

**ANNEXURE – II****Notification No.14/2019****SCHEME AND SYLLABUS**

**P.C.No.01 a) ASSISTANT B.C. WELFARE OFFICER IN A.P. B.C. WELFARE SERVICE,  
b) ASSISTANT SOCIAL WELFARE OFFICER IN A.P. SOCIAL WELFARE SERVICE,  
C) ASSISTANT TRIBAL WELFARE OFFICER IN A.P. TRIBAL WELFARE SERVICE**

**SCHEME OF THE EXAMINATION****For Screening Test**

WRITTEN EXAMINATION (Objective Types) Degree Standard				
General Studies & Mental Ability and Welfare Measures		No. Of Questions	Duration Minutes	Maximum Marks
		150	150	150
NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg & Policy) Dept., Dt.06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question.				
SCHEME FOR MAIN EXAMINATION (Degree Standard)				
PART - A	Subject	No. of Questions	Duration Minutes	Maximum Marks
PAPER- I	General Studies & Mental Ability	150	150	150
PAPER-II	Subject:	150	150	150
PAPER- III	Subject:	150	150	150
PART - B	Interview			50
				500
NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg & Policy) Dept.,Dt.06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question.				

**SYLLABUS FOR SCREENING TEST****SECTION-I****No. of Questions: 75****Marks: 75****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.

**SECTION-II**

**No. of Questions: 75**

**Marks: 75**

**SOCIAL AND CULTURAL HISTORY OF ANDHRA PRADESH AND WELFARE PROGRAMMES**

1. Social and Cultural History of Andhra Pradesh: Geographical Features of Andhra – Its Impact on History and Culture – Pre-History – The Satavahanas, Ikshvakus – Socio-Economic and Religious Conditions – Literature, Art and Architecture – The Eastern Chalukyas of Vengi – Society, Religion, Telugu Language, Literature, Art and Architecture.
2. Various kingdoms that ruled Andhra Pradesh between 11th and 16th Centuries A.D. Socio- Cultural and Religious conditions in Andhradesa between 11th to 16th Centuries A.D, Growth of Telugu Language, literature, Art, Architecture and Painting.
3. Advent of Europeans- Trade centers- Andhra under the Company– 1857 Revolt and its impact on Andhra- Establishment of British Rule- Socio-Cultural awakening, Justice party/self respect movements- Growth of Nationalist Movement in Andhra between 1885 to 1947– Role of Socialists– Communists– Anti- Zamindari and Kisan Movements. Growth of Nationalist poetry.
4. Origin and growth of Andhra movement- Role of Andhra Mahasabhas- Prominent Leaders- Events leading to the formation of Andhra State 1953. Role of News Papers in the Andhra Movement.
5. Events leading to the Formation of Andhra Pradesh State – Visalandhra Mahasabha – States Reorganization Commission and Its Recommendations – Gentlemen Agreement – Important Social and Cultural Events between 1956 and 2014.
6. Priorities of State Government for the welfare and Economic Development of SC

**GENERAL OVERVIEW OF THE INDIAN CONSTITUTION AND WELFARE AND PROTECTION**

**MEASURES FOR WEAKER SECTIONS**

7. Nature of the Indian Constitution – Constitutional Development – Salient features of Indian Constitution – Preamble – Fundamental Rights, Directive Principles of State Policy and their relationship - Fundamental Duties, Distinctive features – Unitary and Federal.
8. Structure and functions of Indian Government- Legislative, Executive and Judiciary- Types of Legislatures- Unicameral, Bicameral- Executive – Parliamentary, Judiciary- Judicial Review, Judicial Activism.
9. Distribution of Legislative and Executive Powers between the Union and the States; Legislative, Administrative and Financial relations between the Union and the States– Powers and the Functions of Constitutional Bodies- UPSC, State Public Service Commissions, CAG and Finance Commission.
10. Centre- State relations- Need for Reforms- Rajmannar Committee, Sarkaria Commission, M.M. Punchchi Commission - Unitary and Federal features of Indian Constitution.
11. Amendment Process to the Constitution - Centralization Vs Decentralization - Community Development Programs- Balwantray Mehta, Ashok Mehta Committees- 73rd and 74th Constitutional Amendment Acts and their Implementation.
12. Indian Political Parties- National, Regional- One Party, Bi-Party, Multi-Party Systems- Regionalism and Sub-Regionalism–Demand for New States - Sri Krishna Committee – National Integration- Threats to Indian Unity.
13. Constitutional provisions for the up-liftment of SC/ST. Welfare Mechanisms in India provisions for Scheduled Castes, Tribes & Minorities, Reservations for SCs, STs and Backward classes – Prevention of SCs and STs Atrocities Act- National & State SCs, STs & BCs Commissions, Women's Commission, National and State Minorities Commissions – Human Rights Commission – RTI- Lokpal & Lok Ayukt
14. Legislative Acts for eradication of Social evils and practices

