



**MASTER OF PHYSICAL EDUCATION (M.P. ED)  
TWO YEAR CBCS PROGRAMME**

**ORDINANCE AND REGULATIONS FOR THE COURSE  
OF MASTER OF PHYSICAL EDUCATION (M.P. ED.)**

**JULY 2025**

**Department of Physical Education**

**MAA PATESHWARI UNIVERSITY,  
BALRAMPUR – UTTAR PRADESH (271201)**

---

## **M.P. ED. PROGRAMME OBJECTIVE**

The Master of Physical Education program objective is to provide students with the opportunities to develop the knowledge, skills, and dispositions necessary to meet their personal and professional goals in the fields of physical education and exercise science. The postgraduate programme in physical education acquaints students with the dynamics of sports activities and offers them professional training as well as knowledge about fitness in sports. The course also enables students enhance their skills in the respective field. It helps the students develop fitness strategies and methods applied in sports and other fields.

Master of Physical Education is a two-year duration postgraduate course in physical education. Physical education is a domain concerned with sports related activities and deals with subjects such as sports science, sports psychology, sports research methodology, sports medicine, exercise physiology, etc. Masters in Physical Education is intended for the students pursuing a career in physical education. A problem-solving ability is exactly what a candidate is looking for in that course. Any candidate with courage, perseverance, and competitive spirit may opt for this course. The candidates who excel in activities related to the sport will be more fit for this course. The program is ideal for students with a proven athletic record and fitness experience.

---

**GUIDELINES OF REGULATIONS AND MODEL SYLLABUS  
STRUCTURE FOR TWO YEARS M. P. Ed.  
PROGRAMME (FOUR SEMESTERS) (CBCS)**

**Important Note:**

- 1. If the University or affiliating body is following choice-based credit system, (CBCS) as approved and circulated by the UGC, the credit hours given in the following curriculum framework need to be considered along with the hours of teaching mentioned for each paper/ activity / course.*
- 2 If the University or affiliating bodies have yet to adopt CBCS, only the hours of teaching mentioned for each paper/ activity / Course will be considered, the credit in teaching hours may be ignored.*

**Preamble:**

The Master of Physical Education (M.P.Ed.) two years (Four Semesters, Choice Based Credit System) programme is a professional programme meant for preparing Physical Education Teachers for senior secondary (Class XI and XII) level as well as Assistant Professor/Directors/Sports Officers in Colleges/Universities and teacher educators in College of Physical Education.

The M.P.Ed. programme is designed to integrate the study of childhood, social context of Physical Education, subject knowledge, pedagogical knowledge, aim of Physical Education and communication skills. The programme comprises of compulsory and optional theory as well as practical courses and compulsory school internship in School/ College/Sports Organizations/Sports Academy/Sports Club.

**R.M.P.Ed.1. Intake, Eligibility and Admission Procedure:**

The Intake, Eligibility and Admission Procedure is as per the NCTE norms and standards.

**R. M.P.Ed. 2. Duration:**

The M.P. Ed programme is of duration of two academic years, that is, four semesters. However, the students shall be permitted to complete the programme requirements within a maximum of three years from the date of admission to the programme.

**R. M.P.Ed. 3. The CBCS System:**

All programmes shall run on Choice Based Credit System (CBCS). It is an instructional package developed to suit the needs of students, to keep pace with the developments in higher education and the quality assurance expected of it in the light of liberalization and globalization in higher education.

**R. M.P.Ed. 4. Course:**

The term course usually referred to, as 'papers' is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise Lectures/ 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.

**R. M.P.Ed.5. Courses 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.

- **Theory**
- **Core Course**
- **Elective Course**
- **Practicum**
- **Compulsory Course (Track and Field)**
- **Elective Course**
- **Teaching/Coaching Practices**
- **Internship**
- 

**R. M.P.Ed.6. 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 odd semester may be scheduled from May/June to November/December and even semester from November / December to May/June. The institution shall work for a minimum of 36 working hours in a week (five or six days a week).

**R. M.P.Ed.7. Working days:**

There shall be at least 200 working days per year exclusive of admission and examination processes etc.

**R. M.P.Ed. 8. 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      |
| 8       | News Reporting / 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.

#### R. M.P.Ed. 9. Evaluation:

The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade point. Evaluation for each course shall be done by a continuous internal assessment (CIA) by the concerned course teacher as well as by end semester examination and will be consolidated at the end of course. The components for continuous internal assessment are;

|                             |          |
|-----------------------------|----------|
| One Test                    | 15 Marks |
| Assignments / Lab Practical | 10 Marks |
| Attendance                  | 5 Marks  |
| Total                       | 30 Marks |

Attendance shall be taken as a component of continuous assessment, although 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, 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, wherever applicable, will also be based on continuous internal assessment and on an end-semester practical examination.

**R. B.P. Ed 10. Grading:**

Once the marks of the CIA (Continues Internal Assessment) and SEA (Semester End Assessment) for each of the courses are available, both (CIA and SEA) will be added. The marks thus obtained for each of the courses will then be graded as per details provided in

R. M.P.Ed. 12 from the first semester onwards the average performance within any semester from the first semester is indicated by Semester Grade Point Average (SGPA) while continuous performance (including the performance of the previous semesters also) starting from the first semester is indicated by Cumulative Grade Point Average (CGPA). These two are calculated by the following formula:

$$SGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

$$CGPA = \frac{\sum_{i=1}^N SGPA_i}{N}$$

Where  $C_i$  is the Credit earned for the course in any semester;  $G_i$  is the Grade point obtained by the student for the course and  $n$  number of courses obtained in that semester; is SGPA of semester  $j$  and  $N$  number of semester. Thus, CGPA is average of SGPA of all the semesters starting from the first semester to the current semester.

**R. M.P.Ed. 11. Classification of Final Results:**

For the purpose of declaring a candidate to have qualified for the Degree of Bachelor of Physical Education in the First class / Second Class / Pass Class or First Class with Distinction, the marks and the corresponding CGPA earned by the candidate in Core Courses will be the criterion. It is further provided that the candidate should have scored the First / Second Class separately in both the grand total and end Semester (External) examinations.

