

**B.P.E.S (Bachelor of Physical Education & Sports) (Three Year Course)**

**Semester System Session 2020-21, 2021-22 and 2022-23**

**B. P. E. S (Semester – V)**

<b>Part-A (Theory)</b>				<b>450 (Marks)</b>
<b>Paper</b>	<b>Title of the Subjects</b>	<b>External</b>	<b>Internal</b>	<b>Teaching Hrs</b>
<b>BPEST-123</b>	English and Communication Skills	40	10	05 Hrs
<b>BPEST-124</b>	Kinesiology	80	20	05 Hrs
<b>BPEST-125</b>	Sports Management	80	20	05 Hrs
<b>BPEST-126</b>	Test, Measurement and Evaluation	80	20	05 Hrs
<b>BPEST-127</b>	Sports Journalism	80	20	05 Hrs

**BPEST-123: ENGLISH AND COMMUNICATION SKILLS**

**Paper:** English communication skills

**Maximum Marks:** 40+10 Internal Assessment

**Time allotted:** 3 hours

**Lectures to be delivered:** 3 per week

**Text Prescribed Novel** The vendor of sweets by R.K. Narayan

**Instructions for the paper setter:**

The candidate shall be required to attempt 6 questions. No critical question shall be set.

**Question 1:** Attempt five short notes (about 60 words each) out of eight from The Vendor of Sweets.

5 X 2=10marks

**Question 2:** One essay type question with an alternative choice regarding Theme, summary, character, incidence from The Vendor Of Sweets shall be set.

10 marks

**Question 3:** Idioms & Phrases from The Vendor Of Sweets. (10 to be attempted out of given 15)

10 marks

**Question 4:** Comprehension of seen Passage from the prescribed text The Vendor Of Sweets.

10 marks

**NOTE:** Difficult words, Expressions should not be a

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## BPEST-124: KINESIOLOGY

Time allowed: 3 Hours

Max Marks: 100  
(External: 80, Internal: 20)

### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- There shall be nine questions in all.
- First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. (2 × 10 = 20 Marks)
- Rest of the paper shall contain four units (Unit I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15 × 4 = 60 Marks)

#### UNIT-I

- Kinesiology:** Introduction and Scope in Physical Education and Sports.
- Fundamental concepts of following terms with their application to the human body:** Axes and Planes, Center of Gravity, Line of Gravity.
- Bones:** Introduction, Structure, Types, Various Bones of Body.

#### UNIT-II

- Muscular System:** Introduction, Classification, Muscular Contractions, Different roles of Muscles in Movements.
- Skeletal Muscles:** Microscopic Structure of Muscles, Factors Effecting Muscle strength.
- Neuro Muscular Concepts of muscles:** All and None law, Reciprocal Innervations or Inhibition & Angle of Pull.

#### UNIT-III

- Joint:** Introduction, functions, Types, Fundamental Movements and Their Terminology.
- Elbow Joint:** Structure, Bones, Ligaments & Movements. Muscles: (Structure, Origin, Insertion, Innervations, Action) Biceps Brachii, Brachialis, Brachioradialis, Pronator Teres, Pronator Quadratus, Triiceps brachii.
- Hip joint:** Bones, Joints, ligaments and Movements. Muscles: (Structure, Origin, Insertion, Innervations, Action) Iliopsoas, Sartorius, Rectus Femoris, Gluteus Medius, gluteus minimus, tensor fascia latae, gluteus maximus, Biceps Femoris, Semi-membranosus, Semi-Tendinosus, Adductor group.

#### UNIT-IV

- Posture:** Introduction, Concept of Balance Posture, Causes of Poor Posture, Remedial of Bad Posture and Benefits of Balance Posture.
- Postural Deformities:** Introduction, Types and Correction of Deformities: Kyphosis, Lordosis, Scoliosis, Knock knee, Bowlegs, Flat foot.
- Kinesiology in Daily living:** Lifting, Catching and Throwing

#### REFERENCE BOOKS:

- > Rasch & Burk "Kinesiology & Applied Anatomy" (1975) Lee & Febiger.