**SYLLABUS FOR MAIN EXAMINATION**

**P.C.No.01 a) ASSISTANT B.C. WELFARE OFFICER,  
b) ASSISTANT SOCIAL WELFARE OFFICER,  
c) ASSISTANT TRIBAL WELFARE OFFICER**

**PAPER –I**

**No. of Questions: 150**

**Marks: 150**

**GENERAL STUDIES AND MENTAL ABILITY**

1. Events of national and international importance.
2. Current affairs- international, national and regional.
3. General Science and its 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-II**

**SOCIAL AND CULTURAL HISTORY OF ANDHRA PRADESH AND WELFARE PROGRAMMES**

**No. of Questions: 150**

**Marks: 150**

1. Social and Cultural History of Andhra Pradesh: Geographical Features of Andhra – Its Impact on History and Culture – Pre-History – The Satavahanas, Ikshvakus – Socio-Economic and Religious Conditions – Literature, Art and Architecture – The Eastern Chalukyas of Vengi – Society, Religion, Telugu Language, Literature, Art and Architecture.
2. Various kingdoms that ruled Andhra Pradesh between 11th and 16th Centuries A.D. Socio- Cultural and Religious conditions in Andhradesa between 11th to 16th Centuries A.D, Growth of Telugu Language, literature, Art, Architecture and Painting.
3. Advent of Europeans- Trade centers- Andhra under the Company– 1857 Revolt and its impact on Andhra- Establishment of British Rule- Socio-Cultural awakening, Justice party/self respect movements- Growth of Nationalist Movement in Andhra between 1885 to 1947– Role of Socialists– Communists– Anti- Zamindari and Kisan Movements. Growth of Nationalist poetry.
4. Origin and growth of Andhra movement- Role of Andhra Mahasabhas- Prominent Leaders- Events leading to the formation of Andhra State 1953. Role of News Papers in the Andhra Movement.
5. Events leading to the Formation of Andhra Pradesh State – Visalandhra Mahasabha – States Reorganization Commission and Its Recommendations – Gentlemen Agreement – Important Social and Cultural Events between 1956 and 2014.
6. Priorities of State Government for the welfare and Economic Development of SC/ST's.

**PAPER-III**

**GENERAL OVERVIEW OF THE INDIAN CONSTITUTION AND WELFARE AND PROTECTION  
MEASURES FOR WEAKER SECTIONS**

**No. of Questions: 150**

**Marks: 150**

1. Nature of the Indian Constitution – Constitutional Development – Salient features of Indian Constitution – Preamble – Fundamental Rights, Directive Principles of State Policy and their relationship - Fundamental Duties, Distinctive features – Unitary and Federal.
2. Structure and functions of Indian Government- Legislative, Executive and Judiciary- Types of Legislatures- Unicameral, Bicameral- Executive – Parliamentary, Judiciary- Judicial Review, Judicial Activism.
3. Distribution of Legislative and Executive Powers between the Union and the States; Legislative, Administrative and Financial relations between the Union and the States- Powers and the Functions of Constitutional Bodies- UPSC, State Public Service Commissions, CAG and Finance Commission.
4. Centre- State relations- Need for Reforms- Rajmannar Committee, Sarkaria Commission, M.M. Punchchi Commission - Unitary and Federal features of Indian Constitution.
5. Amendment Process to the Constitution - Centralization Vs Decentralization - Community Development Programs- Balwantray Mehta, Ashok Mehta Committees- 73rd and 74th Constitutional Amendment Acts and their Implementation.
6. Indian Political Parties- National, Regional- One Party, Bi-Party, Multi-Party Systems- Regionalism and Sub-Regionalism–Demand for New States - Sri Krishna Committee – National Integration- Threats to Indian Unity.
7. Constitutional provisions for the up-liftment of SC/ST. Welfare Mechanisms in India provisions for Scheduled Castes, Tribes & Minorities, Reservations for SCs, STs and Backward classes – Prevention of SCs and STs Atrocities Act- National & State SCs, STs & BCs Commissions, Women's Commission, National and State Minorities Commissions – Human Rights Commission – RTI- Lokpal & Lok Ayukt
8. Legislative Acts for eradication of Social evils and practices

