

**TEACHER ELIGIBILITY TEST  
TSTET 2016**

**PAPER II - SYLLABUS**

**CHILD DEVELOPMENT AND PEDAGOGY (Marks: 30)**

**1. DEVELOPMENT OF CHILD**

- Development, Growth & Maturation - Concept & Nature
- Principles of development & their implications
- Factors influencing Development - Biological, Psychological, Sociological
- Dimensions of Development and their interrelationships - Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Childhood, Adolescence.
- Understanding Development - Piaget, Kohlberg, Chomsky, Carl Rogers and Erikson
- Individual differences - Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Thinking (Divergent & Convergent), Intelligence and their Assessment
- Development of Personality - Concept, Factors effecting development of Personality, Child Rearing Practices, Self-Concept
- Adjustment, Behavioural problems, Defense Mechanisms, Mental Health
- Methods and Approaches of Child Development – Introspection, Observation, Interview, Case study, Anecdotal Records, Questionnaire, Experimental, Rating Scales, Cross sectional and Longitudinal
- Developmental tasks and Hazards

**2. UNDERSTANDING LEARNING**

- Concept, Nature of Learning - input - process - outcome
- Factors of Learning - Personal and Environmental
- Approaches to Learning and their applicability-Behaviourism (Skinner, Pavlov, Thorndike), Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning - Cognitive, Affective and Performance
- Motivation and Sustenance -its role in learning.
- Memory & Forgetting
- Transfer of Learning

**3. PEDAGOGICAL CONCERNS**

- Teaching and its relationship with learning and learner
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts-Children With Special Needs (CWSN), Inclusive Education
- Understanding of pedagogic methods - Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Co-operative & Collaborative Learning
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills
- Organizing learning in heterogeneous class room groups - Socio-economic background, Abilities and Interest
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric
- Theory of Instruction - Bruner
- Teaching as Planned activity - Elements of Planning
- Phases of Teaching - Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator
- Learning resources - Self, Home, School, Play,Community, Technology
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Child abuse, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice
- Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

**II. LANGUAGE – Tamil (Marks: 30)**

**II. LANGUAGE – I TAMIL (Marks: 30)**

**(A) Content**

**Marks 24**

I. சினிவிறிஸினிபினிழிஷிமிளிழி ( புரிந்துகொள்ளுதல்.)

1. கண்டிராத பத்தி.

2. கண்டிராத செய்யுள்.

II. கவிஞர்கள் , காப்பியங்கள் / படைப்பாளிகள் , படைப்புகள்,  
(உரைநடை, செய்யுள் , கதை , நாடகம்)

III. வினைச்சொல் , பெயர்ச்சொல் ,வாக்கிய வகைகள், தன்வினை , பிறவினை,  
செய்வினை, செயப்பாட்டுவினை , நேர்க்கூற்று, அயர்கூற்று, வாக்கியம்  
அமைத்தல் , வாக்கியங்களை வரிசைப்படுத்துதல்.

IV. அகரவரிசை , மூலிடப்பெயர்கள், ஒருமை - பன்மை , காலங்கள்,  
வேற்றுமை , நிறுத்தற்குறிகள், பகுபத உறுப்பிலக்கணம் ,  
அருஞ்சொற்பொருள் , எதிர்ச்சொல், புணர்ச்சி , காரணப்பெயர் , மரபுத்தொடர்  
கொண்டு வாக்கியம் அமைத்தல்.

( B ) கற்பிக்கும்வழிமுறை ( வினியிபினிஞினிலினிநிசீ )

I. மொழி-தாய்மொழி :- , மும்மொழி போதனை , பேச்சுத் தமிழ்.,  
இலக்கியத்தமிழ்.

II. தாய்மொழி: - நோக்கம் , குறிக்கோள், மற்றும் சிறப்பு அம்சங்கள்.

III. கற்பிக்கும் முறைகள் :- செய்யுள் , உரைநடை , இலக்கணம்,  
துணைப்பாடம், கட்டுரை .

IV. கற்பித்தலில் நவீன உத்திகள் :- விளையாட்டு வழிக்கல்வி, மாண்டிச்சோரி  
,கிண்டர்கார்டன், டால்டன், செயல்முறைக்கல்வி, நாடக உத்திமுறை.