- Wells K. "Kinesiology" (1974) Philadelphia W.B. saunder Co.
- Copper & clesco, "Kinesiology" (1968) St. Louis, C.V. Mosby Co.
- Brower, Masion R., "Efficiency of Human movements Philadelphia, (1978) W.E.Saunder Co.
- Scott.M.gladys, "Analysis of human Motion" (1970) New York.
- Well Kaharial, Flutegeos Kathryn, "Kinesiology Scientific basic of Human Motion" (1992) Sunder Publishing Philadelphia.
- Lynn S.Lippert, "Clinical Kinesiology for Physical Education" (2002) Jaypee Brothers, New Delhi: 3<sup>rd</sup> ed.
- R.T. Floyed and Clem W. Thompson, "Manual of structural Kinesiology" (2006) Mc Graw Hill, Boston.

### BFEST-125: SPORTS MANAGEMENT

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

#### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be nine questions in all,
- b) First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units (Unit - I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15×4= 60 Marks)

#### Unit-I

1. Management in Physical Education and Sports: Introduction, Concept, Need and Scope of Sports Management.
2. Functions of Management: Planning, Organizing, Staffing, Directing, Coordinating, Budgeting, Controlling and Evaluating.

#### Unit-II

1. Management Skills: Personal Skills, Interpersonal Skills, Conceptual Skills and Technical Skills.
2. Managerial Roles: Interpersonal Roles, Informational Roles and Decision Making Roles.
3. Qualities and Qualifications of a Manager: Personal Qualities, Leadership Qualities, Academic, Professional Qualities and Preparation of Administrative leader.

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### Unit-III

1. **Personnel Management:** Introduction, Principles of Personnel Management: Aspects of Personnel Management, Job Analysis, Description and Specification.
2. **Financial Management:** Fiscal management, Accounting – Cost Accounting, Control, Audit, Revoiving, Funds and Discretionary fund.
3. **The Budget:** Introduction, Objectives of the Budget, Principles of Planning the Budget, Preparation of Budget.

### Unit-IV

1. **Management of Facilities:** Introduction, Administrative and General Principles of Planning Facilities, Types of Facilities, Facility Requirements, Construction and Management of Sports Infrastructures, Indoor Facilities-Gymnasium and Swimming pool.
2. **Management of Equipment and Material:** Introduction, Material, Need, Importance, Types, Principles of Purchase of Equipment, Care & Maintenance and Disposal of Equipment.

### REFERENCE BOOKS:

- Ashton D., "Administration of Physical Education for Women" (1968) *The Ronal Press*, New York.
- Brar, R.S. and Joshi, Rosy, "Sports Management" (2007) *Kalyani Publishers*, New Delhi.
- Bucher C.A., "Administration of Physical Education and Athletic Programme" (1979) *The C. V. Mosby Co.*, St. Louis.
- Daughtrey G. and Woods J.B., "Physical Education and Intramural Programms, Organisation and Administration" (1976) *W.B. Saunders Cp.*, Philadelphia.
- Dheer, S and Radhika K. nal., "Organisation and Administration of Physical Education" (1991), *Friends Publications*, Delhi.
- Earl F. Zeigh & Gary W. Bowie., "Management Competency Development in Sports and Physical Education" (1963) *W. Lea and Febiger*, Philadelphia.
- Fersy the C.E. and Duncan R.C., "Administration of Physical Education" (1951) *Prentice Hall Inc*, New York.