**P.C.No.02 SCHEME AND SYLLABUS FOR THE POST OF CIVIL ASSISTANT SURGEONS IN**  
**A.P.INSURANCE MEDICAL SERVICE**

**SCHEME OF THE EXAMINATION**

<b>WRITTEN EXAMINATION (Objective Type)</b>				
<b>PAPER</b>	<b>SUBJECT</b>	<b>No. Of Questions</b>	<b>Duration Minutes</b>	<b>Maximum Marks</b>
PAPER-I	General Studies & Mental Ability (Degree Standard)	150	150	150
PAPER-II	SUBJECT: (Medical Science , General Medicine and General surgery)	150	150	300
Total				450
<b>NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg &amp; Policy) Dept., Dt. 06/12/2016, for each wrong answer will be penalized with 1/3<sup>rd</sup> of the marks prescribed for the question.</b>				

**Syllabus**

**PAPER-I: GENERAL STUDIES AND MENTAL ABILITY**

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

**PAPER-II**

**Subject: (MEDICAL SCIENCE, GENERAL MEDICINE AND GENERAL SURGERY)**

**HUMAN ANATOMY:** Gross and microscopic anatomy and movements of shoulder hip and knee joints – Gross and microscopic anatomy and block supply of lungs, heart, kidneys, liver, testis and uterus – Gross anatomy of pelvis, perineus and inguinal region, Cross sectional anatomy of the body at mid-thoracic, upper abdominal, mid-abdominal and pelvic regions. Major steps in the development of lung, heart, kidney, urinary bladder, uterus, ovary, testis and their common congenital abnormalities – Placenta and placental barrier – Neural pathways for cutaneous sensations and vision cranial nerves iii, iv ,v, vi, vii, x; distribution and clinical significance - Anatomy of the automatic control of gastrointestinal respiratory and reproductive systems.

**HUMAN PHYSIOLOGY:** Nerve and muscle excitation, conduction and transmission of impulse; mechanism ;of contraction; neuromuscular transmission - Synaptic transmission, reflexes, control of equilibrium posture and muscle tone. Descending pathways; functions of cerebellum, basal ganglia, reticular formation, hypothalamus limbic system and cerebral cortex – Physiology of sleep and consciousness: E.E.G. – Higher functions of the brain – Vision and hearing – Mechanism of action of hormones; formation, secretion, transport, metabolism, functions and regulation of secretion of pancreas and pituitary glands – Menstrual cycle; lactation, pregnancy – Development regulation and fate of blood cells – Cardiac excitation; spread ;of cardiac impulse, E.C.G. cardiac output, blood pressure, Regulation of Cardiovascular functions – Mechanics of respiration and regulation of respiration – Digestion and absorption of food, regulation of secretion and motility of gastrointestinal tract –

Glomerular and tubular functions of kidney – Blood groups, Rh grouping, blood transfusion, and Blood volume.

