Book Review

Exercise Physiology, Energy, Nutrition and Human performance
By William D McArdle, Frank I Katch, Victor L Katch
Publisher: Lippincott Williams & Wilkins
Cost: Rs 4200/- ($ 60)

A book must for all postgraduates in physiology, aviation medicine, biochemistry, nutrition and sports medicine. Any researcher who is working in the field of exercise or nutrition must hold this book as this book provides a solid foundation in fields mentioned. Even for medical undergraduates and graduates this book is an excellent reference book. This illustration is leader among many books on exercise and nutrition physiology simply because it integrates basic concepts and updated scientific related information to the understanding of nutrition, energy and exercise.

The authors have introduced the concept of ‘nutrition as energy for exercise’ and further elaborated the mechanisms of energy transfer at rest and during exercise. This is followed by anatomic-physiologic organizations of the systems and their responses to short and long term exercises.

The 1068 page sixth edition provides a comprehensive updated, visually appealing introduction to the subject of ‘Exercise Physiology’. The book includes more than 600 high quality figures, charts, tables and photographs to improve the learning of the reader and to make the concepts of exercise physiology more realistic. This edition has seven sections with a special introductory section on ‘Origins of Exercise Physiology’ and a concluding section on ‘The Horizons’. This edition has one of the salient features in that the practical application related to lowering of high blood pressure with dietary intervention, nutrition to prevent chronic athletic fatigue, predicting energy expenditure during treadmill, determining aerobic power and capacity, predicting pulmonary function in males and females, measurement of lactate threshold, latest on interrelation between diabetes, hyperglycemia and exercise.

Each chapter of the book focuses on research by featuring a research article from a renowned scientist. Another unique element in each chapter is ‘Integrative questions’ which are open ended questions so as to understand the complex concepts. The expended art programme is retained with new and updated contents. The text book also includes the contributions and visionary works of nine contemporary scientists who would continue to provide motivation to the future researchers.

Another special feature is inclusion of appendix ‘E’ on CD which contains the list of individual honours and awards to distinguished scientists and researchers. All the appendices and references are provided on the student CD that accompanies the book. The textbook also contains an instruction resource CD-ROM with more than 1200 questions, complete set of power point presentation with more than 1000 slides from each chapter of the text. Some of the significant addition and modification in the 6th edition are a comprehensive update on different carbohydrate forms on insulin release & type 2 diabetes, weight gain and metabolic syndrome, latest recommendations in planning and assessing diets for healthy individuals on dietary guidelines and intake, latest on aging and exercise relationship and most recent data on the status of overweight and obesity world wide.

The authors conclude the text with a futuristic look ‘Molecular biology’ which now plays a vital role in exploring the secrets about the dynamics and interaction of physical activity, health and disease. Molecular biology would be the key to many current mysteries to obesity, muscular force dynamics, athletic potential, differential performances by male and female athletes, diabetes, cancer, adaptation to hot and cold, high altitude and prolonged microgravity.

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