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- Jenson, Clayne R., "Administrative Management of Physical Education and Athletic Programs". (1983), *Lea & Febiger*, Philadelphia, USA.
- Joseph Bucher and Earnest Kienigeburg, "Scientific Inventory Management" (1968) *Prentice Hall of India*, New Delhi.
- Kamlesh, M.L., "Management Concepts in Physical" (2000) *Metropolitan Books Co. Private LTD.*, New Delhi.
- Roy, Sudhanshu Shekhar, "Sports Management" (1995) *Friends Publications*, New Delhi.
- Zeigler, Earle F. And Bowie, Gary W. "Management Competency Development in Sports and Physical Education". (2008), *Sports Educational Technologies*, New Delhi.

### **BPEST-126: TEST, MEASUREMENT AND EVALUATION**

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

#### **INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:**

- a) There shall be nine questions in all.
- b) First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units (Unit I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15×4= 60 Marks)

#### **UNIT-I**

1. **Test, Measurement and Evaluation:** Introduction, History, Importance, Need, Scope and Principles in the field of Physical Education & sports.
2. **Construction of Tests:** Physical Fitness Test, Sports Skill Test and Knowledge Test.

#### **UNIT-II**

1. **Criteria for good tests:** Introduction, Reliability, Validity, Objectivity, Practicability, Norms, Standards and Economy.
2. **Physical & Motor Fitness Tests:** AAHPER Youth physical fitness test, Kraus-Weber's Muscular Fitness Test, Roger's Physical Fitness Index, (Oregon Motor Fitness Test, Philip's J.C.R Test, Canadian Fitness Test, Indiana Motor Fitness Test).

#### **UNIT-III**

1. **Cardio-Respiratory Endurance Tests:** Cooper's Run / Walk Test & Harvard Step Test.
2. **Skill Tests:**
  - a. **Volleyball :** Brady Volleyball Test, Russell and Lange Volleyball Test,



- b. **Basketball:** Johnson and Knox basketball Test
- c. **Football:** Mc Donald and Johnson test
- d. **Badminton:** Miller wall volley test and Hicks Badminton test
- e. **Hockey:** The Schmithals french field and SAT Hockey Skill test

#### UNIT-IV

1. **Measures of Central Tendency:** Introduction, Uses and Calculation of Mean, Median & Mode From Ungrouped and Grouped Data.
2. **Measures of Variability:** Introduction, Uses and Calculation of Quartile & Standard Deviation from Ungrouped and Grouped Data.

#### REFERENCES:

- Vijayalaxmi, M., "Evaluation in Physical Education" (2006) Friends Publication, Delhi.
- Madhuri T. W, "Measurement and Evaluation in Physical Education" (2006) Friends Publication, Delhi.
- Mishra, Sharad Chandra "Test and Measurement in Physical Education" (2005) Sports Publication, New Delhi.
- McCloy, C.H. "Test and Measurement in Physical Education" (2004) Friends Publication, Delhi.
- Mathew Doland K, "Measurement in Physical Education, (1973) 4<sup>th</sup> Edition, W.B. Saunders Company, London.
- Barrow, Harold M. and McGhee, Rosemary "A Practical Approach to Measurement in Physical Education" (1950) Lea & Febiger, U.S.
- Kansal, D.K., "A Practical Approach to Test Measurement and Evaluation" (2012) S.S.S Publication, New Delhi.
- Alan C. Lacy, "Measurement and Evaluation in Physical education and Exercise Science" (2015) Published by Pearson.
- Yobu, A., "Test Measurement and Evaluation in Physical Education and Sports" (2010) Friends publication, New Delhi.

#### BPEST-127: SPORTS JOURNALISM

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

#### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be **nine** questions in all.
- b) First question is **compulsory**. It will contain **10** short answer type questions, spread over the whole syllabus to be answered in brief. It will carry **20 marks** i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)

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- c) Rest of the paper shall contain four units (Unit - I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15×4= 60 Marks)

#### UNIT-I

1. **Journalism:** Introduction, Concept, Historical background of journalism and Role of Journalism in society.
2. **Mode of Journalism:** Mass Media, Print, Electronic, Informal Media and Role of IT in Journalism.
3. **Introduction of Mass Media:** Purpose of Mass Media for the Propagation of Sports Growth of Sports Communication.