**R. M.P.Ed.12. Letter Grades and Grade Points:**

- i. Two methods-relative grading or absolute grading– have been in vogue for awarding grades in a course. The relative grading is based on the distribution (usually normal distribution) of marks obtained by all the students in the course and the grades are awarded based on a cut-off mark or percentile. Under the absolute grading, the marks are converted to grades based on pre-determined class intervals. To implement the following grading system, the colleges and universities can use any one of the above methods.
- ii. The grades for each course would be decided on the basis of the percentage marks obtained at the end-semester external and internal examinations as per following table:

| Percentage | Grade Point | Latter Grade   | Description   | Classification of final result |
|------------|-------------|----------------|---------------|--------------------------------|
| 85 & above | 8.5-10.0    | O              | Outstanding   | First class with Distinction   |
| 70-84.99   | 7.0-8.49    | A <sup>+</sup> | Excellent     |                                |
| 60-69.99   | 6.0-6.99    | A              | Very Good     | First Class                    |
| 55-59.99   | 5.5-5.99    | B+             | Good          | Higher Second Class            |
| 50-54.99   | 5.0-5.49    | B              | Above Average | Second Class                   |
| 40-49.99   | 4.0-4.99    | C              | Average       | Pass Class                     |
| Below 40   | 0.0         | F              | Fail/ Dropped | Dropped                        |
|            | 0           | AB             | Absent        |                                |

### R. M.P.Ed.13. Grade Point Calculation

Calculation of **Semester Grade Point Average (SGPA)** and **Credit Grade Point (CGP)** and declaration of class for M. P. Ed. Programme.

The credit grade points are to be calculated on the following basis:

$$\frac{\sum_{i=1}^n \text{Grade Point}_i \times \text{Credits}_i}{\sum_{i=1}^n \text{Credits}_i}$$

### Example – I

Marks obtained by Student in course E040101T= 65/100

Percentage of marks = 65 %

Grade from the conversion table is = A

Grade Point = 6.0

+ 5 (0.99/9.99)

= 6.0 + 5x0.1

= 6.0+ 0.5

=6.5

The Course Credits = 03

Credits Grade Point (CGP) = 6.5 × 03 = 19.5

The semester grade point average (SGPA) will be calculated as a weighted average of all the grade point of the semester courses. That is Semester grade point average (SGPA) = (sum of grade points of all eight courses of the semester) / total credit of the semester as per example given below:

## SEMESTER-1

| Courses Code               | Credit | Marks out of 100 (%) | Grade | Grade Point | Credit Grade point |
|----------------------------|--------|----------------------|-------|-------------|--------------------|
| <b>E040101T</b>            | 3      | 65                   | A     | 6.5         | 19.5               |
| <b>E040102T</b>            | 3      | 60                   | A     | 6.0         | 18                 |
| <b>E040103T</b>            | 3      | 62                   | A     | 6.2         | 18.6               |
| <b>E040104T / E040105T</b> | 3      | 57                   | B+    | 5.7         | 17.1               |
| <b>E040106P</b>            | 3      | 55                   | B+    | 5.5         | 16.5               |
| <b>E040107P</b>            | 3      | 72                   | A+    | 7.2         | 21.6               |
| <b>E040108P</b>            | 3      | 66                   | A     | 6.6         | 19.8               |
| <b>E040109P</b>            | 3      | 72                   | A+    | 7.2         | 21.6               |
|                            | 24     |                      |       |             | 152.7              |

### Examples: Conversion of marks into grade points

**E040101T**  $65 = 60 + 5 = 6.0 + 5 \times (0.99 / 9.99) = 6.0 + 5 \times 0.1 = 6.0 + 0.5 = 6.5$

**E040102T**  $60 = 6.0$

**E040103T**  $62 = 60 + 2 = 6.0 + 2 \times (0.99/9.99) = 6.0 + 2 \times 0.1 = 6.0 + 0.2 = 6.2$

**E040104T / E040105T**  $57 = 55 + 2 = 5.5 + 2 \times (0.49 / 4.99) = 5.5 + 2 \times 0.1 = 5.5 + 0.2 = 5.7$

**E040106P**  $55 = 5.5$

**E040107P**  $72 = 70 + 2 = 7.0 + 2 \times (1.49 / 14.99) = 7.0 + 2 \times 0.1 = 7.0 + 0.2 = 7.2$

**E040108P**  $66 = 60 + 6 = 6.0 + 6 \times (0.99 / 9.99) = 6.0 + 6 \times 0.1 = 6.0 + 0.6 = 6.6$

**E040109P**  $72 = 70 + 2 = 7.0 + 2 \times (1.49 / 14.99) = 7.0 + 2 \times 0.1 = 7.0 + 0.2 = 7.2$

SEMESTER GRADE POINT AVERAGE (SGPA) = Total Credit Grade Points  
=  $152.7/24 = 6.3625$

SGPA Sem. I = 6.3625

At the end of  
Semester-1 Total  
SGPA = 6.3625

Cumulative Grade Point Average (CGPA) =  $6.3625/1 = 6.3625$   
CGPA = 6.66875, Grade =  
A, Class = First Class



## SEMESTER-2

| Courses No.         | Credit | Marks out of 100 (%) | Grade | Grade Point | Credit Grade point |
|---------------------|--------|----------------------|-------|-------------|--------------------|
| E040201T            | 3      | 76                   | A+    | 7.6         | 22.8               |
| E040202T            | 3      | 64                   | A     | 6.4         | 19.2               |
| E040203T            | 3      | 59                   | B+    | 5.9         | 17.7               |
| E040204T / E040205T | 3      | 80                   | A+    | 8           | 24                 |
| E040206P            | 3      | 49                   | C     | 4.9         | 14.7               |
| E040207P            | 3      | 64                   | A     | 6.4         | 19.2               |
| E040208P            | 3      | 55                   | B+    | 5.5         | 16.5               |
| E040209P            | 3      | 72                   | A+    | 7.2         | 21.6               |
|                     | 24     |                      |       |             | 155.7              |

SGPA Sem. II = 6.4875

At the end of Semester-2

Total SGPA for two Semesters = 12.85

Cumulative Grade Point Average (CGPA) =  $12.85/2 = 6.425$  CGPA =

6.66875, Grade = A, Class = First Class

## SEMESTER-3

| Courses No.         | Credit | Marks out of 100 (%) | Grade | Grade Point | Credit Grade point |
|---------------------|--------|----------------------|-------|-------------|--------------------|
| E040301T            | 3      | 64                   | A     | 6.4         | 19.2               |
| E040302T            | 3      | 64                   | A     | 6.4         | 19.2               |
| E040303T            | 3      | 59                   | B+    | 5.9         | 17.7               |
| E040304T / E040305T | 3      | 81                   | A+    | 8.1         | 24.3               |
| E040306P            | 3      | 49                   | C     | 4.9         | 14.7               |
| E040307P            | 3      | 64                   | A     | 6.4         | 19.2               |
| E040308P            | 3      | 68                   | A     | 6.8         | 20.4               |
| E040309P            | 3      | 75                   | A+    | 7.5         | 22.5               |
|                     | 24     |                      |       |             | 157.2              |

