

**MULTI DISCIPLINARY COURSES UNDER PHYSIOLOGY
(Pool-B-in second semester)**

Course-1: Ergonomics and Sports Medicine

Paper code: UPSIMDC002

PAPER LEVEL- 100

Paper type: Theory

Marks- 75 (Theory-60, Internal-10 and attendance-5)

Hour of Exam- Theory=2hrs.

Learning Outcomes: At the end of the semester the students should have the ability to-

13. Accurately recognize the importance of ergogenic aids.
14. Evaluate workplace hazards which are likely to cause injuries or occupational illness
15. Apply the knowledge and skill to solve the issues related to ergonomics in industry and workplace.
16. Conduct ergonomic risk assessment.

Course: Ergonomics and Sports Medicine (Theory)

Lectures required-35

Genesis and concept of ergonomics. Ergonomic methods and techniques, Ergogenic aids, Ergonomic principles in control of Physical hazards. Occupational health, Importance of ergonomics in occupational health and well being. Job and product designing. Prevention of accidents, concept of Industrial safety. Occupational Diseases: pneumoconiosis, asbestosis, silicosis and work-related musculoskeletal disorders.

Static anthropometry, Anthropometric measurements, Application of anthropometric data in design.

Sports Medicine-Nutrition for fitness and Sport. Sports physical therapy, current concept in sports medicine, Cardiopulmonary therapeutics, Emergency care, common sports injuries, sports rehabilitation. Hormone and sports, Dopping. Occupational deafness, Trauma, Muscle strain, Tendinopathy, Athletic heart syndrome.

Note- Questions will be divided into three groups. In group-A, 4 questions of 3 mark each to be attempted out of 6 questions. In group-B, 4 questions of 6 mark each to be attempted out of 6 questions and in group-C, 2 questions of 12 marks each to be attempted out of 4 questions.

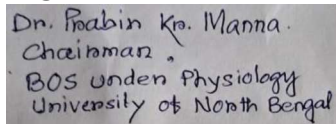
Internal assessment can be taken on the basis of regular class performance and/or class test and/or assignment (Ergonomic design of a study room/class room/Office/kitchen/workplace etc.) and/or group discussion and/or case study.

Recommended Text and Reference Books for Physiology Major and Minor

1. Best and Taylor's Physiological basis of Medical Practices, by B.K. Brobecks. The William and Wilkins Co.
2. Review of Medical Physiology, by W.F. Ganong, Lange Medical Book. Pretices- Hall International. Mc Graw Hill.
3. Harper's illustrated Biochemistry, by R.K. Murray and others. Lange Medical Book, International edition, Mc Graw Hill.

4. Text book of Medical Physiology, by A.C. Guyton. W.B. Saunders Co.
5. Lehninger's Principles of Biochemistry, by D.L. Nelson and M.M. Cox, Worth Publishers Inc.
6. Text book of Biochemistry, by E.S. West; W.R.Todd; H.S. Mason; J.T Van Bruggen. The Macmillan Company.
7. Biochemistry, by D Das. Academic Publishers.
8. Biophysics and Biophysical Chemistry, by D.Das. Academic Publishers.
9. Physiology, by R.M. Berne and M.N. Levy, C.V Mosby Co.
10. The Physiological Basis of Physical Education and Athletics, by W.D. McArdle, F. Katch and V.L Katch. Williams and Wilkins.
11. The Text Book of Work Physiology by P.O. Astrand and K. Rodhal. McGraw-Hill Books Co.
12. Human factors in Engineering and Design, by E.O. McCormick and M. Sanders. Tata McGraw Hill.
13. Sports Physiology, by E.L. Fox, Saunders College Publishing Holt-Saunders.
14. Ross and Wilson Anatomy and Physiology in Health and Illness, by A. Waugh and A. Grant. International Edition, Churchill Livigstone Elesvier.

Signature of Chairman,



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Chairman,
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