#### UNIT-II

1. **Coverage of Sports:** In Daily Newspapers, General Magazines, Specialized sports Magazines. Sports on Radio, Television and Internet or Web
2. **News Desk:** Organization of Sports department Section in a Daily Newspaper, a News Agency and Magazine Office, Qualifications and Responsibilities of a Sports Writer, Reporter and Editor.

#### UNIT-III

1. **News:** Introduction, Characteristics, Importance of Human Factors in News, Basic News Elements & Values, Editing & Heading of News, News Story, Sports page Make up, Qualities and Responsibilities of Sports News Reporters.
2. **Ethics of Sports Writing:** Sportsman's Gratuities. Amateurism Vs Professionalism, Invasion of Private life, Emphasis on Winning, Sportsmanship and Sports for Charity

#### UNIT-IV

1. **Writing Sports Features:** Types, Exclusive Features, Fearless Writing in Sports, Sports Personalities and their Thumb Nail Sketches, Reviewing Sports Editorials, Writing Sports Editorials, Writing Weekly or Fortnightly Column
2. **Coverage:** Covering local / National Sports Competitions, Writing of Press Release.
3. **Art of Commentating and interviewing:** Commentating Sports for Radio and Television Channels, Interviewing Sports Persons.



**REFERENCE BOOKS:**

- Mishra, Sharad "Text Book of Sports Journalism"( 2006-07) Sports Publication, G-6,23/23B EMCA House, Ansari Road, Darya Ganj New Delhi
- Sita Ram, "Text Book of Sports Journalism". (2004) Friends Publication, 6. Mukerjee Tower, Dr. Mukerjee Nagar-Delhi
- Conrad .C. Fink, Sports Wing, Surjeet Publication, 7 Kholapur Road, Kamala Nagar, Delhi.
- Ahuja, B.N. and Chhabra, S.S. "Principles and Techniques of Journalism". Surjeet Publication, 7 Kholapur Road, Kamala Nagar, Delhi
- Keval. J. Kumar, "Mass Communication in India".2004, Jaico Publishing House-121, Mahatma Gandhi Road, Mumbai-400023.
- Agarwal,V.B AND Gupta, V.S Handbook of Journalism and mass comm. 2001, Concept publishing company.

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**B.P.E.S (Bachelor of Physical Education & Sports) (Three Year Course)**  
**Semester System Session 2020-21, 2021-22 and 2022-23**  
**B. P. E. S (Semester – VI)**

Paper	Title of the Subjects	External	Internal	Teaching Hrs
BPEST-128	English and Communication Skills	40	10	05 Hrs
BPEST-129	Fundamentals of Computer Education	80	20	05 Hrs
BPEST-130	Biomechanics	80	20	05 Hrs
BPEST-131	Exercise Physiology	80	20	05 Hrs
BPEST-132	Physiotherapy and Rehabilitation	80	20	05 Hrs

**BPEST-128: ENGLISH AND COMMUNICATION SKILLS**

Paper: English communication skills  
 Maximum Marks: 40+10 Internal Assessment  
 Time allotted: 3 hours  
 Lectures to be delivered: 3 per week

**Question 1:** Essay: Six topics to be given out of which four topics should be related to sports/Physical education. Only one is to be attempted in about three hundred words.  
 10 Marks

**Question 2:** Translation from Vernacular to English.

Foreign students may write a short paragraph out of given two in lieu of translation.

10Marks

**Question 3:** Fax Writing / Hotel/ Train Reservation  
 The candidate shall be asked to write a fax of about 40-60 words. Candidate may be asked to send a fax for booking a hotel or to get Hotel/Train Reservation done.  
 10 Marks

**Question 4:** Writing of a Formal Application of about 100-125 words.  
 Application to the principal of the college for security refund. Applying for a job/Letter to the editor / Informal Letter to a friend.

