam (Hrs)</b>	<b>IA</b>	<b>Theory/ Practical</b>	<b>Total Marks</b>	<b>Credits</b>
MPCC301	Scientific Principles of Sports Training	3 hrs	3 hrs	30	70	100	3
MPCC 302	Sports Medicine	3 hrs	3 hrs	30	70	100	3
MPCC 303	Health Education and Sports Nutrition	3 hrs	3 hrs	30	70	100	3
MPEC 301	Sports Engineering	3 hrs	3 hrs	30	70	100	3
MPEC302	Or						
MPOEC 301	Fitness and Wellness	3 hrs	3 hrs	30	70	100	3
		3 hrs	3 hrs	10	40	50	2
<b>Practicum 400</b>							
MPPC 301	Athletics ( Track and Field: III) Tripple Jump, Pole Vault , Relay (Any two event ) Yoga Mudras, Kriyas, Bandhas, (Performance in any one from the above games).	6 hrs	3 hrs	30	70	100	3



MPPC 302	Game Specialization : Individual Skills, Game situation, Officiating, Lead up games ( any one)	6 hrs	3 hrs	30	70	100	3
MPPC 303 PL	Officiating Lessons of Track and Field Game Specialization :	6 hrs	3 hrs	30	70	100	3
MPPC 304 CT	<b>Intern ship:</b> Pedagogy	6 hrs	3 hrs	30	70	100	3
<b>Grand Total</b>		<b>36 hrs</b>	<b>24 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

- PL- Particular Lesson Plan
- CT - Classroom Teaching

IV SEMESTER							
	Theory 400						
Paper Code	Papers	Instruction hrs/week	Duration of Exam (Hrs)	IA	Theory/ Practical	Total Marks	Credits
MPCC401	Information and Communication Technology in Physical Education (ICT)	3 hrs	3 hrs	30	70	100	3
MPCC 402	Sports psychology and Sports Sociology	3 hrs	3 hrs	30	70	100	3
MPCC 403	Dissertation	3 hrs	3 hrs	30	70	100	3
MPEC 404	1)Value and environmental Education OR 2)Educational Technology in Physical Education	3 hrs	3 hrs	30	70	100	3
MPEC404							
Practicum 400							
MPPC 401	Athletics ( Track and Field: IV) Hammer Throw,Hurdles	6 hrs	3 hrs	30	70	100	3
MPPC 402	Game Specialization :IV Individual Skills, Game situation, Officiating, Lead up games ( any one)	6 hrs	3 hrs	30	70	100	3
MPPC403 PL	Coaching lessons of Track and Field Sem.III/Sem.IV	6 hrs	3 hrs	30	70	100	3

MPPC 404 PL	Coaching lessons of Game Specialization IV	6 hrs	3 hrs	30	70	100	3
<b>Grand Total</b>		<b>36 hrs</b>	<b>24 hrs</b>	<b>240</b>	<b>560</b>	<b>800</b>	<b>24</b>

PL – Particular Lesson Plan

Note:1) **Sports and Educational tour should be organized by the college in any one semester to visit the sports centre in India.**

**2) Adventure activities or mass demonstration should be organized by the college in any one semester.**

# **Semester I**

## **Theory Courses**

### **MPCC-101**

## **RESEARCH PROCESS IN PHYSICAL EDUCATION AND SPORTS SCIENCES**

### **Unit I - Introduction**

Meaning and Definition of Research – Need, Nature and Scope of research in physical. Classification of research, Location of research Problem, Criteria for selection of a problem, Qualities of good researcher.

### **Unit II – Methods of Research**

Descriptive Methods of Research; Survey Study, Case Study, Introduction of Historical Research, Steps in Historical Research, Source of Historical Research: Primary Data and Secondary Data, Historical Criticism: Internal criticism and external Criticism.

### **Unit III – Experimental Research**

Experimental Research – Meaning, Nature and Importance, Meaning of variable, Types of variables. Experimental Design – single Group Design, Reverse Group Design, Repeated Measure Design, static Group Comparison Design, Equated Group Design and Factorial Design.

### **Unit IV – Sampling**

Meaning and Definition of Sample and Population. Types of Sampling; Probability Methods; systematic Sampling, Cluster sampling, Stratified Sampling. Area Sampling- multistage sampling. Non-Probability Methods; Convenience Sample, Judgment sampling, Quota Sampling.

## **Unit V – Research Proposal and Report**

Chapterization of Thesis / Dissertation, front Materials, Body of Thesis – Back materials. Method of Writing Research proposal, Thesis / Dissertation; Method of writing abstract and full paper for presenting in conference and to publish in journals, Mechanics of writing Research Report, Footnote and Bibliography Writing.

### **REFERENCE :**

Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc

Clarke David. H & Clarke H, Harrison (1984) Research processes in Physical Education, New Jersey; Prentice Hall Inc.

Craig Williams and Chris Wragg (2006) Data Analysis and Research for sport and Exercise Science, London Routledge press

Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois; Human Kinetics;

Kamlesh, M.L.(1999) Research Methodology in Physical Education and Sports, New Delhi

Moses, A.K. (1995) Thesis Writing format, Chennai; Poompugar Pathippagam

Rothstain, A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc

Subramanian, R, Thirumalai Kumar S & Arumugam C (2010) Research Methods in Health, Physical Education and Sports, New Delhi; Friends Publication

Moprtty A. M. (2010) Research Processes in Physical Education , New Delhi; Friends Publication

# **Semester I**

## **Theory Courses**

### **MPCC-102**

## **PHYSIOLOGY OF EXERCISE**

### **Unit I – Skeletal Muscles and Exercise**

Macro & Micro Structure of the Skeletal Muscle, Chemical Composition. Sliding Filament theory of Muscular Contraction. Types of Muscle fiber. Muscle Tone, Chemistry of Muscular Contraction- Heat Production in the muscle, Effect of exercises and training on the muscular system.

### **Unit II – Cardiovascular System and Exercise**

Heart Valves and Direction of the Blood Flow - Conduction System of the Heart- Blood Supply to the Heart - Cardiac Cycle - Stroke Volume - Cardiac Output - Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Effect of exercises and training on the respiratory system.

### **Unit III – Respiratory System and Exercise**

Mechanics of Breathing – Respiratory Muscles, Minute Ventilation – Ventilation at Rest and During Exercise. Diffusion of Gases in the Tissues – Control of Ventilation – Ventilation and the Anaerobic Threshold. Oxygen Debt – Lung Volumes and Capacities – Effect of exercises and training on the respiratory system.

### **Unit IV – Metabolism and Energy Transfer**

Metabolism – ATP – PC or Phosphagen System – Anaerobic Metabolism - Anaerobic Metabolism – Aerobic and Anaerobic System during Rest and Exercise. Short Duration High Intensity Exercises – High Intensity Exercise Lasting Several Minutes – Long Duration Exercises.

