ANNEXURE – II

NOTIFICATION NO.15/2019

SCHEME AND SYLLABUS

P.C.No.01 TECHNICAL ASSISTANT (GEOPHYSICS) IN A.P.GROUND WATER SUB SERVICE

SCHEME OF THE EXAMINATION

WRITTEN EXAMINATION (OBJECTIVE) Degree Standard				
Paper	**Subject**	**No. Of Questions**	**Duration Minutes**	**Maximum Marks**
Paper - I	General Studies & Mental Ability	150	150	150
Paper - II	Geophysics	150	150	150
			Total	300
N.B: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				
N.B.2: The Candidate must possess Degree in M.Sc or M.Sc (Tech) or M.Tech or its equivalent in Geophysics from a University.				

SYLLABUS

PAPER-I: GENERAL STUDIES AND MENTAL ABILITY

1. Events of national and international importance.
2. Current affairs- international, national and regional.
3. General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology.
4. Social- economic and political history of modern India with emphasis on Andhra Pradesh.
5. Indian polity and governance: constitutional issues, public policy, reforms and e-governance initiatives with specific reference to Andhra Pradesh.
6. Economic development in India since independence with emphasis on Andhra Pradesh.
7. Physical geography of Indian sub-continent and Andhra Pradesh.
8. Disaster management: vulnerability profile, prevention and mitigation strategies, Application of Remote Sensing and GIS in the assessment of Disaster.
9. Sustainable Development and Environmental Protection
10. Logical reasoning, analytical ability and data interpretation.
11. Data Analysis:
    a) Tabulation of data
    b) Visual representation of data
    c) Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation
12. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

PAPER-2: GEOPHYSICS

BASICS : Occurrence of water in different forms, water cycle and water balance and factors contributing to the distortion of water balance.

Geo-Hydrology: Concepts of Geo-Hydrology and Hydro-Geology, Ground Water Aquifers – Definition of acquifer, aquiclude, aquited and aquifuge, concepts of confined, unconfined and leaky aquifers – Water bearing properties of aquifers – Storage properties – Definition of porosity, specific yield, specific retention factors influencing porosity of rocks – Determining porosity of rocks in field and in laboratory. Definition of permeability, transmissivity and storage coefficients – Ground Water Movement - Darcy's Law, distribution and concurrence of ground water. Dependency of ground water quality and yield on the recharge, Lithology and structural features. Ground water in hard rock, soft rock and coastal aquifers – Application of geological, geochemical and remote sensing methods in ground water exploration.

PRINCIPLES OF GEOPHYSICAL PROSPECTING OF GROUND WATER: Physical properties of rocks and ground water – Electrical resistivity, polarisability, dielectric permeability, thermal conductivity, density, magnetic susceptibility, elastic modulus and wave velocities in different

media. Effect of porosity, mineral composition grain size, packing, temperature and pressure conditions water content, salinity etc., of the rocks and saturating fluids on the physical properties of rocks and Electrical resistivity method as employed in ground water problems. Various electrode configurations their applications and merits and demerits – VES and profiling methods – Interpretation – Tracing leteral and vertical boundaries of strata. Determining hydro geological properties of strata from electrical resistivity method – Principles and application of S.P., I.P. and E M methods in solving ground water problems especially in tracing the fracture and joint pattern of rocks.

Electromagnetic frequency sounding and applications – Seismic prospecting methods – Reflection and Refraction and Interpretation of seismic data in ground water problems – Gravity and magnetic methods – their role in ground water exploration, Geothermal methods – principle and application in solving ground water problems – Remote sensing and Airborne geophysical methods for assessing ground water potentialities on regional basis.

GEOPHYSICAL WELL – LOGGING METHODS: Consideration and specification for solving ground water problems. Principles and role of resistivity, S.P. Nuclear and thermal logging methods. Sonic, density and magnetic susceptibility logging for determining formation characters – Geophysical methods in estimating aquifer and reservoir conditions.

APPLICATION OF GEOPHYSICAL METHODS FOR SOLVING HYDROGEOLOGICAL PROBLEMS IN :
(i) Soft Rock areas – Sedimentary and alluvial
(ii) Hard Rock Areas – Granites, metamorphics etc
(iii) Karst areas
(iv) Coastal areas – Salt water intrusion in fresh water aquifers and their boundary determination
(v) Prediction of hydraulic properties of granular aquifers
(vi) Tracing buried river valleys
(vii) Ground Water reservoir studies
(viii) Studying valley fill areas.