10Marks



## BPEST-129: FUNDAMENTALS OF COMPUTER EDUCATION

Time allowed: 3 Hours

Max Marks: 100  
(External: 80, Internal: 20)

### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- There shall be nine questions in all.
- First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. ( $2 \times 10 = 20$  Marks)
- Rest of the paper shall contain four units (Unit - I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. ( $15 \times 4 = 60$  Marks)

#### UNIT-I

- Computer:** Introduction, Types, Characteristics, Limitation, Importance in Physical Education and Sports and History of development of Computer.
- Computer Hardware:** Input Devices (Keyboard, Mouse, Joystick, Optical Mouse, Recognition, Barcode Reader, Scanner) and Output Devices (Monitor, Printer)
- Computer Memory:** Introduction, Memory Units, Types, Storage Devices (Hard disk, Floppy disk, Optical disk, Pen drive)

#### UNIT-II

- Computer Software:** Introduction, Types, Operating System, Function of Operating System.
- Electronic mail:** Introduction, features and advantages.
- M.S.Word:** Introduction, Features, Component, Different Views of Word Document, Creating New Document, Opening, Saving, Closing, Editing of Existing Document, Creating Tables, Inserting Pictures and Keyboard Shortcuts.

#### UNIT-III

- M.S.Excel:** Introduction, Features, Entering Data Into Excel Sheet, Working with Formulas and Keyboard Shortcuts.
- M.S. PowerPoint (P.P.T.):** Introduction, Features, Preparation of Slides, Slideshow, Keyboard Shortcuts.



- 3 **Introduction to Information & Communication Technology: Importance, Nature of ICT, Need of Information & Communication Technology in Physical Education and Scope of ICT in Education & Physical Education.**

#### UNIT-IV

- 1 **Introduction to Internet and Networking: Advantages and Type of Networking, Different Protocols, Internet vs Intranet, Type of Internet, Connectivity-Dial-up, Leased line, VSAT etc., and WORLD WIDE WEB (WWW) –web browsers, Domain Names.**
- 2 **Introduction to Cyber Security: Security Services, Types of Attacks, Cyber Crime, Online Fraud and Identity Theft.**
- 3 **Computer Security: Desktop Security, Email Security, Web Security, Web Authentication, OS Security, Anti-Virus Software, Firewalls and Network Security.**

#### REFERENCES:

- Boyce, Jim et al., "Microsoft office system inside out" (2007).
- Barrett, Ron et al., "Administrator's guide to Microsoft office 2007 servers" (2007).
- Murray, Katherine., "Faster smarter Microsoft office XP: Take charge of your Microsoft office programme"(2007).
- Microsoft. "Microsoft office 2003 editions resource kit" (2003).
- Wempen, Faithe et al. "Microsoft office 2007 bible" (2007).
- Douglas E. Comer, "The Internet Book, Purdue University, West Lofayette (2005). IITL Education Solution Ltd. Introduction to information Technology.
- Pradeep K. Sinha & Priti ;Sinha, "Foundations computing" (2006) *BPB Publications*.
- S. Jaiswal Galgotia Publication PVT. Ltd. I.T. (Today), Revised Edition 2004 Pradeep K. Sinha, Priti Sionha, B.P.B. Publication, Computer
- Shashank Jain & Satish Jain, 'O' level Internet and web design, Edition (2003) *B.P.B. Publication*.
- Simmons Ian, Computer Dictionary, (2005) *BPB Publications*.
- Douglas E. Comer, "The Internet Book, Purdue University, (2005) West Lofayette.
- Law Relating to Computers Internet and E Commerce, by Nandan Kamath Book Code : 004123 ISBN : 9350351819
- Microsoft Free Cyber-Security Ebook download from <http://www.microsoft.com/en-us/download/details.aspx?id=1522#Overview>