## **Unit V – Climatic Condition and sports performance and ergogenic aids**

Variation in Temperature and Humidity – Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude. Influence of: Amphetamines, Anabolic steroids Androstenedione, Beta Blocker, Choline, Creatine, Human growth hormone on sports performance. Narcotic, Stimulants: Amphetamines, Caffeine, Ephedrine, Sympathomimetic amines. Stimulants and sports performance.

Note: *Laboratory Practical's in Physiology be designed and arranged internally*

### **REFERENCE :**

Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.

Beotra Alka, (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.

Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.

David, L Costill. (2004) Physiology of Sports and Exercise. Human Kinetics Fox, E.L., And Mathews, D.K (1981). The physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing

Guyton, A. C. (1976).Textbook of Medical Physiology. Philadelphia: W.B. Sanders co.

Richard, W. Bowers. (1989). Sport Physiology. WMC : Brown Publishers.

Sandhya Tiwaji. (1999). Exercise Physiology. Sports Publisher

Shaver, L (1981). Essentials of Exercise Physiology. New Delhi: subjet Publication

Vincent, T. Murche. (2007). Elementary Physiology.Hyderabad: Sports Publication.

William, D. Mc Aradle. (1996). Exercise Physiology, Energy, Nutrition and Human Performance. Philadelphia: Lippincott Williams and Wilkins Company

# Semester I

## Theory Courses

### MPCC-103 Yogic Sciences

#### Unit I - Introduction

Meaning and Definition of Yoga. Astanga Yoga: Yama, Niyama, Aasana, Pranayama, Prathyahara, Dharana, Dhyana, Samadhi, Concept of Yogic Practices; Principles of Breathing – Awareness – Relaxation, Sequence –Counter pose – Time – Place – Clothes – Bathing – Emptying the bowels – Stomach – Diet – No Straining – Age – Contra- Indication - Inverted asana – Sunbathing.

#### Unit II – Aasanas and Pranayam

Loosening exercise; Techniques ad benefits. Asanas; Types- Techniques and Benefits, Surya Namaskar: Methods and Benefits. Pranayama: Types- Methods and benefits. Nadis: Meaning, methods and benenefits, Chakars: Major Chakaras – Benefits of clearing and balancing chakras

#### Unit III – Kriyas

Shat Kriyas – Meaning, Techniques and Benefits of Neti – Dharti – Kapalapathi – Trataka – Nauli – Basti, Bandhas: Meaning, Techniques and Benefits of Jalendra Bandha, Jihva Bandha, Uddiyana Bandha, Mula Bandha.

#### Unit IV – Mudras

Meaning, Techniques and Benefits of Hasata Mudras, Asamyukta hastam, Samyukta hastam, Mana Mudra, Kaya Mudra, banda Mudra, Adhara Mudra. Meditation: Meaning, Techiques and Benefits of Meditation – Passive and active, Saguna Meditation and Nirguna Meditation.

#### Unit V – Yoga and Sports

Yoga Supplemental Exercise – Yoga Compensation Exercise – Yoga Regeneration Exercise – Power Yoga. Role of Yoga in Psychological Preparation of athlete: Mental Wellbeing, Anxiety, Depression Concentration, Self Actualization. Effect of Yoga on Physiological System: Circulatory, Skeletal, Digestive, Nervous, Respiratory, Excretory System.



Note: *Laboratory Practical's in Physiology be designed and arranged internally*

## **REFERENCE :**

George Feuerstein,(1975). Text Book of Yoga. London: Motilal Bansaridass Publishers (P) Ltd.

Gore, (1990), Anatomy and Physiology of Yogac Practices. Lonavata: Kanchan Prkashan.

Helen Purperhart (2004), The Yoga Adventure for Children. Netherlands: A Hunter House book.

Iyengar,B.K.S.(2000), Light on Yoga. New Delhi: Harper Collins Publishers.

Karbelkar N.V. (1993). Patanjali Yogasutra Bhashya (Marathi Edition) Amravati: Hanuman Vyayam Prasarak Mandal.

Kenghe. C.T (1976). Yoga As Depth – Psychology and para – Psychology (Vol-I):Historical Background, Varanasi: Bharata Manishai.

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Swami Kuvalayanada, (1998) Asanas. Lonavala: Kaivalyadhama

Swami Satyananada Sarasvati, (1989) Asana Pranayama Mudra Bandha. Munger: Bihar School of Yoga.

Swami Satyananada Saraswati. (1984),Kundalini and Tantra, Bihar: Yoga Publicatios Trust.

Swami Sivananda, (1971) The science of Pranayama. Chennai: A Divine Life Society Publication.

Thirumalai Kumar. S and Indira. S (2001) Yoga in Your Life, Chennai: The Parkar Publication

Tiwari O.P. (1998), Asanas – Why and How. Lonavala: Kaivalyadham.

# **Semester I**

## **Theory Courses**

### **MPCC-101**

## **TEST, MESURMENT AND EVALUATION IN PHYSICAL EDUCATION**

(Elective)

### **Unit I – Introduction**

Meaning and Definition of Test, Measurement and Evaluation. Need and Importance of Measurement and Evaluation. Criteria for Test Selection – Scientific; authenticity. Meaning, definition and establishing Validity, Reliability, Objectivity. Norms – Administrative Consideration.

### **Unit II – Motor Fitness Test**

Meaning and Definition of Motor Fitness. Test for Motor Fitness; Indiana motor Fitness Test (for elementary and high school boys, girls and college Men) Oregon Motor Fitness Test (Separately for boys and girls) – JCR test. Motor Ability; Barrow Motor Ability Test – Newton Motor ability Test – Muscular Fitness – Kraus Webar Minimum Fitness Test

### **Unit III – Physical Fitness Tests**

Physical fitness Test : AAHPERD Health Related Fitness Battery (revised in 1984), ACSM Health Related Physical Fitness Test, Roger's Physical Fitness Index. Cardio Vascular test; Harvard step test, 12 minutes run / walk test, Multi – stage fitness test ( Beep test)

### **Unit IV – anthropometric and Aerobic – Anaerobic Tests**

Physiological Testing: Aerobic Capacity: The Bruce Treadmill Test Protocol, 1.5 Mile Rune test for college age males and females. Anaerobic Capacity: Margaria – Kalamen test, Wingate Anaerobic Test, Anthropometric Measurement: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring

Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin Folds: Triceps, Subscapular, Suprailiac.

## **Unit V – Skill Tests**

Specific Sports Skill Test – Badminton: Miller Wall Volley Test. Basketball: Johnson Basketball Test, Harrison Basketball Test. Cricket: Sutcliff Cricket test. Hockey: Friendel Field Hockey test, Harbna's Hockey test. Volleyball: Russel Lange Volleyball test, Brady Volleyball test. Football: Mor – Christian General Soccer Ability Skill test Battery, Johnson Soccer test, Mc – Donald volley Soccer test. Tennis: Dyer Tennis test.