HYDRODYNAMIC INVESTIGATIONS OF AQUIFERS AND WELLS: Hydro geological parameters of aquifers. Systematic pumping tests in steady and unsteady state conditions and methods of Theis and Jacob and Theis recovery method.

FORMATION DRILLING AND WELL CONSTRUCTION: Types of wells – Dug, Dug-cumbore, shallow bore-wells, Tube Wells and Redial wells, Infiltration Galleries. Their advantages and disadvantages for discharging ground water, Methods of drilling and Percussion and Rotary – their advantages and disadvantages. Well construction-well design, well casing, Grouting and installation of well screens. Development of wells, surging, compressed air, high velocity setting, back washing, Over pumping, well efficiency and maintenance – causes of failure of wells and remedial measures pumps – shallow and deep well, hand pumps, vertical turbine pumps, submersible pumps, centrifugal pumps, jet pumps.

ANALYTICAL STUDY OF GEO-HYDROLOGICAL DATA: Flow nests – Graphical construction, analog simulation, numerical simulation, saturated and unsaturated flow nest and well hydrographs and their analysis. Ground water modeling scope and utility. Types of models – Physical, analog, digital and hybrid models. Advantages and disadvantages; determining norms for safe yield in a basin by various methods. Ground water investigation in environmental and eco-balance studies.

1. Concept of programming languages Computer operating system like MS Dos, MS Windows, Unix.
2. Interpretation of Geophysical data by using computer techniques.
3. Artificial recharge Methods, conservation.
4. Ground Water Management, Ground Water Budget.
5. Ground Water pollution, landfills, waste disposal, Mining, water logging, reclamation – case studies.
6. Geographic Information system related to Ground water.

P.C.No.02 TECHNICAL ASSISTANTS (HYDROGEOLOGY) IN A.P. GROUND WATER SUB-SERVICE

SCHEME OF THE EXAMINATION

WRITTEN EXAMINATION (OBJECTIVE TYPE) Degree Standard				
Paper	**Subject**	**No. Of Questions**	**Duration Minutes**	**Maximum Marks**
Paper - I	General Studies & Mental Ability	150	150	150
Paper - II	Geology and Hydrogeology	150	150	150
			Total	300
N.B: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				

SYLLABUS

PAPER-I: GENERAL STUDIES AND MENTAL ABILITY

1. Events of national and international importance.
2. Current affairs- international, national and regional.
3. General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology.
4. Social- economic and political history of modern India with emphasis on Andhra Pradesh.
5. Indian polity and governance: constitutional issues, public policy, reforms and e-governance initiatives with specific reference to Andhra Pradesh.
6. Economic development in India since independence with emphasis on Andhra Pradesh.
7. Physical geography of Indian sub-continent and Andhra Pradesh.
8. Disaster management: vulnerability profile, prevention and mitigation strategies, Application of Remote Sensing and GIS in the assessment of Disaster.
9. Sustainable Development and Environmental Protection
10. Logical reasoning, analytical ability and data interpretation.
11. Data Analysis:
    a) Tabulation of data
    b) Visual representation of data
    c) Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation
12. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

PAPER-2: GEOLOGY AND HYDROGEOLOGY

Part – I

1. **General Geology:** Solar System. The Earth: its origin, age and internal constitution. Volcanoes-types, distribution geological effects and products. Earth-quakesintensity, magnitude, distribution, causes and effects. Elementary ideas about isostasy, geosynclines, mountain building, continental drift, sea floor spreading and plate tectonics.

2. Geomorphology: Basic concepts. External and internal processes. Rock weathering. Cycle of erosion. Fluvial landforms and drainage patterns. Landforms of Aeolian, marine, glacial and 'Karst' landscapes. Elements of Remote Sensing.

3. Structural and field Geology: Primary and secondary structures. Dip and strike of beds. Unconformities. Study of folds, joints, faults, foliation and lineations. Overthrusts and nappe structures. Stages of rock deformation. Construction of block diagrams, Stereographic and equalarea nets. Solutions of simple problems by stereographic net. Topographic maps and their interpretation. Use of clinometer compass in the field Measurements of bed, foliation, folds joints, faults and lineations in the field. Principles of geological mapping. Effects of topography on outcrops. Drawing of sections.

