



TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U.P. Act No. 30, 2008)

NH-24, DELHI ROAD, MORADABAD – 244001 (U.P.)

SYLLABUS FOR TMU RESEARCH APTITUDE TEST IN PHYSICAL EDUCATION

The syllabus for TMU Research Aptitude Test (TRAT) in Physical Education is divided in two parts viz. Part A & Part B described as below:

PART – A

Part A of the TRAT shall be designed to assess the research skills/aptitude of the candidate consisting of questions from the following areas:

- 1. Research Methodology:** meaning, characteristics, and ethical issues in research; types of research; research methods.
- 2. Logical Reasoning:** arguments, deductive and inductive research; logical and Venn diagram; inferences; analogies.
- 3. Data Interpretation:** interpretation of data; mapping and analysis of data, tools for data analysis; quantitative and qualitative research.
- 4. General Awareness about Basic Science:** basic science up to the level of SSC.
- 5. Mathematical Reasoning:** number series, letter series, codes; relationships, classification.

PART – B

Part-B of TRAT is designed to assess subject specific knowledge of the candidate covering the syllabus given as below:

Foundation of Physical Education and Sports: introduction, definition, aim and objective of physical education, health education and recreation; philosophy of education as applied to physical education, idealism, naturalism, realism, pragmatism, existentialism, humanism; basis of physical education- biological, psychological and sociological; Olympic movement- historical development of ancient and modern Olympic games; physical education in India; physical education in ancient Greece, contemporary Germany and Russia; characteristic of adolescents and body types.

Physiology of Exercise and Sports Medicine: physiology of muscular activity, neurotransmission and movement mechanism, physiology of respiration, physiology of blood circulation, bioenergetics and recovery process, therapeutic modalities, ergogenic aids and doping, athletics injuries- management and rehabilitation.

Kinesiology and Biomechanics: kinetics, kinematics– linear and angular motion, levers; joints and their movements- planes and axes; muscular analysis of motor movement, posture, postural deformities and their correction, massage manipulations and therapeutics, mechanical analysis of various sports activities, mechanical analysis of movements- running, jumping, throwing, pulling and pushing.

Psychology and Sociology of Sports, Exercise, and Physical Education: learning process- theories and laws of learning; psychological factors affecting sports performance- motivation, stress, anxiety, tension and aggression; personality- dimensions, theories, personality and performance; individual differences and their impact on learning and performance; socio-metrics, economics and politics in sports; group dynamics, team cohesion and leadership in sports; media and sports.

Professional Preparation and Curriculum Planning: development of teacher education in physical education, qualities and qualifications of physical education personnel, principles of curriculum planning, course content, age characteristics of pupils and selection of activities, professional ethics, construction of class and school for physical education and time table.

Health Education, Nutrition and Recreation: guiding principle of health and health education; fitness, obesity and its management; communicable diseases– prevention and therapeutic aspect; school health programme and personal hygiene; principles and theories of recreation; nutrition and dietary manipulation; recreational programme for various categories of people.

Science of Sports Training, Coaching and Officiating: characteristics and principles of sports training, technical and tactical preparation for sports , short term and long term training plans, sports talent identification– process and procedures, preparing for competition– built up competition, main competition, competition frequency, psychological preparation; training load and periodisation; rules of games and sports and their interpretation.

Measurement and Evaluation in Sports & Physical Education: concept of test, measurement, evaluation; construction and classification of test; concept and assessment of physical fitness, motor fitness, motor ability and motor educability; testing psychological variables– competitive anxiety, aggression team cohesion, motivation, self concept; anthropometric measurements and body composition; skill test for badminton, basketball, hockey, lawn tennis, and volleyball; criteria of test evaluation.

Management and Methods of Physical Education: concept and principles of management, organisation and functions of various sports bodies, intramurals and extramural, management of infrastructure, equipment, finance and personnel, pupil-teacher interaction and relationship, concept and techniques of supervision, methods and techniques of teaching, principles of planning physical education lessons.