Note: *Practical's of indoors and out – door tests be designed and arranged internally.*

## **REFERENCE :**

Authors Guide (2013) ACSM's Health Related Physical Fitness Assessment Manual, USA: ACSM Publications

Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2<sup>nd</sup> edition) Lanham: Scarecrow Press

Cureton T.K (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company

Getchell B (1979) Physical Fitness A Way of Life, 2<sup>nd</sup> Edition New York, John Wiley and Sons, Inc

Jeson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publishing Co. Inc

Kansal D.K (1996), "Test and Measurement in Sports and Physical Education, New Delhi: DVS Publications

Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication

Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3<sup>rd</sup> edition, Dallas TX: The Cooper Institute for Aerobics Research

Wilmore JH and Costill DL. (2005) physiology of Sports and Exercise: 3<sup>rd</sup> Edition. Champaign IL: Human Kinetics

Yobu, A (2010), Test, Measurement and Evaluation in Physical Education and Sports. New Delhi; Friends Publications.

# **Semester I**

## **Theory Courses**

### **MPCC-102**

## **SPORTS TECHNOLOGY**

(Elective)

### **Unit I – Sports Technology**

Meaning, definition, Purpose, Advantages and Applications, General Principles and Purpose of Instrumentation in sports, Workflow of instrumentation and business aspects, Technological impacts on sports.

### **Unit II – Science of Sports Materials**

Adhesives – Nano gule, nano moulding technology, Nano turf. Food wear production, Factors and application in sports, constraints. Foams – Polyurethane, Polystyrene, Styrofoam, closed – cell and open – cell foams, neoprene, Foam. Smart Materials – Shape Memory Alloy (SMA), Thermo Chromic film, High – density modeling foam.

### **Unit III – Surfaces of Playfields**

Modern Surfaces for Playfields, Construction and installation of sports surfaces. Types of materials – synthetic, wood, polyurethane. Artificial turf. Modern technology in the construction of indoor and outdoor facilities. Technology in manufacture of modern play equipments. Use of computer and software in Match Analysis and Coaching.

### **Unit IV – Modern Equipment**

Playing Equipments: Balls: Types, Materials and Advantages, Bat/ Stick/ Racquets: Types, Materials and Advantages. Measuring equipments: Throwing and Jumping Events. Protective equipments: Types, Materials and Advantages. Sports equipment with nano technology, Advantages.

### **Unit V – Training Gadgets**

Basketball: Ball Feeder, Mechanism and Advantages. Cricket: Bowling Machine, Mechanism and Advantages, Tennis: Serving Machine, Mechanism and Advantages.

Volleyball: Serving Machine, Mechanism and Advantages. Lighting Facilities: Method of erecting Flood Light and measuring luminous. Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

*Note: Students should be encouraged to design and manufacture improvised sports testing equipment in laboratory/ workshop and visit sports technology factory/ sports good manufacturers.*

## **REFERENCE :**

Charles J.A. Crane, F.A.A. and Furness, J.A.G (1987) " Selection Of Engineering Materials" UK: Butterworth Heiremann.

Finn, R.A. and Trojan P.K (1999) "Engineering Materials and their Applications" UK: Jaico Publisher

John Mongilo, (2001), " Nano Technology 101" New York: Green wood publishing group.

Walia, J.S Principles and Methods of Education (Paul Publishers, Jullandhar), 1999.

Kochar, S.K Methods and Techniques of Teaching ( New Delhi, Jullandhar, Sterling Publisher Pvt. Ltd.) 1982

Kozman, Cassidy and Jackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia and London), 1952

# **Semester II**

## **Theory Courses**

### **MPCC-201**

## **APPLIED STATISTICS IN PHYSICAL EDUCATION AND SPORTS**

### **UNIT I - Introduction**

Meaning and Definition of Statistics. Function, need and importance of Statistics. Types of Statistics. Meaning of the terms, Population, Sample, Data, types of data. Variables; Discrete, Continuous. Parametric and non-parametric statistics.

### **UNIT II - Data Classification, Tabulation and Measures of Central Tendency**

Meaning, uses and construction of frequency table. Meaning, Purpose, Calculation and advantages of Measures of central tendency - Mean, median and mode.

### **UNIT III - Measures of Dispersions and Scales**

Meaning, Purpose, Calculation and advances of Range, Quartile, Deviation, Mean Deviation, Standard Deviation, Probable Error. Meaning, Purpose, Calculation and advantages of scoring scales; Sigma scale, Z Scale, Hull scale

### **UNIT IV - Probability Distributions and Graphs**

Normal Curve. Meaning of probability- Principles of. normal curve - Properties of normal curve. Divergence form normality - Skewness and Kurtosis. Graphical Representation in Statistics; Line diagram, Bar diagram, Histogram, Frequency Polygon, Ogive Curve.

### **UNIT V - Inferential and Comparative Statistics**

Tests of significance; Independent "t" test, Dependent "t" test - chi - square test, level of confidence and interpretation of data. Meaning of correlation - co-efficient of correlation - calculation of co-efficient of correlation by the product moment method and rank difference method. Concept of ANOVA and ANCOVA.

*Note : It is recommended that the theory topics be accompanied with practical, based on computer software of statistics.*

## **REFERENCE**

Best J. W (1971) Research in Education, New Jersey; Prentice Hall, Inc

Clark D.H. (1999) Research Problem in Physical Education 2<sup>nd</sup> edition, Eaglewood Cliffs, Prentice Hall, Inc.

Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois's; Human Kinetics;

Kamlesh, M. L. (1999) Research Methodology in Physical Education and Sports, New Delhi

Rothstain A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc

Sivaramakrishnan. S. (2006) Statistics for Physical Education, Delhi; Friends Publication

Thirumalaisamy (1998), Statistics in Physical Education, Karaikudi, Senthilkumar Publications.

# Semester II

## Theory Courses

### MPCC-202

## SPORTS BIOMECHANICS AND KINSESIOLGY

### UNIT I - Introduction

Meaning, nature, role and scope of Applied kinesiology and Sports Biomechanics. Meaning of Axis and Planes, Dynamics, Kinematics, Kinetics, Statics Centre of gravity - Line of gravity plane of the body and axis of motion, Vectors and Scalars.

### UNIT II - Muscle Action

Origin, Insertion and action of muscles: Pectoralis major and minor, Deltoid, Biceps, Triceps (Anterior and Posterior), Trapezius, serratus, Sartorius, Rectus femoris, Abdominis, Quadriceps, Hamstring, Gastrocnemius.

### UNIT III - Motion and Force

Meaning and definition of Motion. Types of Motion: Linear motion, angular motion, circular motion, uniform motion. Principles related to the law of Inertia, Law of acceleration, and law of counter force. Meaning and definition of force- Sources of force -Force components .Force applied at an angle -pressure -friction -Buoyancy, Spin - Centripetal force - Centrifugal force.