Part – II

1. Crystallography: Elements of crystal structure. Laws of crystallography, Symmetry elements of normal classes of seven crystal systems. Properties and interaction of light and crystalline matter. Petrological microscope and accessories. Construction and use of Nicole prism. Pleochroism, double refraction, extinction angle, birefringence and twinning in crystals, Isotropic, uniaxial and biaxial minerals.

2. Mineralogy: Physical, chemical and optical properties of the following common rock forming minerals: quartz, feldspar, mica, pyroxene, amphibole, olivine, garnet,

chlorite, carbonates, aluminosilicates. Structure of silicates and crystal chemistry of minerals. Gemstones.

3. Economic Geology: Ore, ore mineral and gangue. Classification of ore deposits. Important processes of their formation. Occurrence, origin and distribution in India of
the ores of aluminium, chromium, copper, gold, lead, zinc, iron, manganese and radioactive elements. Deposits of minerals use as abrasives, refractories and in ceramics, deposits of coal and petroleum. Elements of prospective of mineral deposits.

Part – III

1. **Igneous Petrology:** Origin of magma and formation of igneous rocks. Bowen's reaction principle. Crystallisation of binary systems. Classification of igneous rocks. Textures and structures of igneous rocks. Composition, origin and mode of occurrence of granite, syenite diorite, mafic and ultramafic groups, anorthosites and alkaline rocks.

2. Sedimentary Petrology: Sedimentary process and products. Classification of sedimentary rocks. Sedimentary structures. Residual deposits – their mode of
formation, chacteristics and types, Clastic deposits – their classification, mineral composition and texture. Elementary ideas about the origin and characteristics of
quartz arenites, arkoses and greywackes. Siliceous and calcareous deposits of chemical and organic origin.

3. Metamorphic Petrology: Types and factors of metamorphism. Zones, grades and facies of metamorphism. Regional and contact metamorphism. Textures and structures of metamorphic rocks. Metamorphism of argillaceous, arenaceous, calcareous and basic rocks. Metasomatism.

Part – IV

1. Paleontology: Habits and habitats of animals. Fossils and fossilization. Modes of preservation. Application of fossils, Study of morphology and geological history of
Foraminiferida, Brachipoda, Bivalvia, Gastropoda, Cephalopoda, Trilobita, Echinoidea and Anthozoa. Mammals of Siwalik Group. A brief study of Gondwana
flora.

2. Stratigraphy and Geology of India: Fundamental laws of stratigraphy. Stratigraphic classification lithostratigraphic, biostratigraphic and chronostratigraphic. Geological time scale. Physiographic divisions and outline of stratigraphy of India. Brief study
of Dharwar, Vindhyan and Gondwana Supergroups and Siwalik Group with reference to their major subdivisions, lithology, fossils, aerial distribution and economic importance.

Part-V

Fundamentals of Hydro-geology, Hydrologic cycle. Ground Water, Storage and movement of subsurface water properties of rocks effecting ground water, Aquifers.
Different geological formations as aquifers. Darsy's Law. Pumping tests. Quality and treatment of ground water. Exploration for ground water. Ground water management.

P.C.No.03 TECHNICAL ASSISTANT IN A.P. MINING SUB- SERVICE

SCHEME OF THE EXAMINAION

WRITTEN EXAMINATION (OBJECTIVE TYPE) Degree Standard				
Paper	**Subject**	**No. Of Questions**	**Duration Minutes**	**Maximum Marks**
Paper - I	General Studies & Mental Ability	150	150	150
Paper - II	Geology	150	150	150
				300
N.B.: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				

SYLLABUS

PAPER-I: GENERAL STUDIES AND MENTAL ABILITY

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2. Current affairs- international, national and regional.
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12. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

PAPER-2: GEOLOGY

Part – I

a) **General Geology:** Solar System. The Earth: its origin, age and internal constitution. Volcanoes-types, distribution geological effects and products. Earth-quakes-intensity, magnitude, distribution, causes and effects. Elementary ideas about isostasy, geosynclines, mountain building, continental drift, sea floor spreading and plate tectonics.

b) **Geomorphology:** Basic concepts. External and internal processes. Rock weathering. Cycle of erosion. Fluvial landforms and drainage patterns. Landforms of Aeolian, marine, glacial and 'Karst' landscapes. Elements of Remote Sensing.

c) **Structural and field Geology:** Primary and secondary structures. Dip and strike of beds. Unconformities. Study of folds, joints, faults, foliation and lineations. Overthrusts and nappe structures. Stages of rock deformation. Construction of block diagrams, Stereographic and equal-area nets. Solutions of simple problems by stereographic net. Topographic maps and their interpretation. Use of clinometer compass in the field Measurements of bed, foliation, folds joints, faults and lineations in the field. Principles of geological mapping. Effects of topography on outcrops. Drawing of sections.