V. மிகுதி . திட்டமிடுதல் :- பாடத்திட்டம், வருடாந்திரத்திட்டம், பாட ஏடு .,  
இலக்கண ஏடு, துணைப்பாடம், ஆசிரியர் கை ஏடு, கூடி, கல்வி சார்ந்த தொழில்  
நுட்பங்கள்:- பாடத்துடன் தொடர்புடைய இதர செயல்பாடுகள், மொழிசார்ந்த  
விளையாட்டுகள் , பேச்சுப்போட்டி, கட்டுரை எழுதுதல், கல்விச் சுற்றுலா,  
சொல்லி எழுதுதல், பத்திரிகை , நூலகக் கல்வி.

VI. கூடிமி. மதிப்பீடு செய்தல் :- மதிப்பிடுதலின் இன்றியமையாமை , சிறு  
மற்றும் பெரிய தேர்வுகள் , மதிப்பிடுதலில் கையாளப்படும் பல்வேறு  
ஆதாரங்கள் , மதிப்பீட்டின் அளவு, மதிப்பீட்டு முறைகள், பிழைகளைத்  
திருத்தும்முறையில் கற்பித்தல் , பயிற்ச்சி வேலை கொடுத்தல் , நோக்க  
அடிப்படையில் மதிப்பீடு செய்தல்.

### III. LANGUAGE - II (ENGLISH) (Marks: 30)

#### CONTENT (Marks: 24)

(1) Parts of Speech (2) Tenses (3) Active voice & Passive voice (4) Prepositions and Articles (5) Degrees of comparison (6) Clauses (7) Verbs - Main Verbs - Auxiliary Verbs (8) Adverbs - Types of Adverbs (9) Conjunction - coordinating conjunction - subordinating conjunction. (10) Direct and Indirect speech (11) Questions and question tags (12) Types of sentences - simple, compound and complex - synthesis of sentences (13) Phrases - uses of phrases. (14) Composition - letter writing - precise writing (15) Comprehension (16) Vocabulary - Antonyms, Synonyms and Spellings (17) Meaning of idiomatic expressions, (18) Correction of Sentences, (19) Sequencing of the Sentences in the given paragraph (20) Error identification within a sentence

#### PEDAGOGY (Marks: 06)

1. Aspects of English:- (a) English language - History, nature, importance, principles of English as second language. (b) Problems of teaching / learning English.
2. Objectives of teaching English.
3. Phonetics / Transcription.
4. Development of Language skills:- (a) Listening, Speaking, Reading & Writing (LSRW). (b) Communicative skills - Imparting values through Communication.
5. Approaches, Methods, Techniques of teaching English:- (a) Introduction, definition & types of Approaches, Methods & Techniques of teaching English (b) Remedial teaching.
6. Teaching of structures and vocabulary.
7. Teaching learning materials in English.
8. Lesson Planning.
9. Curriculum & Textbooks - Importance and its need.
10. Evaluation in English language basing on CCE

### IVa. MATHEMATICS & SCIENCE (Marks: 60)

#### MATHEMATICS - CONTENT (Marks: 24)

1. **Number System** - Prime and Composite Numbers, Tests of divisibility, whole numbers, integers, fractions, decimal fractions, L.C.M. and G.C.M. rational numbers and irrational numbers. Properties of numbers, Real numbers; laws of exponents, squares, square roots, cubes, cube roots, finding missing number represented as alphabets in sums involving array of four operations, number patterns, number puzzles, Euclid division lemma, concept of logarithms.
2. **Arithmetic** - Ratio and proportion, simple interest, compound interest, Time and distance, Discount, tax, time and work, profit and loss
3. **Sets** - Concept of set, set language, empty set, finite and infinite sets, subset and equality of the set, Cartesian product of sets, cardinal number of set, set operations, representation of sets, Venn diagrams and their properties,
4. **Algebra** -Introduction to Algebra, expressions, exponents and powers, Factorization special products and expansions, linear equations and their graphs, polynomials, Quadratic equations and its applications, concept of progressions, progressions (AP and GP).nth term and sum to n terms of the first n terms in AP, nth term of GP
5. **Geometry** - History of Geometry, Contribution of India in the Development of Geometry, Euclid Geometry, Lines and Angles, Similar Triangles, Pythagoras theorem, congruency of triangles, Properties of Circles, Triangles, Quadrilaterals and polygons, Parts of Circle : Construction of Circle, Triangles and Quadrilaterals, Circles and concurrent lines in triangles, Co-ordinate Geometry, Co-ordinates of a point,

plotting of points, linking linear equations into variables (of the type  $ax+by+c=0$ ) in the Cartesian coordination system), Linear equations with 2 variables, slope of a line, distance between two points in a plane, section formula, Area of a triangle, collinearity of points in a co-ordinate plane, centroid of a triangle, symmetry,