### UNIT IV - Projectile and Lever

Freely falling bodies -Projectiles -Equation of projectiles stability Factors influencing equilibrium - Guiding principles for stability -static and dynamic stability. Meaning of work, power, energy, kinetic energy and potential energy. Leverage -classes of lever - practical application. Water resistance - Air resistance -Aerodynamics.

*Note: Laboratory practical's should be designed and arranged for students internally.*

### UNIT V - Movement Analysis

Analysis of Movement: Types of analysis: Kinesiological, Biomechanical. Cinematographic. Methods of analysis - Qualitative, Quantitative, Predictive



## REFERENCE:

Deshpande S.H.(2002). Manav Kriya Vigyan - Kinesiology (Hindi Edition) Amravati :Hanuman Vyayam Prasarak Mandal.

Hoffman S.J. Introduction to Kinesiology (Human Kinesiology publication In.2005.

Steven Roy, & Richard Irvin. (1983). Sports Medicine. New Jersery: Prentice hall.

Thomas. (2001). Manual of structural Kinesiology, New York: Me Graw Hill.

Uppal A.K. Lawrence Mamta MP Kinesiology(Friends Publication India 2004)

Uppal, A.K (2004), Kinesiology in Physical Education and Exercise Science, Delhi Friends

publications. Williams M (1982) Biomechanics of Human Motion, Philadelphia; Saunders Co.

# Semester II

## Theory Courses

### MPCC-203

## ATHLETIC CARE AND REHABILITATION

### Unit I - Corrective Physical Education

Definition and objectives of corrective physical Education. Posture and body mechanics, Standards of Standing Posture. Value of good posture, Drawbacks and causes of bad posture. Posture test - Examination of the spine.

### Unit II - Posture

Normal curve of the spine and its utility, Deviations in posture: Kyphosis, lordosis, flat back, Scoliosis, round shoulders, Knock Knee, Bow leg, Flat foot. Causes for deviations and treatment including exercises.

### Unit III - Rehabilitation Exercises '

Passive, Active, Assisted, Resisted exercise for Rehabilitation, Stretching, PNF techniques and principles.

### Unit IV - Massage

Brief history of massage - Massage as an aid for relaxation - Points to be considered in giving massage - Physiological, Chemical, Psychological effects of massage - Indication / Contra indication of Massage - Classification of the manipulation used massage and their specific uses in the human body - Stroking manipulation: Effleurage - Pressure manipulation: Petrissage Kneading (Finger, Kneading, Circular) ironing Skin Rolling - Percussion manipulation: Tapotement, Hacking, Clapping, Beating, 'Pounding, Slapping, Cupping, Poking, Shaking Manipulation, Deep massage.

### Unit V - Sports Injuries Care, Treatment and Support

Principles pertaining to the prevention of Sports injuries - care and treatment of exposed and unexposed injuries in sports - Principles of apply cold and heat, infrared rays - Ultrasonic, Therapy - Short wave diathermy therapy. Principles and techniques of Strapping and Bandages.

***Note: Each student shall submit Physiotherapy record of attending the Clinic and observing the cases of athletic injuries and their treatment procedure . (To be assessed internally)***

## **REFERENCES:**

Doherty. J. Meno. Wetb, Moder D (2000) Track & Field, Englewood Cliffs, Prentice Hal Inc.

Lace, M. V. (1951) Massage and Medical Gymnastics, London: J & A Churchill Ltd.

Mc Ooyand Young (1954) Tests and Measurement, New York: Appleton Century.

Naro, C. L. (1967) Manual of Massage and, Movement, London: Febra and Febra Ltd.

Rathbome, J.I. (1965) Corrective Physical education, London: W.B. Saunders & Co.

Stafford and Kelly, (1968) Preventive and Corrective Physical Education, New York.

# **Semester II**

## **Theory Courses**

### **MPEC-201**

## **SPORTS JOURNALISM AND MASS MEDIA**

### **(Elective)**

#### **UNIT I – Introduction**

Meaning and Definition of Journalism, Ethics of Journalism - Canons of journalism- Sports Ethics and Sportsmanship - Reporting Sports Events. National and International Sports News Agencies.

#### **UNIT II – Sports Bulletin**

Concept of Sports Bulletin: Journalism and sports education - Structure of sports bulletin - Compiling a bulletin - Types of bulletin - Role of Journalism in the Field of Physical Education: Sports as an integral part of Physical Education - Sports organization and sports journalism - General news reporting and sports reporting.

#### **UNIT III – Mass Media**

Mass Media in Journalism: Radio and T.V. Commentary - Running commentary on the radio - Sports expert's comments. Role of Advertisement in Journalism. Sports Photography: Equipment- Editing - Publishing.

#### **UNIT IV – Report Writing on Sports**

Brief review of Olympic Games, Asian Games, Common Wealth Games World Cup, National Games and Indian Traditional Games. Preparing report of an Annual Sports Meet for Publication in Newspaper. Organization of Press Meet.

#### **UNIT V – Journalism**

Sports organization and Sports Journalism - General news reporting and sports reporting. Methods of editing a Sports report. Evaluation of Reported News. Interview with and elite Player and Coach. Practical assignments to observe the matches and prepare report and news of the same; visit to News Paper office and TV Centre to know various departments and their working. Collection of Album of newspaper cuttings of sports news.

## REFERENCE:

Ahiya B.N. (1988) Theory and Practice of Journalism: Set to Indian context Ed3. Delhi : Surjeet Publications

Ahiya B.N. Chobra S.S.A. (1990) Concise Course in Reporting. New Delhi: Surjeet Publication

Bhatt S.C. (1993) Broadcast Journalism Basic Principles. New Delhi. Haranand Publication

Dhananjay Joshi (2010) Value Education in Global Perspective. New Delhi: Lotus Press.

Kannan K (2009) Soft Skills, Madurai: Madurai: Yadava College Publication

Mohit Chakrabarti (2008): Value Education: Changing Perspective, New Delhi: Kanishka Publication.

Padmanabhan. A & Perumal A (2009), Science and Art of Living, Madurai: Pakavathi Publication

Shiv Khera (2002), You Can Win, New Delhi: Macmillan India Limited.

Varma A.K. (1993) Journalism in India from Earliest Times to the Present Period. Sterling publication Pvt. Ltd.

Venkataiah. N (2009) Value Education,- New Delhi: APH Publishing Corporation. 43

# **Semester II**

## **Theory Courses**

### **MPEC-202**

## **SPORTS MANAGEMENT AND CURRICULUM DESIGN IN PHYSICAL EDUCATION**

**(Elective)**

### **UNIT I - Introduction to Sports Management**

Definition, Importance. Basic Principles and Procedures of Sports Management. Functions of Sports Management. Personal Management: Objectives of Personal Management, Personal Policies, Role of Personal Manager in an organization, Personnel recruitment and selection.

### **UNIT II - Program Management**

Importance of Programme development and the role of management, Factors influencing programme development. Steps in programme development, Competitive Sports Programs, Benefits, Management Guidelines for School, Colleges Sports Programs, Management Problems in instruction programme, Community Based Physical Education and Sports program.