SGPA Sem. III = 6.55

At the end of Semester-3

Total SGPA for three Semesters = 19.4

Cumulative Grade Point Average (CGPA) =  $19.4/3 = 6.466667$

CGPA = 6.66875, Grade = A, Class = First Class

## SEMESTER-4

| Courses No.         | Credit | Marks out of 100 (%) | Grade | Grade Point | Credit Grade point |
|---------------------|--------|----------------------|-------|-------------|--------------------|
| E040401T            | 3      | 83                   | A+    | 8.3         | 24.9               |
| E040402T            | 3      | 76                   | A+    | 7.6         | 22.8               |
| E040403T            | 3      | 59                   | B+    | 5.9         | 17.7               |
| E040404P / E040405P | 3      | 81                   | A+    | 8.1         | 24.3               |
| E040406P            | 3      | 49                   | C     | 4.9         | 14.7               |
| E040407P            | 3      | 78                   | A+    | 7.8         | 23.4               |
| E040408P            | 3      | 81                   | A+    | 8.1         | 24.3               |
| E040409P            | 3      | 75                   | A+    | 7.5         | 22.5               |
|                     | 24     |                      |       |             | 174.6              |

SGPA Sem. IV = 7.275

At the end of Semester-4

Total SGPA for all the four semesters = 26.675 Cumulative

Grade Point Average (CGPA) =  $26.675 / 4 = 6.66875$  CGPA =

6.66875, Grade =

A, Class = First Class

### Note:

(1) SGPA is calculated only if the candidate passes in all the courses

i.e. get minimum C grade in all the courses.

(2) CGPA is calculated only when the candidate passes in all the courses of all the previous and current semesters.

(3) The cumulative grade point average will be calculated as the average of the SGPA of all the semesters continuously, as shown above.

(4) For the award of the class, CGPA shall be calculated on the basis of:

(a) Marks of each Semester End Assessment And

(b) Marks of each Semester Continuous Internal Assessment for each course.

The final Class for M.P.Ed. Degree shall be awarded on the basis of last CGPA (grade) from one to four semester examinations.

### R. M.P.Ed.14. Grievance Redressal Committee:

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

**R. M.P.Ed.15. Revision of Syllabi:**

1. Syllabi of every course should be revised according to the NCTE.
2. Revised Syllabi 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 All formalities for revisions in the syllabi should be completed before the end of the semester for implementation of the revised syllabi in the next academic year.
4. During every revision, up to twenty percent of the syllabi of each course should be changed so as to ensure the appearance of the students who have studied the old (unrevised) syllabi without any difficulties in the examinations of revised syllabi.
5. In case, the syllabus of any course is carried forward without any revision, it shall also be counted as revised in the revised syllabi.

## SEMESTER - I

| Part A: Theoretical Course                        |   |             |        |                |                |             |
|---|---|-------------|--------|----------------|----------------|-------------|
| Course Code                                       | Title of the Papers   | Total Hours | Credit | Internal Marks | External Marks | Total Marks |
| Core Course                                       |   |             |        |                |                |             |
| E040101T  | Research Process in Physical Education & Sports Sciences  | 3           | 3      | 30             | 70             | 100         |
| E040102T  | Physiology of Exercise.   | 3           | 3      | 30             | 70             | 100         |
| E040103T  | Yogic Sciences  | 3           | 3      | 30             | 70             | 100         |
| Elective Course (Anyone)                          |   |             |        |                |                |             |
| E040104T  | Tests, Measurement and Evaluation in Physical Education   | 3           | 3      | 30             | 70             | 100         |
| E040105T  | Sports Technology   |             |        |                |                |             |
| Part–B Practical Course                           |   |             |        |                |                |             |
| E040106P  | Track and Field<br>1. Running Events<br>*2. Gymnastics<br>*3. Swimming. (*Any one)  | 6           | 3      | 30             | 70             | 100         |
| E040107P  | Laboratory Practical Sports Psychology, Physiology of Exercise, Sports Biomechanics and Kinesiology (Two practicals for each subject) | 6           | 3      | 30             | 70             | 100         |
| E040108P  | Yoga<br>*Aerobics/ Self Defence Techniques-Martial Arts, Taek- won-do/ Shooting/ Archery –<br>(*Any One activity + Yoga)              | 6           | 3      | 30             | 70             | 100         |
| E040109P  | Adventure Activities/ Mass demonstration Activities-  | 6           | 3      | 30             | 70             | 100         |
| Total<br>(Theory 400 Marks + Practical 400 Marks) |   | 36          | 24     | 240            | 560            | 800         |

**Note:** Total number of hours required to earn 3 credits for each theory course are 51-60 hours per semester whereas 102-120 hours for each practicum course.

## SEMESTER - II

| Part A: Theoretical Course                        |   |             |        |                |                |             |
|---|---|-------------|--------|----------------|----------------|-------------|
| Course Code                                       | Title of the Papers   | Total Hours | Credit | Internal Marks | External Marks | Total Marks |
| Core Course                                       |   |             |        |                |                |             |
| E040201T  | Applied Statistics in Physical Education & Sports   | 3           | 3      | 30             | 70             | 100         |
| E040202T  | Sports Biomechanics & Kinesiology   | 3           | 3      | 30             | 70             | 100         |
| E040203T  | Athletic Care and Rehabilitation  | 3           | 3      | 30             | 70             | 100         |
| Elective Course (Anyone)                          |   |             |        |                |                |             |
| E040204T  | Sports Journalism and Mass Media  | 3           | 3      | 30             | 70             | 100         |
| E040205T  | Sports Management and Curriculum Designs in Physical Education  |             |        |                |                |             |
| Part–B Practical Course                           |   |             |        |                |                |             |
| E040206P  | Track and Field II: Jumping events + Hurdles<br>*Gymnastics/<br>*Swimming (*any one)  | 6           | 3      | 30             | 70             | 100         |
| E040207P  | Games Specialization- Kabaddi, Kho-Kho, Badminton/ Table Tennis/ Tennis/ Squash/ Baseball/ Volleyball/ Basketball/ Cricket/ football/ Handball/ Hockey/ Netball/ Softball ( <b>Any two games.</b> ) | 6           | 3      | 30             | 70             | 100         |
| E040208P  | Teaching Lessons of Indigenous Activities and Sports- 5 Lessons (4 Internal & 1 External)   | 6           | 3      | 30             | 70             | 100         |
| E040209P  | Class room Teaching Lessons on theory of different Sports & Games- 5 Lessons (4 Internal & 1 External)  | 6           | 3      | 30             | 70             | 100         |
| Total<br>(Theory 400 Marks + Practical 400 Marks) |   | 36          | 24     | 240            | 560            | 800         |

**Note:** Total number of hours required to earn 3 credits for each theory course are 51-60 hours per semester whereas 102-120 hours for each practicum course.