6. **Mensuration** - Perimeter and Area of a Square and Rectangle. Area of Triangle, Circle, Ring and Quadrilaterals. Surface area and volume of Cube, Cuboid, Lateral / Surface area and volume of a cylinder, cone, sphere and hemisphere, conversion of one solid to another shape, surface area and volume of combination of solids.
7. **Data Handling** - Collection and Classification of Data, Frequency distribution table, Tally marks, Bar graph, Pictograph and Pie diagrams, mean, median and mode for un-grouped and grouped data, cumulative frequency table and ogive curves, concept of probability, simple problems (day to day life situation) on single events, concept of complementary events.
8. **Trigonometry** – Introduction of Trigonometry, Relationship between ratios, values of trigonometric ratios, ( $0^\circ$ ,  $30^\circ$ ,  $45^\circ$ ,  $60^\circ$  and  $90^\circ$ ) Trigonometric identities, trigonometric ratios of complementary angles, applications of trigonometry, Angle of elevation and depression, simple problems.

#### **PEDAGOGY (Marks: 06)**

1. Definition and Nature of Mathematics
2. Aims, values and instructional objectives of teaching Mathematics
3. Methods of Teaching Mathematics
4. Instructional material in Mathematics - TLM in Mathematics
5. Instructional Planning
6. Designing, Administration, Analysis of scholastic Achievement test (SAT)
7. The Mathematics Teacher
8. Resource Utilization
9. Curriculum and Text Book
10. Diagnostic and Remedial Teaching

#### **IV(a). SCIENCE - CONTENT (Marks: 24)**

**1. Natural Resources - Air, Water:** Water pollution, Harnessing of water, States of water, Hardness of water, water pressure

Air pollution, Atmospheric Pressure, Air pressure, Archimedes' principle, Pascal's law, Bernoulli's Principle, Hydrometer, Barometer.

- Laws of floatation, Specific gravity, Surface tension, Fluid Mechanics.

**2. Our Universe: Solar eclipse – lunar eclipse - Constellation - Zodiac, Space travel; Solar system, Satellites, stars, comets; Earth.**

**3. Natural Phenomenon:**

**Light: How can we see objects – shadows – Reflection of light – laws of reflection – plane mirrors and images – Virtual image, real image, pinhole camera, periscope, kaleidoscope – spherical mirrors and images – Fermat's Principal – Applications of reflection of light – Refraction of light – laws of refraction – refractive index, Snell's law – total internal reflection and its applications – refraction through glass prisms and slabs – refraction at curved surfaces and through lenses – images formed by lenses and ray diagrams – construction of human eye – least distinct vision – defects of vision-formation of rainbow-dispersion of light.**

**Sound:** Sources of sound, Production and propagation of sound – construction of human ear and its working – Properties of sound – audible range - Sound Pollution, Sound Waves, Kinds of Sound Waves, characteristics of sound waves – reflection of sound – echo – uses of ultrasonic sounds - Musical instruments.

**Heat: Concept of heat and temperature** – thermal equilibrium - Measurement of Temperature – Types of Thermometers – specific heat and its applications in daily life – methods of mixtures – evaporation – condensation – boiling point – melting point.

**4. Mechanics - Kinematics, Dynamics: Concept** of motion and rest.

- Types of Motion; Speed, Velocity, Acceleration, Newton's Laws of Motion, force – types of force – resultant force – Friction - types of friction – factors influencing the friction – fluid friction – gravitation – Newton's law of gravitation – centre of gravity and stability. Work and energy – types of energy – conservation of energy.

**5. Magnetism and Electricity:**

**Magnetism:** Natural Magnets and Artificial Magnets, properties of Magnets, uses magnets – methods of magnetization - Magnetic Induction – magnetic field – Magnetic lines of force.

**Electricity: Electric Circuit** - Primary Cells – conductors and insulators – electric charge – electric field – electric potential – potential difference – EMF – Ohm's law – resistance – specific resistance – resistances in series and parallel – heating effects of electric current – electric power – magnetic effects of electric current – solenoid – Fleming's left hand rule – electric motor – electromagnetic induction – electric generator – electrical conductivity of liquids – electro plating – Faraday's laws of electrolysis.