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- S. Jaiswal Galgotia Publication PVT. Ltd. I.T. (Today), Revised Edition (2004) Pradeep K. Sinha, Priti Sionha, *B.P.B. Publication, Computer*
- Shashank Jain & Satish Jain, 'O' level Internet and web design. Edition (2003) *B.P.B. Publication.*

### BPEST-130: BIOMECHANICS

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

#### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- a) There shall be nine questions in all.
- b) First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units (Unit I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15×4= 60 Marks)

#### UNIT- I

1. **Biomechanics:** Introduction, Scope and Importance in Physical Education & Sports.
2. **Linear and Angular Kinematics:** Describing Objects in Angular Motion:-
  - Angular Position and Displacement
  - Angular and Linear Displacement
  - Angular Velocity
  - Angular and Linear Velocity
  - Angular Acceleration
  - Angular and Linear Acceleration
3. **Linear and Angular Kinetics:** Mass, Weight, Inertia, Impulse, Momentum, Eccentric Force, Moment of Inertia, Torque, Coupling Force and Moment of Momentum.

#### UNIT - II

1. **Motion:** Introduction, Characteristics, Types and Law of motion (Newton's Law).
2. **Equilibrium:** Introduction, Types, Principles, Factor Determining Equilibrium and their Application in Sports.
3. **Spin:** Introduction, Types, Characteristics, Factor Determining them and Their Uses in Sports.

*Pradeep K. Sinha*

### UNIT-III

1. **Biomechanical analysis:** Running, Walking, High Hurdling, Swimming (Free Style), Shot Put, Discus Throw, Long Jump and High Jump.
2. **Tools and techniques:** Different Tools and Techniques used for Biomechanical analysis of Sports Movement.
3. **Lever:** Introduction, Types, Characteristics, Factor Determining them and their Uses in Sports.

### UNIT-IV

1. **Force:** Introduction, Types, Classifying Forces; **Addition of Forces:** Force Composition, Resolution of Forces.
2. **Friction:** Introduction, Types, Characteristics, Factor Determining them and Their Uses in Sports.
3. **Work, Power and Energy:** Introduction, Work-Energy Relationship.

### REFERENCES:

- Kathryn Lutgens and Nancy Hamilton: "Kinesiology-Scientific basis of Human Motion" (2001) *McGraw Hill*, New York.
- Susan J Hall: "Basic Biomechanics" (1995) McGraw Hill, New York.
- Peter M. McGinnis: **Biomechanics of Sports and Exercise, Human Kinetics, Champaign, USA (2005).**
- James G., Hay: **The Biomechanics of Sports Techniques (2<sup>nd</sup> Ed.), Englewood Cliffs, N. J. Prentics Hall, Inc., 1978.**
- John W. Bunn: **Scientific Principles of Coaching (2<sup>nd</sup> Ed.) Englewood Cliffs N. J. Prentics Hall Inc., 1972.**
- M. G. Scott: **Analysis of Human Motion, New York: Application Century Craft**
- McGinnis, Peter M.: **Biomechanics of Sport and Exercise-2nd Edition.**
- Robertson, D. Gordon E.: **Research Methods in Biomechanics.**
- Whiting, William C.: **Biomechanics of Musculoskeletal Injury.**
- Zatsiorsky, Vladimir: **Kinetics of Human Motion.**

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## BPEST-131: EXERCISE PHYSIOLOGY

Time allowed: 3 Hours

Max Marks: 100  
(External: 80, Internal: 20)

### INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:

- There shall be nine questions in all.
- First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. ( $2 \times 10 = 20$  Marks)
- Rest of the paper shall contain four units (Unit - I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. ( $15 \times 4 = 60$  Marks)

#### UNIT-I

- Exercise Physiology:** Introduction, Nature, Scope and Importance of Exercise Physiology in Games and Sports.
- Muscle Metabolism:** Introduction, Types, Sliding filament theory of muscle contraction, Adenosine tri-phosphate (ATP), ATP-PC system.