## SEMESTER -III

| Part A: Theoretical Course                        |  |             |        |                |                |             |
|---|--|-------------|--------|----------------|----------------|-------------|
| Course Code                                       | Title of the Papers  | Total Hours | Credit | Internal Marks | External Marks | Total Marks |
| Core Course                                       |  |             |        |                |                |             |
| E040301T  | Scientific Principles of Sports Training   | 3           | 3      | 30             | 70             | 100         |
| E040302T  | Sports Medicine  | 3           | 3      | 30             | 70             | 100         |
| E040303T  | Health Education and Sports Nutrition  | 3           | 3      | 30             | 70             | 100         |
| Elective Course (Anyone)                          |  |             |        |                |                |             |
| E040304T  | Sports Engineering   | 3           | 3      | 30             | 70             | 100         |
| E040305T  | Physical Fitness and Wellness  |             |        |                |                |             |
| Part-B Practical Course                           |  |             |        |                |                |             |
| E040306P  | Track and Field III: Throwing Events +introduction of Heptathlon event. *Gymnastics/*Swimming (*Any One) | 6           | 3      | 30             | 70             | 100         |
| E040307P  | Games Specialization- III Boxing/ Fencing/ Judo/ Karate/ Wrestling/ Wushu (Any Two)                      | 6           | 3      | 30             | 70             | 100         |
| E040308P  | Coaching Lessons of Track and Field/ Gymnastics/ Swimming - 5 Lessons (4 Internal & 1 External)          | 6           | 3      | 30             | 70             | 100         |
| E040309P  | Coaching Lessons of Game Specialization - 5 Lessons (4 Internal & 1 External)                            | 6           | 3      | 30             | 70             | 100         |
| Total<br>(Theory 400 Marks + Practical 400 Marks) |  | 36          | 24     | 240            | 560            | 800         |

**Note:** Total number of hours required to earn 3 credits for each theory course are 51-60 hours per semester whereas 102-120 hours for each practicum course.

## SEMESTER - IV

| Part A: Theoretical Course                                |   |             |        |                |                |             |
|---|---|-------------|--------|----------------|----------------|-------------|
| Course Code   | Title of the Papers   | Total Hours | Credit | Internal Marks | External Marks | Total Marks |
| Core Course   |   |             |        |                |                |             |
| E040401T  | Information & Communication Technology (ICT) in Physical Education  | 3           | 3      | 30             | 70             | 100         |
| E040402T  | Sports Psychology   | 3           | 3      | 30             | 70             | 100         |
| E040403T  | Dissertation  | 3           | 3      | 30             | 70             | 100         |
| Elective Course (Anyone)                                  |   |             |        |                |                |             |
| E040404T  | Value and Environmental Education   | 3           | 3      | 30             | 70             | 100         |
| E040405T  | Education Technology in Physical Education  |             |        |                |                |             |
| Part–B Practical Course                                   |   |             |        |                |                |             |
| E040406P  | Track and Field<br>Introduction of Decathlon event<br>*Gymnastics<br>* Swimming Practical Skill ( *any one )  | 6           | 3      | 30             | 70             | 100         |
| E040407P  | Games Specialization-<br>Practical skills (any two)   | 6           | 3      | 30             | 70             | 100         |
| E040408P  | Officiating Lessons of<br>Track and Field/<br>Gymnastic/ Swimming -<br>5 Lessons (4 Internal &<br>1 External) | 6           | 3      | 30             | 70             | 100         |
| E040409P  | Officiating Lessons of<br>Game Specializations<br>- 5 Lessons (4 Internal &<br>1 External)                    | 6           | 3      | 30             | 70             | 100         |
| Total<br>(Theory 400 Marks + Practical 400 Marks)         |   | 36          | 24     | 240            | 560            | 800         |
| Grand Total<br>(Theory 1600 Marks + Practical 1600 Marks) |   | 144         | 96     | 960            | 2240           | 3200        |

**Note:** Total number of hours required to earn 3 credits for each theory course are 51-60 hours per semester whereas 102-120 hours for each practicum course

## **SCHEME OF EXAMINATION**

### **SEMESTER – I**

| <b>Paper</b>               | <b>Subject</b>  | <b>Internal</b> | <b>External</b> | <b>Total Marks</b> |
|----------------------------|---|-----------------|-----------------|--------------------|
|                            | <b>THEORY (400)</b>   |                 |                 |                    |
| <b>E040101T</b>            | Research Process in Physical Education & Sports Sciences  | 30              | 70              | 100                |
| <b>E040102T</b>            | Physiology of Exercises   | 30              | 70              | 100                |
| <b>E040103T</b>            | Yogic Sciences  | 30              | 70              | 100                |
| <b>E040104T / E040105T</b> | Tests, Measurement and Evaluation in Physical Education <i>OR</i> Sports Technology (Elective)  | 30              | 70              | 100                |
|                            | <b>PRACTICAL (400)</b>  |                 |                 |                    |
| <b>E040106P</b>            | Track and Field I:<br>Sprint, Middle- and Long-Distance Running,<br>Long Jump, High Jump<br>(Performance in any one from running + 2 jumping events.) | 30              | 70              | 100                |
| <b>E040107P</b>            | Games Specialization- I (Second Best)<br><br>(Individual skills, game situation, officiating, lead- up games)   | 30              | 70              | 100                |
| <b>E040108P</b>            | Yoga<br>Performance in Asanas, Kriyas, Bandhas & Pranayama.   | 30              | 70              | 100                |
| <b>E040109P</b>            | Class Room Teaching Lessons   | 30              | 70              | 100                |
|                            | <b>Total</b>  | 240             | 560             | <b>800</b>         |



## **SEMESTER -II**

| <b>Paper</b>    | <b>Subject</b>   | <b>Internal</b> | <b>External</b> | <b>Total Marks</b> |
|-----------------|--|-----------------|-----------------|--------------------|
|                 | <b>THEORY (400)</b>  |                 |                 |                    |
| <b>E040201T</b> | Applied Statistics in Physical Education & Sports  | 30              | 70              | 100                |
| <b>E040202T</b> | Sports Biomechanics & Kinesiology  | 30              | 70              | 100                |
| <b>E040203T</b> | Athletic Care and Rehabilitation   | 30              | 70              | 100                |
| <b>E040204T</b> | 1. Sports Journalism and Mass Media. <i>OR</i><br>2. Sports Management and Curriculum Designs in Physical Education<br>(Elective)- Anyone. | 30              | 70              | 100                |
| <b>E040205T</b> |  |                 |                 |                    |
|                 | <b>PRACTICAL (400)</b>   |                 |                 |                    |
| <b>E040206P</b> | Track and Field II:<br>Shot Put, Discus Throw, Javelin Throw (Performance in any two events)   | 30              | 70              | 100                |
| <b>E040207P</b> | Games Specialization- II (Second Best)<br>Individual skills, game situation, officiating, lead-up games)                                   | 30              | 70              | 100                |
| <b>E040208P</b> | Teaching Lessons of Track and Field  | 30              | 70              | 100                |
| <b>E040209P</b> | Teaching Lessons of Game Specializations   | 30              | 70              | 100                |
|                 | <b>Total</b>   | 240             | 560             | <b>800</b>         |

