QuickNotes

FREE STUDY NOTES · PDF

UGC NET Paper 2

Physical Education (047)
Complete revision notes — all 10 units

10 units | Tables & formulas | Key revision points

01 Introduction and Historical Development
02 Exercise Physiology
03 Kinesiology and Biomechanics
04 Sports Psychology
05 Sports Training
06 Test, Measurement and Evaluation
07 Health Education and Sports Medicine
08 Sports Management
09 Research and Statistics
10 Yoga and Recreation

getquicknotes.com

Edition: November 2026

CONTENTS

What's inside

Ten units of focused revision notes. Each unit ends with a box of key revision points.

01 **Introduction and Historical Development** — 3
Meaning and aims of physical education, Olympic movement and history in India.

02 **Exercise Physiology** — 4
Energy systems, muscle physiology, cardiorespiratory responses to exercise.

03 **Kinesiology and Biomechanics** — 5
Joints and movements, levers, Newton's laws and principles of motion in sport.

04 **Sports Psychology** — 6
Motivation, anxiety and arousal, personality and group dynamics in sport.

05 **Sports Training** — 7
Principles of training, training methods and periodisation.

06 **Test, Measurement and Evaluation** — 8
Criteria of good tests and common fitness and skill tests.

07 **Health Education and Sports Medicine** — 9
Health concepts, nutrition for athletes, injuries and first aid, doping.

08 **Sports Management** — 10
Management functions, organising tournaments and facilities.

09 **Research and Statistics** — 11
Research methods and statistics in physical education.

10 **Yoga and Recreation** — 12
Yoga concepts and practice, and recreation and leisure.

How to use these notes

- Read one unit at a time, then test yourself with its key revision points.
- Make your own short notes on topics you find difficult.
- Units follow the main areas of the official syllabus — the exact unit list can change between sessions.
- Always check the latest syllabus and notices on the official UGC NET portal: **ugcnet.nta.ac.in**.

UNIT 01

Introduction and Historical Development

Meaning and aims of physical education, Olympic movement and history in India.

Milestone	Year
Ancient Olympic Games recorded at Olympia	776 BCE
International Olympic Committee founded (Pierre de Coubertin)	1894
First modern Olympics, Athens	1896
YMCA College of Physical Education, Chennai (H. C. Buck)	1920
First Asian Games, New Delhi	1951
Sports Authority of India	1984
Khelo India	2018

Olympic motto: 'Citius, Altius, Fortius — Communiter' (faster, higher, stronger — together, since 2021).

★ Key revision points

- Modern Olympics began 1896, Athens.
- IOC founded 1894 by Coubertin.
- First Asian Games: Delhi, 1951.
- YMCA College Chennai: 1920.

UNIT 02

Exercise Physiology

Energy systems, muscle physiology, cardiorespiratory responses to exercise.

Energy system	Duration of dominance
ATP–PC (phosphagen)	About 0–10 seconds
Anaerobic glycolysis (lactic acid)	About 10 seconds to 2 minutes
Aerobic (oxidative)	Beyond ~2 minutes

- Muscle fibres: slow-twitch (Type I, endurance) and fast-twitch (Type II, power).
- VO_2 max — maximum oxygen uptake; best measure of aerobic fitness.
- Training effects: lower resting heart rate, higher stroke volume.

★ Key revision points

- ATP–PC powers short sprints.
- Type I = slow-twitch endurance fibres.
- VO_2 max measures aerobic capacity.
- Cardiac output = heart rate × stroke volume.

UNIT 03

Kinesiology and Biomechanics

Joints and movements, levers, Newton's laws and principles of motion in sport.

- Movements: flexion, extension, abduction, adduction, rotation; planes — sagittal, frontal, transverse.
- Levers: first class (fulcrum in middle — e.g. head nodding), second class (load in middle — rising on toes), third class (effort in middle — most common in body, e.g. biceps curl).
- Newton's three laws of motion applied to sport; projectile motion (optimum release angle ~45° in theory).

★ Key revision points

- Third-class levers are most common in the body.
- Flexion decreases a joint angle.
- Three planes: sagittal, frontal, transverse.
- Theoretical optimum projectile angle ≈ 45°.

UNIT 04

Sports Psychology

Motivation, anxiety and arousal, personality and group dynamics in sport.

- Arousal–performance: inverted-U hypothesis (Yerkes–Dodson).
- Anxiety: state vs trait; cognitive vs somatic.
- Motivation: intrinsic vs extrinsic; achievement motivation.
- Team cohesion; social facilitation; mental skills — imagery, goal setting, self-talk.

★ Key revision points

- Inverted-U = Yerkes–Dodson.
- Trait anxiety is a stable tendency.
- Imagery is mental rehearsal.
- Intrinsic motivation comes from within.

UNIT 05

Sports Training

Principles of training, training methods and periodisation.

- Principles: overload, progression, specificity, individuality, reversibility, recovery.
- Methods: continuous, interval, fartlek (speed play, Sweden), circuit training (Morgan and Adamson, Leeds 1953), plyometrics.
- **Periodisation** — L. P. Matveyev: preparatory, competition, transition periods; macro-, meso- and microcycles.

★ Key revision points

- Fartlek = 'speed play'.
- Circuit training: Morgan and Adamson.
- Periodisation = Matveyev.
- Reversibility = losing fitness when training stops.

UNIT 06

Test, Measurement and Evaluation

Criteria of good tests and common fitness and skill tests.

Test	Measures
Harvard step test	Cardiovascular endurance
Cooper 12-minute run	Aerobic capacity
AAHPER Youth Fitness Test	General fitness of youth
Sit and reach	Flexibility
Standing broad jump / vertical jump	Explosive leg power
Kraus–Weber test	Minimum muscular fitness

Criteria of a good test: validity, reliability, objectivity, norms, administrative feasibility.

★ Key revision points

- Harvard step test = cardiovascular endurance.
- Sit and reach = flexibility.
- Cooper test = 12-minute run.
- Validity, reliability, objectivity.

UNIT 07

Health Education and Sports Medicine

Health concepts, nutrition for athletes, injuries and first aid, doping.

- WHO definition of health (1948): complete physical, mental and social well-being.
- Injury first aid: **RICE** — Rest, Ice, Compression, Elevation.
- Common injuries: sprain (ligament), strain (muscle), fracture, dislocation.
- Doping: WADA (1999); NADA India (2005); National Anti-Doping Act, 2022.

★ Key revision points

- RICE for acute injuries.
- Sprain = ligament; strain = muscle.
- WADA founded 1999.
- WHO health definition: 1948.

UNIT 08

Sports Management

Management functions, organising tournaments and facilities.

- Functions: planning, organising, staffing, directing, controlling, budgeting.
- Tournament types: knockout (single and double elimination), league (round robin), combination.
- Number of matches — knockout: N − 1; single league: N(N − 1) ÷ 2.
- Byes in knockout: next power of 2 minus number of teams.

★ Key revision points

- Knockout matches = N − 1.
- League matches = N(N−1)/2.
- Byes = next power of 2 − N.
- Round robin = everyone plays everyone.

UNIT 09

Research and Statistics

Research methods and statistics in physical education.

- Research types: historical, descriptive, experimental, philosophical.
- Statistics: mean, median, mode, SD, percentiles, correlation, t-test, ANOVA.
- Normal curve: about 68% of scores within ±1 SD, 95% within ±2 SD.

★ Key revision points

- 68% within ±1 SD.
- ANOVA compares several groups.
- Percentile ranks a score among others.
- Experimental research tests cause and effect.

UNIT 10

Yoga and Recreation

Yoga concepts and practice, and recreation and leisure.

- **Ashtanga yoga** (Patanjali's *Yoga Sutras*): yama, niyama, asana, pranayama, pratyahara, dharana, dhyana, samadhi.
- International Day of Yoga: 21 June (since 2015).
- Recreation: active vs passive; leisure education.

★ Key revision points

- Eight limbs = Patanjali's Ashtanga yoga.
- International Day of Yoga: 21 June.
- Pranayama = breath control.
- Dhyana = meditation.

QuickNotes

Learn Quickly. Prepare Smartly.

More free study notes

Free PDFs for UGC NET Paper 1, every Paper 2 subject, IBPS RRB and SSC CHSL — no sign-up.

www.getquicknotes.com

Free for personal study — not for sale. You may share this PDF unchanged and free of charge.

QuickNotes is an independent educational platform. It is not affiliated with, endorsed by or connected to the University Grants Commission (UGC), the National Testing Agency (NTA) or any government examination authority. These are original revision notes; always refer to the official notification for exam dates, eligibility, pattern and syllabus.

Found a mistake? Email support@getquicknotes.com · Edition: November 2026