**6. Matter around us: States of matter – properties of matter – substances and mixtures – methods of separation of mixtures – fibers – types of fibers, plastics – types of plastics – use of plastics and environment.**

**Acids, bases and salts – neutralization - metals and non metals – physical and chemical properties of metals and non-metals – Coal and petroleum – combustion and fuels – types of combustion – temperature of combustion – calorific value.**

**7. Laws of Chemical Combination and Chemical Calculations:** Physical change, chemical change Laws of chemical combination, chemical reactions and calculations. Types of chemical reactions.

**8. Atomic Structure :** Atoms and molecules – elements – atomicity – Dalton's atomic theory – Ions – atomic mass – valency – molecular mass – concept of mole – molar mass – Thomson model of atom, Rutherford model of atom – Bohr's model of atom – atomic number – Isotopes – quantum numbers – electronic configuration.

**9. Periodic classification and chemical bonding :** Dobenier triads – Newlands law of octave – Mendaliev's periodic table – long form of periodic table – changes of properties of elements in groups and periods.

Chemical Bond – ionic bond – covalent bond – shapes of molecules – electron valency theory – properties of ionic and covalent substances.

**10. Metallurgy :** Extraction of metals and steps – reactivity of metals and its role in extraction of metals – various methods of extraction of metals.

**11. Biology:** Its importance in everyday life

**12. Living World - Characteristics:** Classification of Plants and Animals and their characteristics.

a) **Cell:** Concept, Cell theory, differences between Plant cell and Animal cell, Cell division.

b) **Tissues** - Animal tissues.

**13. Plant World - Types of plants:** Parts of a plant - their functions

Reproduction - Asexual, Sexual, Vegetative propagation, Nutrition, Photosynthesis, Excretion, Respiration

Economic importance of Plants, Agriculture, Crop diseases & pest control measure.

**14. Animal World: Movements, Organ systems and their functions including man**

Digestive system, Respiratory system, Circulatory system, Excretory system, Nervous system, Reproductive system, Sense organs in man, Nutrition Deficiency diseases in man, First Aid  
Economic importance of Animals, Animal husbandry, Pisciculture, Sericulture.

**15. Microbes: Bacteria, Viruses, Fungi, Protozoan**

— useful and harmful, microbial diseases in plants & animals

**16. Our Environment: Biotic & Abiotic factors, Natural resources, Biodiversity.**

**17. Recent trends in Biology: -Hybridization, Genetic engineering, Gene banks, Gene therapy, Tissue culture**

**PEDAGOGY (Marks: 06)**

1. Definition, Nature, Structure and History of Science
2. Aims, Values, Instructional Objectives of teaching Science and Academic Standards in Science
3. Methods of Teaching Science
4. Instructional Material in Teaching Science - TLM in Science.
5. Instructional Planning
6. Science Laboratory
7. Science Teacher - Changing Roles
8. Science Curriculum and its transaction, NCF-2005, SCF-2011
9. New Science Textbooks.
10. Evaluation - CCE – Formative Assessment, Summative Assessment - Designing and Administration- Analysis of Scholastic Achievement Test (SAT)

**IVb. SOCIAL STUDIES (Marks: 60)**

**CONTENT (Marks: 48)**

**I. DIVERSITY ON THE EARTH**

1. Maps – scale – cardinal points – types of maps – evolution of maps - conventional signs – contour lines.
2. Globe – oceans and continents - latitudes and longitudes – origin of earth - realms of the earth (lithosphere, atmosphere, hydrosphere, biosphere)– landforms – movements of the earth and its effect – seasons - interior of the earth.
3. Solar Energy – insolation – temperature and its measuring – polar regions.
4. Elements of climate – types of rainfall.
5. Europe, Africa and Antarctica – location – physical features– climate – forests and wild life – population – agriculture – minerals – industries – transportation – trade, exports and imports.
6. Geography of India and Telangana – physical features – rivers and other water sources – seasons – forests – climate and its factors affecting – floods and droughts – forests and animal wealth – soils – electricity – agriculture – mineral wealth – industries – population, literacy rate – density of population - settlements and migration- transportation.

**II. PRODUCTION – EXCHANGE AND LIVELIHOODS**

1. Production : Handicrafts, hand-looms – trade – factors of production (land, labour, capital and organization) employment- organized and unorganized sectors.
2. Exchange : money and banking- types of accounts -banking system – loans – commercial banks – their new services - price index, constructing a Consumer Price Index, regulating prices, barter system, evolution of money, paper money, plastic money – Internet banking – Financial Literacy- Reserve Banks and Self Help Groups.
3. Budget: Family budget – government budget – taxes – types of taxes – VAT – government expenditures.