### **SEMESTER –III**

| <b>Paper</b>    | <b>Subject</b>   | <b>Internal</b> | <b>External</b> | <b>Total Marks</b> |
|-----------------|--|-----------------|-----------------|--------------------|
|                 | <b>THEORY (400)</b>  |                 |                 |                    |
| <b>E040301T</b> | Scientific Principles of Sports Training (Lab. Practical's – Tread mill, Bicycle ergometer, strength, endurance & fitness testing.)- Internal. | 30              | 70              | 100                |
| <b>E040302T</b> | Sports Medicine (Lab Practical's)-Internal   | 30              | 70              | 100                |
| <b>E040303T</b> | Health Education and Sports Nutrition  | 30              | 70              | 100                |
| <b>E040304T</b> | Sports Engineering OR Physical Fitness and Wellness (Elective)   | 30              | 70              | 100                |
| <b>E040305T</b> | <b>PRACTICAL (400)</b>   |                 |                 |                    |
| <b>E040306P</b> | Track and Field III:<br>Relay,<br>Triple Jump, Pole Vault<br>(Performance in any two events)   | 30              | 70              | 100                |
| <b>E040307P</b> | Games Specialization- III (First Best) Individual skills, game situation, officiating, lead-up games)  | 30              | 70              | 100                |
| <b>E040308P</b> | Officiating Lessons of Track and Field; Game Specializations   | 30              | 70              | 100                |
| <b>E040309P</b> | Internship   | 30              | 70              | 100                |
|                 | <b>Total</b>   | 240             | 560             | <b>800</b>         |

## **SEMESTER -IV**

| Paper                     | Subject  | Interna | External | Total Marks |
|---------------------------|--|---------|----------|-------------|
|                           | <b>THEORY (400)</b>  |         |          |             |
| <b>E040401T</b>           | Information & Communication Technology (ICT) in Physical Education                                       | 30      | 70       | 100         |
| <b>E040402T</b>           | Sports Psychology  | 30      | 70       | 100         |
| <b>E040403T</b>           | Dissertation   | 30      | 70       | 100         |
| <b>E040404T/ E040405T</b> | 1. Value and Environmental Education. OR<br>2. Education Technology in Physical Education (Elective)     | 30      | 70       | 100         |
|                           | <b>PRACTICAL (400)</b>   |         |          |             |
| <b>E040406P</b>           | Track and Field IV:<br>Javelin Throw, Hammer Throw, Hurdles (Performance in any two events)              | 30      | 70       | 100         |
| <b>E040407P</b>           | Games Specialization- IV (First Best)<br>(Individual skills, game situation, officiating, lead-up games) | 30      | 70       | 100         |
| <b>E040408P</b>           | Coaching Lessons of Track and Field  | 30      | 70       | 100         |
| <b>E040409P</b>           | Coaching Lessons of Game Specializations   | 30      | 70       | 100         |
|                           | <b>Total</b>   | 240     | 560      | <b>800</b>  |

---

## **Semester I Theory Courses**

### **E040101T: RESEARCH PROCESS IN PHYSICAL EDUCATION AND SPORTS SCIENCES**

The Learning Outcomes of this subject are: –

The objective of this subject is to enable student to learn research methodology, methods & techniques in data collection, writing articles and preparing research reports in the field of Physical Education.

#### **UNIT I – Introduction**

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

#### **UNIT II – Methods of Research**

Descriptive Methods of Research; Survey Study, Case study, Introduction of Historical Research, Steps in Historical Research, Sources 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, 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, Judgement 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 a 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, Londonl Routledge Press  
Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illonosis; 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  
Moorthy A. M. Research Processes in Physical Education (2010); Friend Publication, New Delhi

## **Semester I**

### **Theory Courses**

#### **E040102T: PHYSIOLOGY OF EXERCISE**

The Learning Outcomes of this subject are: –

- To understand the role of exercise physiology on sports performance
- To identify about the effects of exercise on different system of human body
- To create the awareness regarding research in the field of exercise physiology
- Able to test the Physiological Parameters
- To Know about the function of internal human body

##### **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 Cardio vascular system.

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

Mechanics of Breathing – Respiratory Muscles, Minute Ventilation – Ventilation at Rest and During Exercise. Diffusion of Gases – Exchange of Gases in the Lungs – Exchange 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 – Aerobic Metabolism – Aerobic and Anaerobic Systems during Rest and Exercise. Short Duration High Intensity Exercises – High Intensity Exercise Lasting Several Minutes – Long Duration Exercises.

#### **UNIT V – Climatic conditions and sports performance and ergogenic aids**

Variation in Temperature and Humidity – Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude. Influence of: Amphetamine, 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 Practicals in Physiology be designed and arranged internally.*

#### **REFERENCES:**

- 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). Sports Physiology. WMC: Brown Publishers.
- Sandhya Tiwaji. (1999). Exercise Physiology. Sports Publishers.
- Shaver, L. (1981). Essentials of Exercise Physiology. New Delhi: Subject Publications.
- 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

#### **E040103T: Yogic Sciences**

The Learning Outcomes of this subject are: –

It helps to know about the benefits of Pranayama and Asana on health of the Athletes. It also creates the awareness regarding research in the field of Yogic Sciences and to know about the benefits of Kriya and Mudra of Yoga. It also helps to understand the relationship between yoga and physical education.

#### **Unit I – Introduction**

Meaning and Definition of Yoga. Ashtanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, 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 – Asanas and Pranayama**

Loosening exercise: Techniques and benefits. Asanas: Types- Techniques and Benefits, Surya Namaskar: Methods and benefits. Pranayama: Types- Methods and benefits. Nadis: Meaning, methods and benefits, Chakras: Major Chakras- Benefits of clearing and balancing Chakras.

#### **Unit III – Kriyas**

Shat Kriyas- Meaning, Techniques and Benefits of Neti – Dharti – Kapalabhati- 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 Hasta Mudras, Asamyukta hastam, Samyukta hastam, Mana Mudra, Kaya Mudra, Banda Mudra, Adhara Mudra. Meditation: Meaning, Techniques 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 Practicals 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 Yogic 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.
- Kuvalyananada Swami & S.L. Vinekar, (1963), Yogic Therapy – Basic Principles and Methods. New Delhi: Govt. of India, Central Health Education and Bureau.
- Moorthy A.M. & Alagesan. S. (2004) Yoga Therapy. Coimbatore: Teachers Publication House.
- Swami Kuvalayanda, (1998), Asanas. Lonavala: Kaivalyadhama. Swami Satyananada Sarasvati. (1989), Asana Pranayama Mudra Bandha. Munger: Bihar School of Yoga.
- Swami Satyananda Saraswathi. (1984), Kundalini and Tantra, Bihar: Yoga Publications Trust.
- Swami Sivananda, (1971), The Science of Pranayama. Chennai: A Divine Life Society Publication.
- Thirumalai Kumar. S and Indira. S (2011) Yoga in Your Life, Chennai: The Parkar Publication.
- Tiwari O.P. (1998), Asanas-Why and How. Lonavala: Kaivalyadham.