### **UNIT III - Equipments and Public Relation**

Purchase and Care of Supplies of Equipment, Guidelines for selection of Equipments and Supplies, Purchase of equipments and supplies, Equipment Room, Equipment and supply Manager. Guidelines for checking, storing, issuing, care and maintenance of supplies and equipments. Public Relations in Sports: Planning the Public Relation Program -Principles of Public Relation - Public Relations in School and Communities - Public Relation and the Media.

### **UNIT IV – Curriculum**

Meaning and Definition of Curriculum. Principles of Curriculum Construction: Students centred, Activity centred, Community centred, Forward looking principle, Principles of integration, Theories of curriculum development, Conservative (Preservation of Culture), Relevance., flexibility, quality, contextually and plurality. Approaches to Curriculum; Subject centred, Learner centred and Community centred, Curriculum Framework.

## **UNIT V - Curriculum Sources**

Factors that affecting curriculum: Sources of Curriculum materials - text books -Journals - Dictionaries, Encyclopaedias, Magazines, Internet. Integration of Physical Education with other Sports Sciences - Curriculum research, Objectives of Curriculum research - Importance of Curriculum research. Evaluation of Curriculum, Methods of evaluation.

### **Reference:**

Aggarwal, J.C (1990). Curriculum Reform in India - World overviews, Doaba World Education Series - 3 Delhi: Doaba House, Book seller and Publisher.

Arora, G.L, (1984): Reflections on Curriculum, New Delhi: NCERT.

Bonnie, L. (1991). The Management of Sports. St. Louis: Mosby Publishing Company, Park House.

Bucher A. Charles, (1993), Management of Physical Education and Sports (10<sup>th</sup> ed.,) St. Louis: Mobsy Publishing Company.

Carl, E, Willgoose. (1982. Curriculum in Physical Education, London: Prentice Hall.

Chakraborty & Samiran. (1998). Sports Management. New Delhi: Sports Publication.

Charles, A, Bucher & March, L, Krotee. (1993). Management of Physical Education and Sports. St. Louis: Mosby Publishing Company.

Chelladurai, P. (1999). Human Resources Management in Sports and Recreation. Human Kinetics.

John, E, Nixon & Ann, E, Jewett. (1964). Physical Education Curriculum, New York: The Ronald Press Company.

McKernan, James (2007) Curriculum and Imagination: Process, Theory, Pedagogy and Action Research,. U.K. Routledge

NCERT (2000). National Curriculum Framework for School Education, New Delhi:

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NCERT (2005). National Curriculum Framework, New Delhi: NCERT.

NCERT (2005). National Curriculum Framework-2005, New Delhi: NCERT.

Williams, J.F. (2003). Principles of Physical Education. Meerut: College Book House.

Yadvnider Singh. Sports Management, New Delhi: Lakshay Publication.

# **Semester III**

## **Theory Courses**

### **MPCC-301**

## **SCIENTIFIC PRINCIPLES OF SPORTS TRAINING**

### **UNIT I - Introduction**

Sports training: Definition - Aim, Characteristics, Principles of Sports Training, Over Load: Definition, Causes of Over Load, Symptoms of Overload, Remedial Measures - Super Compensation - Altitude Training - Cross .Training

### **UNIT II - Components of Physical Fitness**

Strength: Methods to improve Strength: Weight Training, Isometric, Isotonic, Circuit Training, Speed: Methods to Develop Speed: Repetition Method, Downhill Run, Parachute Running, Wind Sprints, Endurance, Methods to Improve Endurance: Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training

### **UNIT III-Flexibility**

Flexibility: Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method, Special Type Training: Plyometric Training. Training for Coordinative abilities: Methods to improve Coordinative abilities: Sensory Method, Variation in Movement Execution Method, Variation in External Condition Method, Combination of Movement Method, Types of Stretching Exercises.

### **UNIT IV - Training Plan**

Training Plan: Macro Cycle, Meso-Cycle. Short Term Plan and Long Term Plans - Periodisation: Meaning, Single, Double and Multiple Periodisation, Preparatory Period, Competition Period and Transition Period.

### **UNIT V - Doping**

Definition of Doping - Side effects of drugs - Dietary supplements - IOC list of doping classes and methods. Blood Doping - The use of erythropoietin in blood boosting - Blood doping control - The testing programmes - Problems in drug detection — Blood testing in doping control - Problems with the supply of medicines Subject to IOC regulations : over-the- counter drugs (OTC) - prescription only medicines (POMs) - Controlled drugs (CDs). Reporting test results - Education



## **REFERENCES :**

Beotra Alka, (2000), Drug Education Handbook on Drug Abuse in Sports. Delhi: Sports Authority of India.

Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc.

Cart, E. Klafs & Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C. V. Mosphy Company

Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Luis, Mosby Year Book

David R. Mottram (1996) Drugs in Sport, School of Pharmacy, Liverpool: John Moore University

Gary, T. Moran (1997) - Cross Training for Sports, Canada : Human Kinetics

Hardayal Singh (1991) Science of Sports Training, New Delhi, DVS Publications

Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia

Ronald, P. Pfeiffer (1998) Concepts of Athletics Training 2<sup>nd</sup> Edition, London: Jones and Bartlett Publications

Yograj Thani (2003), Sports Training, Delhi : Sports Publications

# Semester III

## Theory Courses

### MPCC-302

## SPORTS MEDICINE

### UNIT I - Introduction

Meaning, definition and importance of Sports Medicine, Definition and Principles of therapeutic exercises., Coordination exercise, -Balance training exercise, Strengthening exercise, Mobilization exercise, Gait training, Gym ball exercise Injuries: acute, sub-acute, chronic. Advantages and Disadvantages of PRICE, PRINCE therapy, Aquatic therapy.

### UNIT II - Basic Rehabilitation

Basic 'Rehabilitation: Strapping/Tapping: Definition, Principles Precautions Contraindications. Proprioceptive neuromuscular facilitation: Definition hold, relax, repeated contractions. Show reversal technique exercises. Isotonic, Isokinetic, isometric stretching. Definition. Types of stretching, Advantages, dangers of stretching, Manual muscle grading.

### UNIT III - Spine Injuries and Exercise

Head, Neck and Spine injuries: Causes, Presentational! of Spinal anomalies, Flexion, Compression, Hyperextension, Rotation injuries. Spinal range of motion. Free hand exercises, stretching and strengthening exercise for head neck, spine. Supporting and aiding techniques and equipment for Head, Neck and Spine injuries.

### UNIT IV - Upper Extremity Injuries and Exercise

Upper Limb and Thorax Injuries: Shoulder: Sprain, Strain, Dislocation, and Strapping. Elbow: Sprain, Strain, Strapping. Wrist and Fingers: Sprain Strain, Strapping. Thorax, Rib fracture. Breathing exercises, Relaxation techniques, Free hand exercise, Stretching and strengthening exercise for shoulder, Elbow, Wrist and Hand. Supporting and aiding techniques and equipment for Upper Limb and Thorax Injuries.