4. Livelihoods: Changes in technology - Impact of Technology on the three sectors : agriculture industries and services.
5. Public Health : health services – public and private -health insurances – state of health in Telangana – Nutrition – safe drinking water – Public Health centers.
6. Inflation : types of inflation – reasons and effects.
7. New economic reforms: Globalization, Liberalization, privatization, FDI.
8. National Income : GNP, NNP, GDP, NDP and nominal and real GDP, National Income of India, Per capita Income of India standards of living- Development – meaning and its consequences.
9. Food Security -need – increase of food security – increase in food grains – PDS and Sustainable Development.

## **II. POLITICAL SYSTEMS AND GOVERNANCE**

1. Tribal Panchayat system – present local body system ( Gram Panchayat , Mandal Parishad and Zilla Parishad) & Urban Governments – formation and functions.
2. Emergence of kingdoms and republics – first empires – Mouryas – Rajputs – Rastrakutas – Cholas – Deccan kingdoms.
3. Regional Kingdoms : Kakatiyas – Vijayanagara Empires – Qutubshahis.
4. Moghals – Asafjahis – British Empire – landlords and tenants under the British and Nizams and Moghals – peasant movement in Hyderabad.
5. National Movement in India - Muslim League – partition and migration – merging of princely states - and Freedom Movement in Hyderabad State.
6. Making of laws – Assembly - Council and Parliament – Election process.
7. Implementation of Laws – Role of Collector, Tahasildar and VRO
8. Indian Constitution – formation – features and preamble - Justice – Rule of Law – Judicial System - civil and criminal laws.
9. Changing cultural traditions in Europe 1300-1800 – renaissance – reformation – modern science.
10. Democratic and National Movements – England , American and French revolutions -unification of Germany and Italy. Expansion of Democracy in Myanmar and Libya – Civil Liberties.
11. Industrialization and social change - Britain, Germany and France – movements of women, workers (Socialism).
12. Colonialism in Latin America, Asia and Africa – impact on India and other regional movements.
13. World Wars I and II – reasons –Treaty of Versailles – League of Nations Holocaust – consequences – Great depression.
14. National Liberation Movements in China , Vietnam and Nigeria
15. Post war world and India -UNO – NAM - west Asian conflicts – peace movements and collapse of USSR.
16. Independent India – first general elections - SRC – Relation with neighboring countries - regional agitations and formation of parties – coalition governments – Emergency period – Mandal commission.
18. The Movement for the formation of Telangana – gentle men's agreement – reasons for Telangana demand – different JACs – TRS – achieving Telangana.

## **IV. SOCIAL ORGANIZATION AND INEQUITIES**

1. Diversity in India – gender inequalities – sex ratio – employment – status of women and their work with wages – women protection acts.
2. Caste discriminations- reformers initiations.
3. Abolition of Zamindari System – poverty -Land ceiling.
4. Right to Education Act – Human Rights and Fundamental Rights.
5. Social Movements – Civil Rights movements – Green Peace. movements – Bhopal gas disaster – NBM – meria paibi.

## **V. RELIGION AND SOCIETY**

1. Religion and society in early times – Indus Valley Civilization – Vedas – Gautama Buddha.
2. Early Religious beliefs – Hinduism , Bhakti movement, Alvars and Nayanars– Christianity and Islam – Sufism.
3. Folk Gods – worship – Bonalu - Medaram jatara – Moharram.

4. Christian Missionary activities – Social Reformers.
5. Understanding Secularism.

## **VI. CULTURE AND COMMUNICATION**

1. Language – script -great epics.
2. Sangam Literature.
3. Sculpture and Buildings – Mauryan and Buddhist.
4. Rulers and Buildings -Engineering skills , temples, mosques , tanks and temples.
5. Performing Arts – film and print media – role in National Movement.
6. Sports, Nationalism and Commerce.

### **PEDAGOGY (Marks: 12)**

1. Nature and Scope of Social Studies.
2. Aims, Objectives and values of Teaching Social Studies.
3. Methods & techniques of Teaching Social Studies.
4. Teaching, Learning Material and Resources.
5. Instructional Planning.
6. Evaluation.
7. Social Studies Teacher.
8. Curriculum and Text Book
9. Disaster Management , Deforestation, Socio Economic Problems
10. National Identity -Civic affairs - International Relations.