## Semester I Theory Courses

### **E040104T: TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION (Elective)**

The Learning Outcomes of this subject are: –

- To develop concepts related to Test, Measurement & Evaluation.
- To construct a strong basis in the evaluation techniques through the various test and measurements method used in physical education.
- To analyze the physical ability and performance of an individual in various sports.
- To provide scientific techniques in selection and talent identification through various evaluation and grading process applicable in physical education and sports.
- To develop the skills and techniques for construction of new tests for various need related to specific Sports Skills.

#### **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 Considerations.

#### **UNIT II – Motor Fitness Tests**

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 Weber Minimum Muscular 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 Run test for college age males and females. Anaerobic Capacity: Margaria-Kalamen test, Wingate Anaerobic Test, Anthropometric Measurements: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin folds: Triceps, Sub scapular, Suprailiac.

## **UNIT V – Skill Tests**

Specific Spots Skill Test: Badminton: Miller Wall Volley Test. Basketball: Johnson Basketball Test, Harrison Basketball Ability Test. Cricket: Sutcliffe Cricket test. Hockey: Friendel Field Hockey Test, Harban'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-doors tests be designed and arranged internally.*

## **REFERENCES:**

- 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
- Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publising 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 Sport and Exercise: 3<sup>rd</sup> Edition. Champaign IL: Human Kinetics
- Yobu, A (2010), Test, Measurement and Evaluation in Physical Education in Physical Education and Sports. New Delhi; Friends Publications

---

## Semester I Theory Courses

### **E040105T: SPORTS TECHNOLOGY (Elective)**

The Learning Outcomes of this subject are: –

- To recognize the importance of sports technology on sports performance
- To define the relationship between sports and engineering.
- To explain different materials used in sports.
- To explain concept related to sports dynamics and facility management.
- Describe the importance of ethics within both sports and manufacturing.
- Relate the non-engineering sports world to the knowledge and technologies that engineering has developed.

#### **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 glue, nano moulding technology, Nano turf. Foot 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. Clothing and shoes: 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 the laboratory/workshop and visit sports technology factory/sports goods 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 Publishers Pvt. Ltd.), 1982

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

## **Semester II Theory Courses**

### **E040201T: APPLIED STATISTICS IN PHYSICAL EDUCATION AND SPORTS**

The Learning Outcomes of this subject are: –

- To completely describe a data set, using appropriate descriptive statistics.
- To understand a set of descriptive statistics and know the limitations of each measure.
- Students shall be able to use and apply a wide variety of specific statistical methods.
- Students shall identify how to organize, manage, and present data.
- Show ability to explore and organize data for analysis.
- Students shall be able to use and apply a wide variety of specific statistical methods.

#### **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 from 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; Illonosis; Human Kinetics;
- Kamlesh, M. L. (1999) Reserach 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

#### **E040202T: SPORTS BIOMECHANICS AND KINESIOLOGY**

The Learning Outcomes of this subject are: –

- To improve the basic understanding of Biomechanics and Kinesiology and its application in performing sports activities.
- To explain the concept of mechanical laws involved in human motion.
- To develop a comprehensive understanding of movement analysis
- To develop the ability to perform mechanical analysis of various fundamental movements and sports skills

##### **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 practicals 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 Jersey: 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 (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**

### **E040203T: ATHLETIC CARE AND REHABILITATION**

The Learning Outcomes of this subject are: –

The objective of the course is to learn and have knowledge about the sports injuries, preventions and rehabilitations of the athletes.

#### **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. Rathbone, 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 Course**

### **E040204T: SPORTS JOURNALISM AND MASS MEDIA (Elective)**

The Learning Outcomes of this subject are: –

- To explain the students about the origin and evolution of journalism and mass media.
- To synthesize a basic concept of reporting and editing.
- To enumerate the varied aspects of advertising.

### **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 bulletins – 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 Pub.

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 Pub

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

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

### **E040205T: SPORTS MANAGEMENT AND CURRICULUM DESIGN IN PHYSICAL EDUCATION (Elective)**

The Learning Outcomes of this subject are: –

- To describe organization and administration of sports programmes.
- To analyze and interpret, business systems, sports management, public administration and marketing techniques.
- To develop opportunities to construct & design the curriculum of PE in broader aspects realizing the age group, gender consideration and physiological basis.

#### **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: NCERT.
- NCERT (2000). National Curriculum Framework for School Education, New Delhi: NCERT.
- NCERT (2005). National Curriculum Framework, New Delhi: NCERT.
- NCERT. NCERT (2005). National Curriculum Framework-2005, New Delhi: NCERT.
- Williams, J.F. (2003). Principles of Physical Education. Meerut: College Book House.
- Yadvinder Singh. Sports Management, New Delhi: Lakshay Publication.

## **Semester III**

### **Theory Courses**

#### **E040301T: SCIENTIFIC PRINCIPLES OF SPORTS TRAINING**

The Learning Outcomes of this subject are: –

- To provide knowledge and concept of sports training.
- To develop an understanding of the technical and tactical training.
- To provide the role of sport sciences to achieve the excellence

##### **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. Mosby Company
- Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Louis, 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 Basis 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

### E040302T: SPORTS MEDICINE

The Learning Outcomes of this subject are: –

- To understand the role of sports medicine for sports performance
- To know about adverse effects of doping in sports
- To create the awareness regarding research in the field of sports medicine
- To know about various techniques for relaxation of sports person
- To know about the various therapy for sports injuries

#### 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.

*Practicals: Lab. Practical 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 injures Diagnosis and Management for Physiotherapists. East

Kilbride: Thomson Litho Ltd.

James, A. Gould & George J. Davies. (1985). 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**

#### **E040303T: HEALTH EDUCATION AND SPORTS NURTITION**

The Learning Outcomes of this subject are: –

- To have knowledge about human Health and Health Education
- To know about effects of nutrition in sports performance
- To create the awareness regarding research in the field of sports nutrition
- To know about various communicable and non-communicable disease.
- To know about the health service and personal hygiene of students and athletes.