#### UNIT-II

- Exercise and Systems:** Effect of Exercise on Muscular System, Respiratory System and Cardiovascular System.
- Ergogenic Agents:** Introduction and Types, Drugs and its Effect (Anabolic steroids, beta blocker, Alcohol, Amphetamines, Caffeine, Cocaine, Diuretics, Morphine, Blood doping), Carbonate loading and Phosphate loading

#### UNIT-III

- Nutrition and Athletic Performance:** Introduction of Nutrition and Balanced Diet, Types of Nutrients, Training Components of Diet, Nutrition for Competition.
- Competition and Meals:** Appropriate Diet Before, During & After Competition and Carbohydrate loading.

#### UNIT-IV

- Neurons:** Motor Unit and Bio-electric Potentials, Neuro-Muscular Junction, Transmission of Nerve Impulse Across It, Proprioception and Kinesthetic sense.



2. **Obesity and Health: Causes, Management of Obesity, Measurement of Body Fat by Various Methods, Positive and Negative Energy Balance.**

**REFERENCES:**

- Morehouse, L.E and Miller, A.T., "Physiology of Exercise" 1976 (Saint Louis) *Mosby Company*.
- Karpovich, P.V. and Sinning, Wayne E., "Physiology of Muscular Activity" (1971) 7<sup>th</sup> Edition. *W.B. Saunders Company*, Philadelphia.
- Bourne, Geoffrey H., "The Structure and Function of Muscles" (1973) *Academic Press*, London.
- Astrand, P.O. and Rodahl Karne., "Text Book of work Physiology" (1979) *Mc Graw. Hill Xogakusha*, Ltd. Tokyo.
- Mathew, D.K. and Fox, E.L., "Physiological Basis of Physical Education and Athletics" (1976) *Philadelphia W.B. Saunders Company*.
- Wilmore H. Jack and Costill L. David, "Physiology of Sports and Exercise" (2004) *Human Kinetics*.
- Roberys A. Robert and Robert O. Scott., "Fundamental Principles of Exercise Physiology" (2000) *Mc Grew Hill Companies, Inc.*
- Adams M. Gene., "Exercise Physiology: Laboratory Manual" (1998) *WCB Mc Grew-Hill Companies, Inc.*
- Katch L. Victor, Katch I. Frank and Mcardle D. William, "Exercise Physiology" (1996) *Williams & Wilkins, A Waverty Company*.
- Mooren C. Frank and Volker Kalaus., "Molecular and cellular exercise physiology" (2005) *Devison of sports distributory Nz Ltd..Human Kinetics*.
- Tiwari Sandhya., "Exercise Physiology" (1999) Sports publication, Delhi.
- Rowland, T. W., "Devalopment Exercise Physiology" (1996) *Human Kinetics: Champaign*.
- Guyton, Arthur C., "Test Book of Medical Physiology" (1978) *Philadelphia: W.B. Saunder company*.
- Morehouse, L.E and Miller, A.T., "Physiology of Exercise saint Louis" (1976) *The C.V. Mosby Co. 7<sup>th</sup> Edn.*



- Karporich, P.V. and Sining, Wayne E., "Physiology and Muscular Activity" (1971) *W.B. Saunder company*, Philadelphia: 7<sup>th</sup> Edn.
- Boume, Geoffrey H., "The Structure and Function of Muscles" (1973) Academic Press, London.
- Astrand, P.O. and Rodahl, K., "Text Book of Work physiology" (1970) *Mc. Graw - Hill Kogakusha*, Ltd, Tokyo.
- Mathew, D.K. and Fox, E.L., "Physiological Basis of Physical Education and Athletics" (1976) *W.B. Saunder company*, Philadelphia.