### UNIT V - Lower Extremity Injuries and Exercise

Lower Limb and Abdomen Injuries: Hip: Adductor strain, Dislocation, Strapping. Knee: Sprain, Strain, Strain, Strapping. Ankle: Sprain, Strain, Strapping. Abdomen: Abdominal wall, Contusion, Abdominal muscle strain. Free exercises - Stretching and strengthening exercise for Hip, knee, ankle and Foot. Supporting and aiding techniques and equipment for Lower limb and Abdomen injures.

*Practical's: Lab. Practical's and visit to Physiotherapy Centre to observe treatment procedure of sports injuries; data collection of sports injury incidences, Visit to TV Centre etc. should be planned internally.,*

## **REFERENCES:**

Christopher M. Norris. (1993). Sports Injuries Diagnosis and Management for Physiotherapists. East Kilbride: Thomson Litho Ltd.

James, A. Gould & George J. Davies. (1985). Physical Physical Therapy. Toronto: C.V. Mosby Company.

Morris B. Million (1984) Sports Injuries and Athletic Problem. New Delhi: Surjeet Publication.

Pande. (1998). Sports Medicine. New delhi: Khel Shitya Kendra

The Encyclopedia of Sports Medicine. (1998). The Olympic Book of Sports Medicine, Australia: Tittel Blackwell Scientific publications.

Practical: Anthropometric Measurements,

# **Semester III**

## **Theory Courses**

### **MPCC-303**

## **HEALTH EDUCATION AND SPORTS NURTITION**

### **Unit -1 Health Education**

Concept, Dimensions, Spectrum and Determinants of Health

Definition of Health, Health Education, Health Instruction, Health Supervision

Aim, objective and Principles of Health Education

Health Service and guidance instruction in personal hygiene'

### **Unit - II Health Problems in India**

Communicable and Non Communicable Diseases

Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive,

Population, Personal and Environmental Hygiene for schools

Objective of school health service, Role of health education in schools

Health Services - Care of skin, Nails, Eye health service, Nutritional service, Health

appraisal, Health record, Healthful school environment, first- aid and emergency care

etc.

### **Unit- III - Hygiene and Health**

Meaning of Hygiene, Type of Hygiene, dental Hygiene, Effect of Alcohol on Health, Effect of Tobacco on Health, Life Style Management, Management of Hypertension, Management of Obesity, Management of Stress

### **Unit-IV- Introduction to Sports Nutrition**

Meaning and Definition of Sports Nutrition, Role of nutrition in sports, Basic Nutrition guidelines, Nutrients: Ingestion to energy metabolism (Carbohydrate, Protein and Fat), Role of carbohydrates, Fat and protein during exercise.

## **Unit - V Nutrition and Weight Management**

Concept of BMI (Body mass index), Obesity and its hazard, Dieting versus exercise for weight control Maintaining a Healthy Lifestyle, Weight management program for sporty child, Role of diet and exercise in weight management, Design diet plan and exercise schedule for weight gain and loss.

### **References: •**

Bucher, Charles A. "Administration of Health and Physical Education Programme".

Delbert, Oberteuffer, et. al." The School Health Education".

Ghosh, B.N. "Treaties of Hygiene and Public Health".

Hanlon, John J. "Principles of Public Health Administration" 2003.

Turner, C.E. "The School Health and Health Education".

Moss and et. At. "Health Education" (National Education Association of U.T.A.)

Nemir A. The School Health Education" (Harber and Brothers, New York).

Nutrition Encyclopedia, edited by Delores C.S. James, The Gale Group, Inc.

Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson.

Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

# Semester II

## Theory Courses

### MPEC-301

## SPORTS ENGINEERING

### (Elective)

#### **Unit -1 Introduction to sports engineering and Technology**

Meaning of sports engineering, human motion detection and recording, human performance, assessment, equipment and facility designing and sports related instrumentation and measurement.

#### **Unit - II Mechanics of engineering materials**

Concept of internal force, axial force, shear force, bending movement, torsion, energy method to find displacement of structure, strain energy. Biomechanics of daily and common activities -Gait, Posture, Body levers, ergonomics, Mechanical principles in movements such as lifting, walking, running, throwing, jumping, pulling, pushing etc.

#### **Unit- III Sports Dynamics**

Introduction to Dynamics, Kinematics to particles - rectilinear and plane curvilinear motion coordinate system. Kinetics of particles-Newton's laws of Motion, Work, Energy, Impulse and momentum.

#### **Unit- IV Building and Maintenance:**

Sports Infrastructure- Gymnasium, Pavilion, Swimming Pool, Indoor Stadium, Out-door Stadium, Play Park, Academic Block, Administrative Block, Research Block, Library, Sports Hostels, etc.

Requirements: Air ventilation, Day light, Lighting arrangement, Galleries, Store rooms, Office, Toilet Blocks (M/F), Drinking Water, Sewage and Waste Water disposal system, Changing Rooms ( M/F), Sound System (echo-free), Internal arrangement according to need and nature of activity to be performed, Corridors and Gates for free movement of people, Emergency provisions of lighting, fire and exits, Eco-friendly outer surrounding. Maintenance staff, financial consideration.

**Building process:-** design phase (including brief documentation), construction phase functional (occupational) life, Re-evaluation, refurbish, demolish.

**Maintenance policy**, preventive maintenance, corrective maintenance, record and register for maintenance.

## **Unit - V Facility life cycle costing**

Basics of theoretical analysis of cost, total life cost concepts, maintenance costs, energy cost, capital cost and taxation

### **Reference**

Franz K. F. et. al., Editor, **Routledge Handbook of Sports Technology and Engineering** (Routledge, 2013)

Steve Hake, Editor, **The Engineering of Sport** (CRC Press, 1996)

Franz K. F. et. al., Editor **The Impact of Technology on Sports II** (CRC Press, 2007)

Helge N., **Sports Aerodynamics** (Springer Science & Business Media, 2009)

Youlin. Hong, Editor. **Routledge Handbook of Ergonomics in Sport and Exercise** (Routledge, 2013)

Jenkins M., Editor **Materials in Sports Equipment, Volume I** (Elsevier, 2003)

Colin White, **Projectile Dynamics in Sport: Principles and Applications**

Eric C. et al., Editor **Sports Facility Operations Management** (Routledge, 2010)

# **Semester III**

## **Theory Courses**

### **MPEC-302**

## **PHYSICAL FITNESS AND WELLNESS**

### **(Elective)**

#### **Unit I - Introduction**

Meaning and Definition" of Physical Fitness, Physical Fitness Concepts and Techniques, Principles of physical fitness, Physiological principles involved in human movement. Components of Physical Fitness.

Leisure time physical activity and identify opportunities in the community to participate in this activity. Current trends in fitness and conditioning, components of total health fitness and the relationship between physical activity and lifelong wellness.