##### **Unit - I 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 III Theory Courses**

### **E040304T: SPORTS ENGINEERING (Elective)**

The Learning Outcomes of this subject are:–

- To have knowledge about the sports Engineering in games and Sports
- To understand about the role of mechanics of engineering materials in sports performance
- To create the awareness regarding research in the field of sports Engineering.
- To know about various sports dynamics, mechanical principles for sports achievements.
- To know about the care and maintenance of sports equipment

#### **Unit - I 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, Outdoor 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, refurnish, 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**

### **E040305T: PHYSICAL FITNESS AND WELLNESS (Elective)**

The Learning Outcomes of this subject are: –

- To know the sports concept and technique of physical fitness
- To know about role of foods and nutrition in sports performance
- To create the awareness regarding research in the field of physical fitness and wellness.
- To know about various techniques of aerobic and anaerobic exercise and its benefits.
- To know about the flexibility exercise and its role on sports performance.

#### **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 Allen, 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, D.K. publishing, Inc. 95, Madison Avenue, New York 2001

---

## **Semester IV**

### **Theory Courses**

#### **E040401T: INFORMATION & COMMUNICATION TECHNOLOGY (ICT) IN PHYSICAL EDUCATION**

The Learning Outcomes of this subject are: –

- To know the information and communication technology in physical education
- To know about role of information and communication technology in class room teaching in physical education
- To create the awareness regarding research in the field of information and communication technology.
- To know about various fundamental of computers in physical education
- To know about the MS Office applications 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 Altman Peach pit Press, Power point for window,  
1999

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

### **Semester IV Theory Courses**

#### **E040402T: SPORTS PSYCHOLOGY**

The Learning Outcomes of this subject are: –

The objective of this subject is to learn the theories, concepts, and intervention techniques of sport psychology. Topics covered will include motivation theory applied to sport, team dynamics, psychological skills training, the psychology of sport injury, and burnout in sports.

#### **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 Jersey: 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**

### **E040403T: DISSERTATION**

The Learning Outcomes of this subject are:–

To provide opportunity for students to understand and enhance knowledge and interest in research during their master program.

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**

### **E040404T: VALUE AND ENVIRONMENTAL EDUCATION**

The Learning Outcomes of this subject are: –

- To know the value and environmental education in physical education
- To know about role of environmental education in class room teaching in physical education
- To create the awareness regarding research in the field of environmental education.
- To know about rural sanitation and urban health
- To know about the natural resources and related environmental issues.

#### **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 eco- system.

#### **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.
- Mc 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**

### **E040405T: EDUCATION TECHNOLOGY IN PHYSICAL EDUCATION AND SPORTS**

The Learning Outcomes of this subject are: –

- To know the educational technology in physical education and sports
- To know about role of educational technology in class room teaching in physical education
- To create the awareness regarding research in the field of educational technology.
- To know about nature and scope of educational technology.
- To know about the instructional design and audio-visual media in physical education

#### **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 kJackson. Methods in Physical Education (W.B. Saunders Company, Philadelphia and London), 1952.

## **Semester I Practicum Course**

### **E040106P: TRACK AND FIELD I: SPRINT, MIDDLE- AND LONG-DISTANCE RUNNING, LONG JUMP, HIGH JUMP (PERFORMANCE IN ANY ONE FROM RUNNING + 2 JUMPING EVENTS.)**

The Learning Outcomes of this subject are: –

- The objective of the course is well designed to provide an opportunity to teacher educators to learn the history, basic techniques of running and jumping in track and field events.
- To employ the rules and regulations of running and jumping in track and field.

#### **Running**

Fundamental skills –Short and Middle distance. Use of Starting blocks- stance on the blocks. Body position at the start- starting technique, change in body position during running, movements of the arms, stride length and frequency, position of torso while running and at finish. Advanced Skills  
Various techniques of sprint start:

Bullet start, standing start, Active game practice

#### **Jumping**

Fundamental skills of Long Jump and High Jump. Body position during jumping. Rules and regulation of Long Jump and High Jump

## **Semester I Practicum Course**

### **E040107P: GAMES SPECIALIZATION- I (SECOND BEST) (INDIVIDUAL SKILLS, GAME SITUATION, OFFICIATING, LEAD-UP GAMES)**

The Learning Outcomes of this subject are

- To provide an opportunity to teacher educators to learn the history, basic techniques of the selected game specialization subject.
- To understand and utilize the rules and regulation of the selected game specialization.

Introduction of the game/sport and historical development with special reference to India, Orientation of the students to the play area and equipment used in the game/sport, Important tournaments held at National and International levels, Distinguished sports awards and personalities related to the Game/sport. Warming-up- General free hand exercises, specific work out using equipment. Fundamental skills and techniques, Lead up activities, General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

## **Semester I Practicum Course**

### **E040108P: YOGA PERFORMANCE IN ASANAS, KRIYAS, BANDHAS & PRANAYAMA.**

The Learning Outcomes of this subject are: –

- The purpose of this course is to create awareness among everyone about yoga that helps in transforming body and mind and promoting well-being of the society.
- To teach knowledge, skills, proficiency and teaching techniques necessary for teaching Yoga.

Asanas prescribed by Maharshi 'Patanjali', Shudhi Kriyas, jalneti, sutraneti, dugdhaneti, kunjla, Nauli, Bhastika, shatkriya, Pranayams, Anulom-vilom, Kapalbhata,

## **Semester I Practicum Course**

### **E040109P: CLASS ROOM TEACHING LESSONS**

The Learning Outcomes of this subject is: –

- To provide adequate teaching knowledge and enhance teaching efficiency in the teacher educator for indoor classroom.

Personal preparation, technical preparation, Teaching aids etc related to classroom teaching.

## **Semester II Practicum Course**

### **E040206P: TRACK AND FIELD II:**

Shot Put, Discus Throw, Javelin Throw (Performance in any two events)

The Learning Outcomes of this subject are: –

- The objective of the course is well designed to provide an opportunity to students to learn the history, basic techniques and rules of selected throwing events in track and field.

Fundamental skills of throwing events- Shot Put, Discus Throw and Javelin Throw. Body position and movement during throwing events. Various basic and advance throwing techniques. General and Specific warm up and cooling down. Various methods of developing throwing events- Shot Put, Discus Throw, Javelin Throw.

## **Semester II Practicum Course**

### **E040207P: GAMES SPECIALIZATION- II (SECOND BEST)**

(Individual skills, game situation, officiating, lead-up games)

The Learning Outcomes of this subject are:–

- To understand the basic skills and techniques, lay out and the rules of the fundamental skills of any one specialized games.

Introduction of the game/sport and historical development with special reference to India, Orientation of the students to the play area and equipment used in the game/sport, Important tournaments held at National and International levels, Distinguished sports awards and personalities related to the Game/sport. Warming-up- General free hand exercises, specific work out using equipment. Advance skills and techniques, tactics, Lead up activities, General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

## **Semester II Practicum Course**

### **E040208P: TEACHING LESSONS OF TRACK AND FIELD**

The Learning Outcome is: –

- To enhance knowledge and efficiency in teaching lessons of both practical as well as theoretical classes in track and field.

Each student teacher is expected to take at least five lessons during the course of the second semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

## **Semester II Practicum Course**

### **E040209P: TEACHING LESSONS OF GAME SPECIALIZATIONS**

The Learning Outcome is: –

- To enhance knowledge and efficiency in teaching lessons of both practical as well as theoretical classes in selected game specialization.

Each student teacher is expected to take at least five lessons during the course of the second semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these teaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

## **Semester III Practicum Course**

### **E040306P: TRACK AND FIELD III: RELAY, TRIPLE JUMP, POLE VAULT (PERFORMANCE IN ANY TWO EVENTS)**

The Learning Outcomes of this subject is: –

- To provide the opportunity for the students to learn about the basics of relay, triple jump and pole vault events in track and field.

Fundamental skills of Relay, Tripple Jump and Pole Vault. Body position and movement during these Jumping events. Various basic and advance Jumping techniques. General and Specific warm up and cooling down. Various methods of developing these jumping events.

## **Semester III Practicum Course**

### **E040307P: GAMES SPECIALIZATION- III (FIRST BEST) INDIVIDUAL SKILLS, GAME SITUATION, OFFICIATING, LEAD-UP GAMES)**

The Learning Outcomes of this subject is: –

To provide the opportunity for the students to learn about the advance skills and techniques, tactics and strategy of the game specialization.

Introduction of the game/sport and historical development with special reference to India, Orientation of the students to the play area and equipment used in the game/sport, Important tournaments held at National and International levels, Distinguished sports awards and personalities related to the Game/sport. Warming-up- General free hand exercises, specific work out using equipment. Fundamental skills and techniques, Lead up activities, General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

## **Semester III Practicum Course**

### **E040308P: OFFICIATING LESSONS OF TRACK AND FIELD; GAME SPECIALIZATIONS**

The Learning Outcomes of this subject are: –

- To provide the opportunity for the students to learn and apply about the updated rules and regulation of the track and field and game specialization.
- To understand the updated officiating in track and field; game specialization. The students of M.P. Ed – III Semester need to develop knowledge in officiating on above mentioned selected discipline. In view of this, the students shall be provided with officiating knowledge in selected discipline.

## **Semester III Practicum Course**

### **E040309P: INTERNSHIP**

The Learning Outcomes of this paper is: –

To provide the opportunity to the students to learn and enhance knowledge about the practical application of taking class to the school students in schools at actual environment.

The students of M.P. Ed – III Semester need to be developed proficiency in taking class of the actual students at actual environment i.e. school/institution. In view of this, the students shall be provided with such arrangement and facilities. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class they are going to handle at school and college level. Each student teacher is expected to take at least five class during the course of the third semester. The class will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned class and guide them for the future.

## **Semester IV Practicum Course**

### **E040406P: TRACK AND FIELD IV: JAVELIN THROW, HAMMER THROW, HURDLES (PERFORMANCE IN ANY TWO EVENTS)**

The Learning Outcomes of this subject is: –

- To provide the opportunity for the students to learn about the basics of javelin throw, hammer throw and hurdle race events in track and field.

Fundamental skills of javelin throw, hammer throw and hurdles. Body position and movement during these events. Various basic and advance techniques of these events. General and Specific warm up and cooling down. Various methods of developing these events.

## **Semester IV Practicum Course**

### **E040407P: GAMES SPECIALIZATION- IV (FIRST BEST) (INDIVIDUAL SKILLS, GAME SITUATION, OFFICIATING, LEAD-UP GAMES)**

The Learning Outcomes of this subject is:–

To provide the opportunity for the students to learn about the advance skills and techniques, tactics, strategy etc of the game specialization.

Introduction of the game/sport and historical development with special reference to India,  
Orientation of the students to the play area and equipment used in the game/sport,  
Important tournaments held at

National and International levels, Distinguished sports awards and personalities related to the Game/sport. Warming-up- General free hand exercises, specific work out using equipment. Advance skills and techniques, tactics, Lead up activities, General rules and their interpretations, Duties of officials, officiating in class competitions and Intramurals, Marking of the play area.

## **Semester IV Practicum Course**

### **E040408P: COACHING LESSONS OF TRACK AND FIELD**

The Learning Outcomes of this paper are: –

To provide the opportunity to the students to learn and enhance knowledge of coaching in taking lesson of track and field events.

To enhance creativity and apply knowledge in coaching track and field events.

Each student teacher is expected to take at least five lessons during the course of the second semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

## **Semester IV Practicum Course**

### **E040409P: COACHING LESSONS OF GAME SPECIALIZATIONS**

The Learning Outcomes of this paper are: –

To provide the opportunity to the students to learn and enhance knowledge of coaching in taking lessons of selected game specialization.

To enhance creativity and apply knowledge in coaching selected game specialization.

Each student teacher is expected to take at least five lessons during the course of the second semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these teaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.



***Table – 1: Semester wise distribution of hours per week***

| <i>Semester</i>  | <i>Theory</i> | <i>Practicum</i> | <i>Teaching<br/>practice</i> | <i>Total</i> |
|--|---------------|------------------|------------------------------|--------------|
| <i>I</i>   | <i>12</i>     | <i>18</i>        | <i>6</i>                     | <i>36</i>    |
| <i>II</i>  | <i>12</i>     | <i>12</i>        | <i>1<br/>2</i>               | <i>36</i>    |
| <i>III</i>   | <i>12</i>     | <i>12</i>        | <i>1<br/>2</i>               | <i>36</i>    |
| <i>IV</i>  | <i>12</i>     | <i>12</i>        | <i>1<br/>2</i>               | <i>36</i>    |
| <i>Total</i>   | <i>48</i>     | <i>54</i>        | <i>4<br/>2</i>               | <i>144</i>   |
| <i>Minimum of 36 teaching hours per week is required in five or six days in a week</i> |               |                  |                              |              |

***Table – 2: Number of credits per semester***

| <i>Semester</i>  | <i>Theory</i> | <i>Practicum</i> | <i>Teaching<br/>practice</i> | <i>Total</i> |
|--|---------------|------------------|------------------------------|--------------|
| <i>I</i>   | <i>12</i>     | <i>09</i>        | <i>0<br/>3</i>               | <i>24</i>    |
| <i>II</i>  | <i>12</i>     | <i>06</i>        | <i>0<br/>6</i>               | <i>24</i>    |
| <i>III</i>   | <i>12</i>     | <i>06</i>        | <i>0<br/>6</i>               | <i>24</i>    |
| <i>IV</i>  | <i>12</i>     | <i>06</i>        | <i>0<br/>6</i>               | <i>24</i>    |
| <i>Total</i>   | <i>48</i>     | <i>27</i>        | <i>2<br/>1</i>               | <i>96</i>    |
| <i>Minimum of 36 teaching hours per week is required in five or six days in a week</i> |               |                  |                              |              |