**BIOCHEMISTRY:** PH and PK Henderson – Hasselbalch equation – Properties and regulation of enzyme activity; role of high energy phosphates in bioenergetics – Sources, daily requirements, action and toxicity of vitamins – Metabolism of Lipids, carbohydrates, proteins; disorders of their metabolism – Chemical nature, structure, synthesis and functions of nucleic acids and proteins – distribution and regulation of body water and minerals including trace elements – Acid base balance – Clinical importance of enzymes. **PATHOLOGY:** Reaction of cell and tissue of injury; inflammation and repair, disturbances of growth and cancer; genetic diseases – Pathogenesis and histopathology of; rheumatic and ischaemic heart disease – bronchogenic carcinoma, carcinoma breast, oral cancer, cancer colon – Etiology, pathogenesis and histopathology of: Peptic ulcer – Cirrhosis liver – Glomerulonephritis – Lobar pneumonia – Acute osteomyelitis – Hepatitis – acute pancreatitis – FINE needle aspiration cytology (FNAC) – **MICROBIOLOGY:** Growth of micro-organisms; sterilization and disinfection bacterial genetics; virus-cell interactions – Immunological principles; acquired immunity; immunity in infections caused by viruses – Diseases caused by and laboratory diagnosis of staphylococcus Enterococcus; Salmonella; Shigella; Escherichia; Pseudomonas, Vibrio; Adenoviruses; Herpes viruses (including Rubella); Fungi Protozoa; Helminths – AIDS – diagnostic procedure – **PHARMACOLOGY:** Drug receptor interaction, mechanism of drug action – Mechanism of action, dosage, metabolism and side effects of the – Pilocarpine, Terbutaline, Metoprolol, Diazepam, Acetylsalicylic Acid Ibuprofen, Furosemide, Metronidazole, Chloroquin, – Mechanism of action, dosage and toxicity of the antibiotics: Ampicillin, Cephalexin, Doxycycline, Chloramphenicol, Rifampin, Cefotaxime – Indications, dosage, side-effects and contraindications of the following anti-cancer drugs:- Methotrexate, vincristin, Tamoxifen – Classification, route of administration, mechanism of action and side effects of the :- General anaesthetics, Hypnotics, Analgesics – Forensic Medicine and Toxicology: Forensic examination of injuries and wounds – Physical and chemical examination of blood and seminal stains – Details of forensic examination for establishing identification of persons, pregnancy, abortion rape and virginity.

**GENERAL MEDICINES:-** 1. Disorders of CNS: Meningitis Encephalitis, Cerebrovascular diseases epilepsy, Neoplasms - 2. Disorders of CVS - Rheumatic, Ischaemic and congenital heart diseases, Hypertension - 3. Respiratory diseases – Acute and Chronic infections, bronchial asthma, Neoplasms, Industrial diseases – 4. Excretory systems – Acute glomerulo Nephritis, Nephrotic syndrome, chronic pyelonephritis and renal failure – 5. Gastro-Intestinal disorders – Acid Peptic diseases, Malabsorption syndromes, viral hepatitis, Cirrhosis of liver pancreatitis - 6. Hematological diseases – Anemias, Coagulation failures, Leukemias, Lymphomas, Hodgkins disease – 7. Metabolic disorders – Diabetes, Thyroid disorders, parathyroid diseases – 8. Miscellaneous – Skin disorders – Allergies, Drug reactions, parasitic infestations, Psychiatric disorders: Schizophrenia and depression – 9. Community Medicine – Malaria, Filariasis and various national Health programmes – Leprosy, T.B., S.T.D. including AIDS – Parasitic infestations – Hook worm, round worm, Guinea worm, Amoebiasis – 10. Nutritional disorders – Normal nutrition, and deficiency diseases in India.

**GENERAL SURGERY:** 1. Cervical lymphnodes, parotid tumour and oral cancers – 2. Peripheral arterial diseases – varicose veins, Filariasis – 3. Dysfunctions of Thyroid, Parathyroid adrenal tumors and the surgical aspects – 4. Abscess breast and cancer breast – 5. Acute and Chronic Appendicitis bleeding peptic ulcer, T.B. of bowel intestinal obstructions – 6. Renal mass, retention of Urine Benign Prostatic Hypertrophy – 7. Spleno-Megaly, Chronic Cholecystitis portal Hypertension liver abscess peritonitis, Cancer head of Pancreas – 8. Direct and indirect Inguinal Hernias and their complications – 9. Fracture of Femur, Spine Poly trauma and their management.

