

MDC-167: PHYSICAL EDUCATION AND SPORTS SCIENCE

(Contact Hour-45, Credit-3)

Course objective:

The course will provide general concept of physical education and its significance for overall growth and development of body and mind. It will also provide valuable information on the impact of physical activities on our vital physiological systems and first-aid measures. It will also encompass the significance of recreational sports and provide information about Sports Bodies of India.

Learning outcome:

On successful completion of the course, the students should be able to understand:

1. The significance of physical education in overall well-being and to maintain physical fitness.
2. Basic concept of muscle contraction and the need to have warm-up before the physical exercises.
3. The sources of energy in the body during physical activities.
4. Sport injuries and administration of first aids.
5. The effects of exercises on various physiological systems of our body.
6. The cardiac cycle and how it is regulated during exercises.
7. The significance of recreational sports in maintaining good health.
8. The role of various traditional and modern centers of physical trainings.
9. The role of different sports bodies and awards at various levels

Unit 1

Meaning, definition, scope and functions of physical education; Different interpretations of physical education; Concept of movement education; Physical education as an integral part of education; Life time physical education for fitness; Physical fitness and its components; Training, conditioning, and warm-up; Types of muscle contraction; Lactic acid and its influence on sports performance; Fuels for exercise and energy production; Metabolic response to short term and prolonged exercise; Common sports injuries in different parts of body; First aids for sports injuries; Common causes of sports injuries and its prevention; Rest, ice, compression, and elevation (RICE) & bandage.

Unit 2

Definition and importance of physiology and exercise physiology; Effect of exercise on various system of the body-circulatory system, respiratory system & muscular system; Cardiac cycle and its function in human body; First aid and Management

of fracture, nose bleeding, electric shocks, other shocks, fever, fainting, drowning/near-drowning.

Unit 3

Recreational Sports: meaning, definition, scope & functions of recreations; Recreation in rural, urban & industrial area; Age-wise planning & leadership in recreation; Movement of Akhadas & Vyayam Shalas; Sports Bodies of India-Central Advisory Board of Physical Education, All India Council of Sports, Sports Authority of India (SAI) & Nehru Yuva Kendra; Sport Awards-State, National & International level.

Suggested readings:

1. Deshpande SH (1992). Physical Education in ancient India. Bharatiya Vidya Prakashan, India.
2. Fox EL (1994). Sports Physiology. W.B. Saunders Co. USA.
3. Guyton AC and Hall JE (1996). Textbook of Medical Physiology, 9th Edition. W.B. Saunders Co., USA.
4. Hunter M (1964). Dictionary for Physical Educators. In H. M. Borrow & R. McGee, (Eds.), A Practical approach to measurement in Physical Education (pp. 573-74). Lea &Febiger, USA.
5. Hyensmith CW (1966). History of Physical Education. Joanna Cotler Books, USA.
6. Marieb EN (1995). Human Anatomy and Physiology. Benjamin-Cummings Publishing Company, USA.
7. Pearce E (1993). Anatomy and Physiology for nurses. Jaypee Brothers, India.
8. Rice EA, Hutchinson JL and Lee M (1969). A Brief History of Physical Education. Ronald Press, USA.
9. Seeley RR, Stephens TD and Tate P (2005). Anatomy and Physiology, 7th Edition. McGraw-Hill Higher Education, Australia.
10. Tortora GJ and Derrickson BH (2017). Introduction to Human Body, 11th Edition. Wiley, USA.
11. Van Dalen DB and Bennett BL (1971). A World History of Physical Education: Cultural, Philosophical, Comparative, Volume 10, Prentice Hall, USA.
12. Wakharkar DG (1967). Manual of Physical Education of India. Pearl Publication, India.
13. Willam JE (2000). The Principles of Physical Education, 8th Revised Edition. W.B. Saunders Co. Ltd, USA.
14. Wuest DA and Walton-Fisette J (2020). Foundations of Physical Education, Exercise Science, and Sport, 20th Edition. McGraw-Hill, New York.