Part – II

a) Crystallography: Elements of crystal structure. Laws of crystallography, Symmetry elements of normal classes of seven crystal systems. Properties and interaction of light and crystalline matter. Petrological microscope and accessories. Construction and use of Nicole prism. Pleochroism, double refraction, extinction angle, birefringence and twinning

in crystals, Isotropic, uniaxial and biaxial minerals.

b) Mineralogy: Physical, chemical and optical properties of the following common rock forming minerals: quartz, feldspar, mica, pyroxene, amphibole, olivine, garnet, chlorite, carbonates, aluminosilicates. Structure of silicates and crystal chemistry of minerals. Gemstones.

c) Economic Geology: Ore, ore mineral and gangue. Classification of ore deposits. Important processes of their formation. Occurrence, origin and distribution in India of the ores of aluminium, chromium, copper, gold, lead, zinc, iron, manganese and radioactive elements. Deposits of minerals use as abrasives, refractories and in ceramics, deposits of coal and petroleum. Elements of prospective of mineral deposits.

Part – III

a) Igneous Petrology: Origin of magma and formation of igneous rocks. Bowen's reaction principle. Crystallisation of binary systems. Classification of igneous rocks. Textures and structures of igneous rocks. Composition, origin and mode of occurrence of granite, syenite diorite, mafic and ultramafic groups, anorthosites and alkaline rocks.

b) Sedimentary Petrology: Sedimentary process and products. Classification of sedimentary rocks. Sedimentary structures. Residual deposits – their mode of formation, chacteristics and types, Clastic deposits – their classification, mineral composition and texture. Elementary ideas about the origin and characteristics of quartz arenites, arkoses and greywackes. Siliceous and calcareous deposits of chemical and organic origin.

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b) Stratigraphy and Geology of India: Fundamental laws of stratigraphy. Stratigraphic classification lithostratigraphic, biostratigraphic and chronostratigraphic. Geological time scale. Physiographic divisions and outline of stratigraphy of India. Brief study of Dharwar, Vindhyan and Gondwana Supergroups and Siwalik Group with reference to their major subdivisions, lithology, fossils, aerial distribution and economic importance.

P.C.No.4 DEPUTY INSPECTOR OF SURVEY IN SURVEY SETTLEMENTS & LAND RECORDS SUB SERVICE

SCHEME OF THE EXAMINATION

WRITTEN EXAMINATION (Objective Type)				
Paper	**Subject**	**No. Of Questions**	**Duration Minutes**	**Maximum Marks**
Paper - I	General Studies & Mental Ability (Degree Standard)	150	150	150
Paper - II	Subject: Civil Engineering (Diploma Standard)	150	150	150
			Total	300
N.B.: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				

SYLLABUS

PAPER-I: GENERAL STUDIES AND MENTAL ABILITY

1. Events of national and international importance.
2. Current affairs- international, national and regional.
3. General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology.
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11. Data Analysis:
    a) Tabulation of data
    b) Visual representation of data
    c) Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation
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Paper – II

CIVIL ENGINEERING (Diploma standard)

SOLID MECHANICS:

Forces: Different types of forces, gravitational, frictional, axial, tensile or compressive. Law of Parallelogram and triangle of forces, polygon of forces, problems.

Friction: Statical friction, limiting friction, simple problems. Centre of gravity and moment of inertia. Simple plane figures.

Simple machines, law of machine, Mechanical advantage, velocity ratio and efficiency, wheel and axle, pulleys and simple screw jack-problems

Simple Stresses and strailns: Different types of stresses and strains, stress-strain diagram for ductile materials. Factor of safety, ultimate strength and working strength, elastic constants, poisson ratio.

Deformations, volume changes. Relations between elastic constants. Hooke's Law. Compound rods, temperature stresses, strain energy, proof resiliance, impact loading.

Riveted and welded joints, different modes of failures, efficiency of joints, thin cylindrical shells, longitudinal and circumferential stresses and volume changes.