**OBSTETRIC AND GYNECOLOGY + FAMILY PLANNING:** 1. Diagnosis of Pregnancy, Antenatal Screening for high-risk pregnancy, Feto-placental development – 2. Labour management, complications of 3rd stage, post partum hemorrhage, Inversion, Resuscitation of the new born and premature baby – 3. Diagnosis and management of Pregnancy – induced – hypertension Eclampsia, anemias – 4. Principles of contraceptive methods – Intrauterine Device oral pills, Tubectomy and Vasectomy. Medical termination of pregnancy including its legal aspects and complications – 5. Etiology, Clinical features, diagnosis and mass screening of cancer cervix leucorrhea, Infertility, Abnormal Uterine bleeding, Amenorrhoea – 6. Miscellaneous: Objectives, components of National Health and Family Welfare Programmes – Maternal and Child health – Family welfare – Nutrition – Immunisations – Population trends and its effect on health and Development.

**P.C.No.03 SCHEME AND SYLLABUS FOR THE POST OF ZILLA SAINIK WELFARE OFFICERS IN A.P.**  
**SAINIK WELFARE SERVICE**

**SCHEME OF THE EXAMINATION**

WRITTEN EXAMINATION (Objective Type)				
Paper	Subject	No. Of Questions	Duration Minutes	Maximum Marks
Paper-I	General Studies & Mental ability	150	150	150
Paper-II	English	150	150	150
Paper-III	Elementary Mathematics (SSC standard)	150	150	150
Total				450
<b>NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg &amp; Policy) Dept., Dt.06/12/2016, for each wrong answer will be penalized with 1/3rd of the marks prescribed for the question.</b>				

**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: ENGLISH**

1. Comprehension
2. Precis-writing
3. Re-arrangement of sentences
4. Correction of sentences
5. Synonyms
6. Antonyms
7. Filling in the blanks
8. Correction of spellings
9. Vocabulary and usage
10. Idioms and phrases
11. Verb tenses
12. Prepositions
13. Active voice and Passive voice
14. Parts of speech

**PAPER-3: ELEMENTARY MATHEMATICS (SSC standard)**

**ARITHMETIC:** Number system-Natural numbers, Integers, Rational and Real numbers, Fundamental operations, addition, subtraction, multiplication, division, square roots, Decimal fractions.

Unitary method - time and distance, time and work, percentages, applications to simple and compound interest, profit and loss, ratio and proportion, variation.

Elementary Number Theory – Division algorithm. Prime and composite numbers. Tests of divisibility by 2, 3, 4, 5, 9 and 11. Multiples and factors. Factorisation Theorem. H.C.F. and L.C.M. Euclidean algorithm. Logarithms to base 10, laws of logarithms, use of logarithmic tables.

**ALGEBRA:** Basic Operations, simple factors, Remainder Theorem, H.C.F., L.C.M. Theory of polynomials, solutions of quadratic equations, relation between its roots and coefficients (Only real roots to be considered). Simultaneous linear equations in two unknowns-analytical and graphical solutions. Simultaneous linear inequations in two variables and their solutions. Practical problems leading to two simultaneous linear equations or inequations in two variables or quadratic equations in one variable and their solutions. Set language and set notation, Rational expressions and conditional identities, Laws of indices.

**TRIGONOMETRY:** Sine x, Cosine x, Tangent x when  $0^\circ \leq x \leq 90^\circ$  values of sin x, cos x and tan x, for  $x=0^\circ, 30^\circ, 45^\circ, 60^\circ$  and  $90^\circ$

Simple trigonometric identities.

Use of trigonometric tables.

Simple cases of heights and distances.

**GEOMETRY:** Lines and angles, Plane and Plane figures, Theorems on (i) Properties of angles at a point, (ii) Parallel lines, (iii) Sides and angles of a triangle, (iv) Congruency of triangles, (v) Similar triangles, (vi) Concurrence of medians and altitudes, (vii) Properties of angles, sides and diagonals of a parallelogram rectangle and square (viii) Circles and its properties including tangents and normals, (ix) Locus.

**MENSURATION:** Areas of squares, rectangles, parallelograms, triangle and circle. Areas of figures which can be split up into these figures (Field Book) Surface area and volume of cubics, lateral surface and volume of right circular cones and cylinders, surface area and volume of spheres.

**STATISTICS:** Collection and tabulation of statistical data, Graphical representation frequency polygons, histograms, bar charts, pie charts etc. Measures of central tendency.