#### **Unit II-Nutrition**

Nutrients; Nutrition labelling information, Food Choices, Food Guide Pyramid, Influences on food choices-social, economic, cultural, food sources, Comparison of food values. Weight Management-proper practices to maintain, lose and gain. Eating Disorders, Proper hydration, the effects of performance enhancement drugs

#### **Unit III - Aerobic Exercise**

Cardio respiratory Endurance Training; proper movement forms, i.e., correct stride, arm movements, body alignment; proper warm-up, cool down, and stretching, monitoring heart rates during activity. Assessment of cardio respiratory fitness and set goals to maintain or improve fitness levels. Cardio respiratory activities including i.e. power walking, pacer test, interval training, incline running, distance running, aerobics and circuits.

#### **Unit IV - Anaerobic Exercise**

Resistance Training for Muscular Strength and Endurance; principles of resistance training, Safety techniques (spotting, proper body alignment, lifting techniques, spatial, awareness, and proper breathing techniques). Weight training principles and concepts; basic resistance exercises (including free hand exercise, free weight exercise, weight machines, exercise bands and tubing, medicine balls, fit balls) Advanced techniques of weight training



## **Unit V - Flexibility Exercise**

Flexibility Training, Relaxation Techniques and Core Training. Safety techniques (stretching protocol; breathing and relaxation techniques) types of flexibility exercises (i.e. dynamic, static), Develop basic competency in relaxation and breathing techniques. Pilates, Yoga. .

### **Reference:**

David K. Miller & T. Earl Alien, Fitness, A life time commitment, Surjeet Publication Delhi 1989.

Dificore Judy, the complete guide to the postnatal fitness, A & C Black Publishers Ltd. 35 Bedford row, London 1998

Dr. A.K. Uppal, Physical Fitness, Friends Publications (India), 1992. Warner W.K. Oeger & Sharon A. Hoeger, Fitness and Wellness, Morton Publishing Company, 1990.

Elizabeth & Ken day, Sports fitness for women, B.T. Batsford Ltd, London, 1986.

Emily R. Foster, Karyn Hartiger & Katherine A. Smith, Fitness Fun, Human Kinetics Publishers 2002.

Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999

Robert Malt. 90 day fitness plan, O.K. publishing, Inc. 95, Madison Avenue, New York 2001.

**Semester IV**  
**Theory Courses**  
**MPCC-401**  
**INFORMATION & COMMUNICATION TECHNOLOGY**  
**(ICT) IN**  
**PHYSICAL EDUCATION**

**Unit I - Communication & Classroom Interaction**

Concept, Elements, Process & Types of Communication  
Communication Barriers & Facilitators of communication  
Communicative skills of English - Listening, Speaking, Reading & Writing  
Concept & Importance of ICT Need of  
ICT in Education  
Scope of ICT: Teaching Learning Process, Publication Evaluation, Research and  
Administration  
Challenges in Integrating ICT in Physical Education

**Unit II - Fundamentals of Computers**

Characteristics, Types & Applications of Computers Hardware of Computer: Input,  
Output & Storage Devices Software of Computer: Concept & Types  
Computer Memory: Concept & Types  
Viruses & its Management  
Concept, Types & Functions of Computer Networks Internet and its Applications  
Web Browsers & Search Engines Legal & Ethical Issues

**Unit III - MS Office Applications**

MS Word: Main Features & its Uses in Physical Education  
MS Excel: Main Features & its Applications in Physical Education  
MS Access: Creating a Database, Creating a Table, Queries, Forms &  
Reports on Tables and its Uses in Physical Education  
MS Power Point: Preparation of Slides with Multimedia Effects  
MS Publisher: Newsletter & Brochure

## **Unit IV - ICT Integration in Teaching Learning Process**

Approaches to Integrating ICT in Teaching Learning Process

Project Based Learning (PBL)

Co-Operative Learning

Collaborative Learning

ICT and Constructivism: A Pedagogical Dimension

## **Unit V - E-Learning & Web Based Learning**

E-Learning Web Based Learning Visual Classroom

### **REFERENCES:**

B. Ram, New Age International Publication, Computer Fundamental, Third Edition-2006 Brain under IDG Book. India (p) Ltd Teach Yourself Office 2000, Fourth Edition-2001 Douglas E. Comer, The Internet Book, Purdue University, West Lafayette in 2005 Heidi Steel Low price Edition, Microsoft Office Word 2003- 2004

ITL Education Solution Ltd. Introduction to information Technology, Research and Development Wing-2006

Pradeep K. Sinha & Priti; Sinha, Foundations computing BPB Publications -2006.

Rebecca Bridges Altaian Peach pit Press, Power point for window, 1999

Sanjay Saxena, Vikas PubHcation House, Pvt Ltd. Microsoft Office for ever one, Second Edition-2006

**Semester IV**  
**Theory Courses**  
**MPCC-402**  
**SPORTS PSYCHOLOGY**

**UNIT I - Introduction**

Meaning, Definition, History, Need and Importance of Sports Psychology. Present Status of Sports Psychology in India. Motor Learning: Basic Considerations in Motor Learning - Motor Perception - Factors Affecting Perception - Perceptual Mechanism. Personality: Meaning, Definition, Structure - Measuring Personality Traits. Effects of Personality on Sports Performance.

**UNIT II - Motivation**

Meaning and Definition, Types of Motivation: Intrinsic, Extrinsic. Achievement Motivation: Meaning, Measuring of Achievement Motivation. Anxiety: Meaning and Definition, Nature, Causes, Method of Measuring Anxiety. Competitive Anxiety and Sports Performance. Stress: Meaning and Definition, Causes. Stress and Sports Performance. Aggression: Meaning and Definition, Method of Measurement. Aggression and Sports Performance. Self-Concept: Meaning and Definition, Method of Measurement.

**UNIT III - Goal Setting**

Meaning and Definition, Process of Goal Setting in Physical Education and Sports. Relaxation: Meaning and Definition, types and methods of psychological relaxation. Psychological Tests: Types of Psychological Test: Instrument based tests: Pass-along test - Tachistoscope - Reaction timer - Finger dexterity board - Depth perception box - Kinesthesiometer board. Questionnaire: Sports Achievement Motivation, Sports Competition Anxiety.

**UNIT IV - Sports Sociology**

Meaning and Definition - Sports and Socialization of Individual Sports as Social Institution. National Integration through Sports. Fans and Spectators: Meaning and definition, Advantages and disadvantages on Sports Performance. Leadership: Meaning, Definition, types. Leadership and Sports Performance.

**UNIT V - Group Cohesion**

Group: Definition and Meaning, Group Size, Groups on Composition, Group Cohesion, Group Interaction, Group Dynamics. Current Problems in Sports and Future Directions -Sports Social Crisis Management - Women in Sports: Sports Women in our Society, Participation pattern among Women, Gender inequalities in Sports.

**Practicals:** *Atleast five experiments related to the topics listed in the Units above should be conducted by the students in laboratory. (Internal assessment.)*

## **REFERENCES:**

Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Tests, New Delhi: National Council of Educational Research and Training Publication.

Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Test, New Delhi: National Council of Educational Research and Training Publication.

Jain. (2002), Sports Sociology, Heal Sahety Kendre Publishers.

Jay Coakley. (2001) Sports in Society - Issues and Controversies in International Education, Mc-Craw Seventh Ed.

John D Lauther (2000) Psychology of Coaching. Ner Jersy: Prenticce Hall Inc.

John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.

Miroslaw Vauks & Bryant Cratty (1999). Psychology and the Superior Athlete. London: The Macmillan Co.. .

Richard, J. Crisp. (2000). Essential Social Psychology. Sage Publications.

Robert N. Singer (2001). Motor Learning and Human Performance. New York: The Macmillan Co.

Robert N. Singer. (1989) The Psychology Domain Movement Behaviour. Philadelphia: Lea and Febiger.

Thelma Horn. (2002). Advances in Sports Psychology. Human Kinetic.

Whiting, K, Karman.,. Hendry L.B & Jones M.G. (1999) Personality and Performance in Physical Education and Sports. London: Hendry Kimpton Publishers.

# **Semester IV**

## **Theory Courses**

### **MPCC-403**

## **DISSERTATION**

1. A candidate shall have dissertation for M.P.Ed. - IV Semester and must submit his/her Synopsis and get it approved by the Head of Department on the recommendation of D.R.C. (Departmental Research Committee).
2. A candidate selecting dissertation ^must submit his/her dissertation not less than one week before the beginning of the IV<sup>th</sup> Semester Examination.
3. The candidate has to face the Viva-Voce conducted by DRC.

# **Semester IV**

## **Theory Courses**

### **MPEC-401**

## **VALUE AND ENVIRONMENTAL EDUCATION**

### **UNIT I - Introduction to Value Education.**

Values: Meaning, Definition, Concepts of Values. Value Education: Need, Importance and Objectives. Moral Values: Need and Theories of Values. Classification of Values: Basic Values of Religion, Classification of Values.

### **UNIT II - Value Systems**

Meaning and Definition, Personal and Communal Values, Consistency, Internally consistent, internally inconsistent, Judging Value System, Commitment, Commitment to values.

### **Unit- III - Environmental Education**

Definition, Scope, Need and Importance of environmental studies., Concept of environmental education, Historical background of environmental education, Celebration of various days in relation with environment, Plastic recycling & prohibition of plastic bag / cover, Role of school in environmental conservation and sustainable development, Pollution free ecosystem.

### **Unit - IV Rural Sanitation and Urban Health**

Rural Health Problems, Causes of Rural Health Problems, Points to be kept in Mind for improvement of Rural Sanitation, Urban Health Problems, Process of Urban Health, Services of Urban Area, Suggested Education Activity, Services on Urban Slum Area, Sanitation at Fairs & Festivals, Mass Education.

### **Unit - V Natural Resources and related environmental issues:**

Water resources, food resources and Land resources, Definition, effects and control measures of: Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution Management of environment and Govt. policies, Role of pollution control board.

## **REFERENCE:**

Miller T.G. Jr., Environmental Science (Wadsworth Publishing Co.)

Odum, E.P. Fundamentals of Ecology (U.S.A.: W.B. Saunders Co.) 1971.

Rao, M.N. & Datta, A.K. Waste Water Treatment (Oxford & IBH Publication Co. Pvt. Ltd.) 1987

Townsend C. and others, Essentials of Ecology (Black well Science)

Heywood, V.H. and Watson V.M., Global biodiversity Assessment (U.K.: Cambridge

University Press), 1995.

Jadhav, H. and Bhosale, V.M. Environmental Protection and Laws (Delhi: Himalaya Pub.

House), 1995.

Me Kinney, M.L. and "Schoel, R.M.- Environmental Science System and Solution (Web

enhanced Ed.) 1996.

Miller T.G. Jr., Environmental Science (Wadsworth Publishing Co.)



# **Semester IV**

## **Theory Courses**

### **MPEC-402**

## **EDUCATION TECHNOLOGY IN PHYSICAL EDUCATION AND SPORTS**

### **Unit I - Nature and Scope**

Educational technology-concept, Nature and Scope. Forms of educational technology: teaching technology, instructional technology, and behaviour technology; Transactional usage of educational technology: integrated, complementary, supplementary stand-alone (independent); programmed learning stage; media application stage and computer application stage.

### **Unit II - Systems Approach to Physical Education and Communication**

Systems Approach to Education and its Components: Goal Setting, Task Analysis, Content Analysis, Context Analysis and Evaluation Strategies; Instructional Strategies and Media for Instruction. Effectiveness of Communication in instructional system; Communication -Modes, Barriers and Process of Communication.

### **Unit III- Instructional Design**

Instructional Design: Concept, Views. Process and stages of Development of Instructional Design. Overview of Models of Instructional Design; Instructional Design for Competency Based Teaching: Models for Development of Self Learning Material.

### **Unit IV - Audio Visual Media in Physical Education**

Audio-visual media - meaning, importance and various forms Audio/Radio: Broadcast and audio recordings - strengths and Limitations, criteria for selection of instructional units, script writing, pre-production, post-production process and practices, Audio Conferencing and Interactive Radio Conference. Video/Educational Television: Telecast and Video recordings Strengths and limitations, Use of Television and CCTV in instruction and Training, Video Conferencing, SITE experiment, countrywide classroom project and Satellite based instructions. Use of animation films for the development of children's imagination.

## **Unit V - New Horizons of Educational Technology**

Recent innovations in the area of ET interactive video - Hypertext, video-texts, optical fiber technology - laser disk, computer conferencing, etc. Procedure and organization of Teleconferencing/Interactive video-experiences of institutions, schools and universities. Recent experiments in the third world countries and pointers for, India with reference to Physical education. Recent trends of Research in Educational Technology and its future with reference to education.

### **REFERENCE:**

Amita Bhardwaj, New Media of Educational Planning". Sarup of Sons, New Delhi-2003

Bhatia and Bhatia. The Principles and Methods of Teaching (New Delhi : Doaba House), 1959.

Communication and Education, D. N. Dasgupta, Pointer Publishers

Education and Communication for development, O. P. Dahama, O. P. Bhatnagar, Oxford Page 68 of 71 IBH Publishing company, New Delhi

Essentials of Educational Technology, Madan Lal, Anmol Publications

K. Sampath, A. Pannirselvam and S. Santhanam. Introduction to Educational Technology (New Delhi: Sterling Publishers Pvt. Ltd.) : 1981.

Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jalandhar, Sterling Publishers Pvt. Ltd.), 1982

Kozman, Cassidy and Jackson. Methods in Physical Education (W.B.Saunders Company, Philadelphia and London), 1952.