### **BPEST-132: PHYSIOTHERAPY AND REHABILITATION**

Time allowed: 3 Hours

Max Marks: 100

(External: 80, Internal: 20)

#### **INSTRUCTIONS FOR THE PAPER-SETTER AND STUDENTS:**

- a) There shall be nine questions in all.
- b) First question is compulsory. It will contain 10 short answer type questions, spread over the whole syllabus to be answered in brief. It will carry 20 marks i.e., two marks each question. All questions are compulsory. (2×10 = 20 Marks)
- c) Rest of the paper shall contain four units (Unit - I, II, III & IV) for descriptive questions. Each unit shall have two questions and the students shall be given internal choice i.e. the students shall attempt one question from each unit. (15×4= 60 Marks)

#### **UNIT-I**

1. **Physiotherapy:** Introduction, Concept of Athletic Trainer and Sports Physician. Role of Physical Education Teacher / Coaches in Athlete's Care and Rehabilitation.
2. **Rehabilitation:** Introduction, Objectives, Principles and Major Aspects of Rehabilitation- Physical, Social, Psychological & Economic.
3. **Medical Care:** Team Medical Care, its Concept, Approaches and Hygiene in Campus & Competitions.

#### **UNIT-II**

1. **Massage:** Introduction, Physical, Physiological and Psychological Effects of Massage, Points to be Considered in Massage, Role of Massage in Sports Competitions, Types of Massage (Stroking Manipulation, Effleurage, Pressure Manipulation, Kneading, Petrisage, Friction, Percussion Manipulation, Hacking, Clapping, Beating, Pounding, Shaking & Manipulation) and Contradiction of Massage.
2. **Therapeutic exercises:** Introduction, General Goals and Scope, Importance, Precautions, Indications/ Contra Indications, Active Exercises (Free, Assisted, Resisted), Passive Exercises (Relaxed, Forced Passive Exercises)





### UNIT-III

1. **Postural Deviations:** Introduction, types (Round Shoulder, Kyphosis, Lordosis, scoliosis, Knock-knee, bowlegs and flat-foot) their Causes and Corrective Exercises.
2. **Common Athletic Injuries:** Sprains, Strains, Contusions, Abrasions and Fracture, Inflammation: their Causes, Symptoms, Treatment & Preventive Measures.

### UNIT-IV

1. **Basic Concept of Physiotherapeutic Technique:** Hydrotherapy, Cryotherapy, Thermotherapy, Hot and Cold Packs, Whirlpool, Contrast Bath, Paraffin Bath, Infrared, Short Wave Diathermy, Ultra Sound, Indications and Contra-Indications of Each Technique.
2. **Concept of Baths:** Sauna Bath, Steam Bath & Health Related Massage and Concepts of Relaxation.

### REFERENCE BOOKS:

- Brown D. W. and Sandra White, "The Complete Guide to Aromatherapy: Massage and Reflexology"(2005) Quantum Publishing Ltd.
- Narayan, S. Lakshmi, "Text Book of Therapeutic Exercise", (2005) Jaypee Brothers-2005.
- Gungburg, Robert "Current Concepts in Prevention, Diagnosis and Treatment of the Cervical Whiplash Syndrome", (1998) Lippincott- Raven Publisher.
- Bindal, V.D. (2010). Corrective Physical Education, Therapeutic Exercise and Rehabilitation. Associated Publishing House, Agra.
- Forester, Angela and Palastange, Nigal: (1985), Clayton's Electrotherapy. CBS Publishers & Distributors New Delhi.
- Gardiner, M. Dena (1985). The Principles of Exercise Therapy. C.B.S. Publishers and Distributors, New Delhi.
- Goel, R.N. (2000). Goel's Physiotherapy. Dr. RN. Goel, Bhopal.
- Hollis, M. and Fletcher- Cook, P (2001) Practical Exercise Therapy. Black Well Science, London.
- Sinha, A.G. (2008). Principles and Practices of Therapeutic Massage. Jaypee Brothers, New Delhi.
- Wood, E.C. and Becker, P.D. (1981), Beard's Massage. W.B. Saunders Company, Philadelphia.