**P.C.No.04 SCHEME AND SYLLABUS FOR THE POST OF ASSISTANT DIRECTOR IN ANDHRA PRADESH**  
**TOWN & COUNTRY PLANNING**

**SCHEME OF THE EXAMINATION**

**Degree Standard**

WRITTEN EXAMINATION (OBJECTIVE TYPE)				
Paper	Subject	No. Of Questions	Duration	Maximum Marks
Paper - I	General Studies & Mental Ability (Degree Standard)	150	150	150
Paper - II	Town Planning - I	150	150	150
Paper - III	Town Planning - II	150	150	150
Total				450
<b>N.B.1:</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 1/3 <sup>rd</sup> of the marks prescribed for the question in all Objective type papers.				
<b>N.B.2:</b> The candidate must possess B.Arch or B.E(civil) or M.A (Geography) and Post Graduate Degree or Diploma in Town and Country Planning				

**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 its 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
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12. Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

**PAPER-II**  
**Town Planning - I**

1. History of Town planning: - Principles of town Planning, Town planning in ancient India, Indus valley Civilization, medieval period, necessity of town planning, growth and forms of towns, site selection for an ideal town, urbanization and, industrialization and its effects on town planning.
2. Density gradient / distribution for carrying capacity analysis in relation to utilities and services.
3. Urban design considerations in Urban planning theory and practice
4. Planning techniques:- Basic methods of various types of surveys, collection of data, methods adopted to collection of data standards for development and re-development of residential, commercial, industrial and re-recreational areas, land use planning, socio- economic data for urban planning, inclusive planning and sustainable development.
5. Master planning and Zoning:- Objects and necessity of Master plan , stages in preparation of master plan, principles of zoning, objects and importance of zoning,

development control regulations, site plans /area plans. Physical and social infrastructure.

6. Slum and re-development of existing towns: causes, growth, characteristics, effects of slums, slum clearance and re-habilitation, presentation of slum formation, compensation for slum clearance, objects of development, urban renewal.
7. Housing:- Housing policy, different types of housing Agencies involved in housing, infrastructure planning for housing, different categories of houses HUDCO norms, requirements and classification of residential buildings. Fundamentals of Development Control Norms / Regulations, ECBC Norms and GRIHA relating systems, concepts behind development of area-specific byelaws (for eg.in Heritage & Conservation areas).
8. Parks and Playgrounds: Selection of site for parks, forms of recreational grounds planning standards for parks / open spaces, sports stadiums.
9. Industrial planning:- Classification of industries, selection of site/location for industries, planning of industrial estate, Industrial wastes, treatment.
10. Traffic and Transportation planning : Principles of traffic and transportation planning, classification of roads, principles of segregation of traffic, types of streets, road system, road junctions, parking facilities, traffic signals, street lightings, traffic management.
11. Town planning legislations:- A.P Town planning Act,1920, A.P Urban area act, 1975, A.P Municipality Act, 1965, Hyderabad Municipal corporation Act, 1955 and other relevant Act.
12. Regional Planning:- Concept of Regional Planning, principle involved in delineation of regions, factors influencing, Regional planning

**PAPER-III**  
**Town Planning – II**

1. Demography & Urbanization: Definitions and Concepts of Demography, Data Sources and measures, Trends of population in India and World, Theories of Population, Policies and strategies for directing urbanization trends in India.
2. Elements of Economics & Sociology: Concepts and definitions of Sociology & Economics in Urban and Regional Context, Economic Planning in India. Theories of land economics, concepts and definition of poverty, sociological concepts, stratifications in India and global context.
3. Environmental Management: Resource Planning, Sustainable Development & Environmental Economics, Biodiversity conservation and Management, Environmental impact studies, Environmental policies and awareness, introduction to climate change, climate change and related sectoral issues, urban climate change, climate change impact assessment, mitigation and adaptation to climate change, climate change and governance / legislation.
4. Planning principles for eco-sensitive zones (coastal habitat, hill towns, riverfront, etc): Bio-climatic considerations at neighborhood level to city level
5. Planning & Management for Disasters: Disaster risk, vulnerability and capacity assessment (concepts and methodology), Disaster management and Planning, Hazard safety legislations, role of various stakeholders and community based disaster risk management.
6. