

# Dr B R Ambedkar National Institute of Technology, Jalandhar

## Syllabus for Written Test for the Post of SAS Officer

Time: 02 Hours

(Max. Marks: 100)

<p><b>PART-A</b> (Marks-25)</p>	<p><b>General Knowledge and Awareness, Numerical Ability and Reasoning, Verbal Ability and Reasoning:</b></p> <p>History of India, Economy of India, Current national and international sports events, Geography of India, Constitution of India. Numbers and Percentage; Ratios and Proportions; Time and Work; Data Interpretation and Statistics; Mental Ability and Numerical reasoning. English Grammar; Sentence correction, Synonyms. Antonyms, Verbal and Non-Verbal reasoning; Questions on analogies, similarities, differences, observation, relationship, verbal and figure classification.</p>
<p><b>PART-B</b> (Marks-75)</p>	<p><b>Physical Education and Sports :</b></p> <p><b>Unit -I:-</b> Physical education and adapted physical education, their objectives Philosophies of education as applied to physical education, Growth and development of physical education in India, Wellness- its importance, benefits and challenges. Social aspects of sports- sports as a socializing agency, social values , sports leadership, Ancient &amp; Modern Olympics games, Asian and Commonwealth games. Structure and functions of international and national bodies controlling various games and sports,. Prominent honours and awards in games and sports.</p> <p><b>Unit -II:-</b> Exercise physiology its scope and importance in the field of physical education and sports. Cardio respiratory adaptations to long and short term physical activities. Muscle- its types , characteristics and functions. Microscopic structure of muscle fibre. Types of muscle fibres and sports performance. Muscular adaptations to exercise. Bio-chemical aspects of exercise - Metabolism of food products. Aerobic and anaerobic systems during rest and exercise. Recovery process - Physiological aspects of fatigue.</p> <p><b>Unit- III:-</b> Kinesiology and biomechanics. Modern trends in biomechanics. Planes and Axes of human body. Joints and their movements. Muscle attachments - Origin, insertion, action and leverage of the principal muscles used in sports. Motion: its laws and their application in sports. Mechanical advantage and applications of Levers in sports. Kinesiological, Muscular and mechanical analyses of fundamental movements:</p> <p><b>Unit – IV:-</b> Sports psychology- its importance in the field of physical education and sports. Motivation in sports- types, theories and dynamics. Psychological factors affecting sports performance-Emotions, Anxiety aggression, stress self confidence, concentration, mental practice and goal setting. Personality- Theories of personality, measurement of personality. Long and short term psychological preparation for performance/competition. Psychological skill training for activation and relaxation</p> <p><b>Unit -V:-</b> Health- its objectives, Health education, its importance. Health-related physical fitness. Body weight control and its significance on health. Role of exercise, dieting and combination of exercise &amp; dieting on weight control. Effects of pollution on health, Preventive and safety measures from pollution. Nutrition- Balanced diet &amp; its components. Nutritional Deficiencies. Understanding of malnutrition and nutritional supplements. Effects of smoking, alcohol, &amp; drugs on health; prevention and rehabilitation.</p> <p><b>Unit -VI :-</b> Sports training- its characteristics and principles. Training load, its features, principles and adaptation process. Means and methods of executing training load. Overload, its Causes, symptoms and remedial measures. Strength- its characteristics, types of strength, factors determining strength and strength development. Endurance- its characteristics, types of endurance, factors determining endurance and endurance development. Speed - its characteristics, types of Speed, factors determining Speed and speed development. Flexibility-its characteristics, types of flexibility, factors determining flexibility and flexibility development. Coordinative abilities- its characteristics, types of coordinative abilities, factors determining coordinative abilities and development of coordinative abilities. Technique and skill- its characteristics and importance. Different stages of technique development and technique training. Tactics and strategy. Periodization- its importance, objectives and types of periodization. Concept of different periods - Preparatory, competition and transitional. Types of Competition: Talent identification- process and procedure.</p> <p><b>Unit -VII:-</b> Research in physical education- its importance and classification. Ethical issues in research. Methods of research- Descriptive, historical and experimental. Experimental research designs. Identification and formulation of research problem. Types of research hypotheses and their formulation. Tools of research- Questionnaires, opinionnaires, Note taking and critical reading. Sampling Techniques- Probability and non probability. Data, its types and collecting measures.</p> <p><b>Unit - VIII:-</b> Test, measurement and evaluation -their types and importance in physical education and sports. Tests for fitness- Physical fitness, motor fitness, motor ability and motor educability. Test for fitness components - strength, endurance, speed, flexibility and coordinative abilities. Anthropometric Measurements- land marks and measurement of various body segments ,height, sitting-height, weight, diameters, circumferences, skinfolds, body mass index, ponderal index. Somatotype and Posture evaluating techniques. Testing of physiological phenomenons- Heart rate, pulse rate &amp; body temperature.</p>