Shear force and bending moment diagrams for simply supported, over hanging and cantilever beams. Relation between intensity of loading, shear force and bending moment. Economical length of overhanging beams.
Theory of simple bending: Assumptions, basic flexure formula, bending stresses, modulus of section, moment of resistance. Circular bending. Distribution of shear stress in common structural sections.
Deflection in cantilever and simply supported beams under simple loading-propped cantilever beams subjected to simple loading, determination of reaction. SF and BM diagrams.
Torsion: Assumptions, basic formula of torsion, power transmission by shafts of uniform circular sections close-coiled springs, strain-energy in simple beams and shafts, sudden and impact loading. Principal stresses and principal planes. Moher's circle of stress.
Thin cylinders under internal pressure stresses and volume changes.
Columns and struts: Direct and bending stresses, core of section. Short and long columns under axial loading-various end-conditions. Euler and Rankine formulae, Slenderness ratio, simple built-up columns.
Simple plane and pin-jointed trusses: Stresses by method of joints and method of sections.

FLUID MECHANICS:
Introduction: Scope of hydraulics in Engineering. Definition and properties of fluid.
Fluid pressure and its measurement: Atmospheric pressure, Gauge pressure and absolute pressure.
Piezometer, Manometer-U-tube, Inverted U-tube, and differential manometers.
Pressure on plane surface immersed in liquid-Horizontal, vertical and inclined plane surface.
Flow of fluids: Type of flow-uniform flow, non-uniform flow, streamline flow, Turbulant flow, steady flow and unsteady flow, Energies in fluid motion-Datum head, pressure head and velocity head. Total energy of fluid in motion - Bernoulli's theorem. Practical application of Bernoulli's theorem – pitot tube venturimeter - Orificemeter - problems.
Flow through orifices and Mouth Pieces: Definition of orifice, types of orifices, Vena contracta, coefficient of velocity, coefficient of contraction, coefficient of discharge. Submerged and partially submerged orifices. Flow through orifices under variable heads - Time of emptying a rectangular tank through orifices. Mouth pieces - different types of problems.
Notches and Weirs: Definition of notch, types of notches - Rectangular notch, Tringular notch and trapezoidal notch. Discharge over a rectangular, triangular and a trapezoidal notches.
Flow through pipes: Major and minor losses - Loss of head at entrance, loss of head due to sudden enlargement, due to sudden contraction, loss of head at exit of the pipe. Frictional loss in pipe-Chezy formula and Daycy's formula.
Hydraulic gradient and total energy line. Discharge through parallel pipes and branched pipes connected to a reservoir. Flow through syphon pipe.
Hydraulic transmission of power-flow through nozzle at the end of a pipe line-diameter of nozzle for Max H.P. available. Water hammer and its effect. Laminar and turbulent flow in pipes-Critical velocity and Reynold number.
Measurements: Measurement of velocity - Current meter surface floats and weighted rods.
Determination of discharge from velocity readings.
Impact of jets: Formulae for the force of jet on a fixed vertical flat plate, fixed inclined flat plates, moving flat plates, series of flat plates fixed on the rim of a wheel. Force of jet striking at the centre and at the top of a fixed curved blade and moving curved blade, velocity triangles. Work done, power and efficiency in the above cases. Simple problems. Water turbines: Introduction to water turbines.
Use of water turbines in Hydroelectric power stations line sketch showing layout of hydro-electric power plant with head race, dam, sluice gate, pen stock turbine, generator and tail race.
Classification of turbines - impulse and reaction turbines brief sub-classification of axial, radial and tangential flow type. Pelton wheel, Francis turbine and Kaplan turbine, Governing of waster turbines.
Simple problems on power and efficiency.
Centrifugal pump: Installation, mountings and other accessories. Priming of centrifugal pump.
Efficiency, cavitation. Simple problems on work, power and efficiency.

P.C.No.05 TECHNICAL ASSISTANTS IN A.P. ARCHAEOLOGY & MUSEUMS SUB-SERVICE

SCHEME OF THE EXAMINATION

WRITTEN EXAMINATION (OBJECTIVE Type) (Degree Standard)				
Paper	**Subject**	**No. Of Questions**	**Duration**	**Maximum Marks**
Paper - I	General Studies & Mental Ability	150	150	150
Paper - II	subject: Archaeology Museology and Indology	150	150	150
			Total	300
N.B.: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				

SYLLABUS

PAPER-I: GENERAL STUDIES AND MENTAL ABILITY

1. Events of national and international importance.
2. Current affairs- international, national and regional.
3. General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology.
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PAPER 2: ARCHAEOLOGY, MUSEOLOGY & INDOLOGY

I. Nature and scope of the Subject- Relations with History and Sciences-earth, Natural, physical, Human and advanced Sciences; Development of archaeology as an academic Discipline; New Archaeology-recent Trends in Archaeological Studies; Pleistocene Period-Its importance; human Evolution-various stages of human Revolution

II. Archaeological Exploration-aerial Photography-Scientific aids in Exploration; Excavation-Vertical and Horizontal excavation-Excavation of Town sites-Burials-Pottery and its Importance to Archaeology-Under Water Archaeology-Recent development in Under water Archaeology in India

III. Recording-Reconstruction of the palaeo-environment and culture; Preparation of Excavation Report;-Publication of the Data

Dating Methods-Relative and absolute Dating Methods-C-14 Method- Thermoluminiscence-Potassium Argon-Dendro chronology and Palaeo-Magnetic Dating Methods

PRE-HISTORY OF INDIA

Prehistoric divisions and Terminology;
Lower Palaeolithic cultures of India
Middle Palaeolithic cultures; Upper palaeolithic Period in India-Andhra
Mesolithic in India-North, south and Central Indian cultures Eastern Indian; cave art-Life and culture of Mesolithic period
Neolithic period in India-Shift to food Production-regional variations-North-south and eastern India
Material culture of Neolithic period-Chronology and Burial cultoms

Proto and Early Historical Cultures

Pre-Harappan cultures-Sindh, Punjab and Rajasthan area-Baluchistan and Afghanistan area- Life and culture
Harappan culture-Nomenclature-Extent-Chronology-Trade and commerce-Burial culstoms-End of the civilization-Dholavira, Kalibangan, Harappan
Post HarappanChalcolithic Cultures of India-Ahar-Malwa-Jorwae and Deccan-Life and Culture Copper Hoard cultures-Iron Age in India-P.G Ware; Black and Red Ware-Megalithic Burials- South Indian Megaliths-Life and culture
Cultures of Early Historic India-Early Historic Urban Growth-Sites-Hastinapur-Taxila and Nagarjunakonda-Life and culture

Indian Art, Architecture and Iconography

Harappan art;Mauryan art and architecture; Buddhist Monuments-Rockcut and structural Kushan art-Gandhara- and Mathura art-Satavahana art
Gupta art and Architecture- Evolution of Hindu temple architecture-Chalukyan art and temples Pallava art-Rashtrakuta-Chola and vijayanagara art and architecture
Hindu Iconography-Vishnu-Siva and Sakta Iconography; Paintings on walls of caves and temples

I. History of Museum Movement in India-Types of Museums-Educative value of Museums

II. Organisation of a Museum-Premises and Space for different Sections-Museum administration-Methods of Acquisition

III. Cataloguing and Indexing-Methods of Display-principles of display of coins and art Objects-Types of Exhibitions

Epigraphy as a Source of History; Origin and antiquity of writing in India; Writing materials; Origins of Brahmi and Kharoshthi Scripts; Types of Inscriptions Palaeographical formulae; contents of Inscriptions
Dating Inscriptions-Use of Eras; Characteristics of Brahmi Script-development of Script from 3rd century B.c to 3rd century A.D. Characteristic features of Telugu-Kannada Script-Archaic, Middle and Later Varieties from 4th to 16th centuries A.D.

P.C.NO.06 WELFARE ORGANISER IN A.P. SAINIK WELFARE SUB-SERVICE

SCHEME OF THE EXAMINATION

WIRTTEN EXAMINATION (Objective Type) SSC Standard				
Paper	Subject	No. Of Questions	Durations Minutes	Maximum Marks
Paper - I	General Studies & Mental Ability	150	150	150
Paper-II	Secretarial Abilities	150	150	150
			Total	300
N.B.: As per G.O.Ms. No.235 Finance (HR-1, Plg & Policy) Dept, Dt: 06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question in all Objective type papers.				

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11. Data Analysis:
    a) Tabulation of data
    b) Visual representation of data
    c) Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation
12. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

PAPER-II

SECRETARIAL ABILITIES

1. Comprehension
2. Descriptive Passage
3. Logical Passage
4. Narrative Passage
   a) Re-arrangement of sentences with a view to improving the structure of a Passage.
   b) Spelling, Punctuation, Proof-Reading, Editing Skills
5. Numerical and Arithmetical abilities.