Semester VI

Paper-15 : KINESIOLOGY AND BIOMECHANICS

Max. Marks =150 **(42 Hours)**

UNIT-I

Meaning, aim & objectives, importance of kinesiology for physical education and sports exists and planes of motion, fundamental starting positions, terminology of fundamental movements. **(Book-1, Ch.1 & 5).** **8 Hours**

UNIT-II

Location & Action of Muscles at Various Joints:-

a) Upper extremity – shoulder girdle, shoulder joints, elbow joint
b) Neck, trunk (Lumboth oracic region)
c) Lower extremity – Hip joint, knee joint, ankle joint **(Book-2, Ch.4,5,6,7)** **8 Hours**

UNIT-III

Muscular analysis of fundamental movements:- Walking, running, jumping, throwing, catching, pulling, pushing, striking, hangine **(Book 1, Chapter 8)** **8 Hours**

UNIT-IV

Structure of Motor Actions: - Structure of cyclic and acyclic motor action and movement combination, functional relationship of different phases of motor action. **(Book-1, Ch.18)** **9 Hours**

UNIT-V

Qualities & Physiological Principles Of Movements:- Movement rhythm, movement coupling movement flow, movement precision and movement amplitude.**(Book-1, Ch.19)** **9 Hours**

Note: Question Paper will be divided into two parts A and B. The Examiner is required to set 5 questions for Part-A and 5 questions for Part-B taking one question for each part from each of the five units of the syllabus. The questions of Part-A shall carry 5 marks each and questions for Part-B shall carry 20 marks each.
The student is required to attempt any 3 questions from Part-A and any 3 questions from Part-B.

Practical (28 Hours)

1. Demonstration of planes & axes of a given movement.
2. Determination of the location of muscles at various joints ,Shoulder girdle, Shoulder joints, Elbow joint, Hip joint, Knee joint and Ankle joint.
3. Muscular analysis of the techniques of game of your specialization

ESSENTIAL READING

Book-1: Shaw, Dhananjoy " Pedagogic Kinesiology" Delhi : Sports Publication, 2007.
Book-2: Wells & Luttgens. Kinesiology 6th Editon.

SUGGESTED READINGS

- Bartlett, R. (2007). Introduction to Sports Biomechanics. Routledge Publishers, USA.
- Blazevich, A. (2007). Sports Biomechanics. A & C Black Publishers, USA.
- Breer & Zarnicks (1979). Efficiency of human movement. WIB Sounders Co. USA.
- Hamill, J. and Knutzen, K.M. (2003). Biomechanical Basis of Human Movement. Lippincott Williams and Wilkins, USA.
- Hay (1993). The biomechanics of sports techniques prentice hall inc New Jersey.
- McGinnis, P. (2004). Biomechanics of Sports & Exercise. Human Kinetics, USA.
- Oatis, C.A. (2008). Kinesiology. 2nd Ed. Lippincott, Williams & Wilkins, USA.

Theory 100 Marks =(75 + 25 Internal Assessment). **Practicals = 50 Marks**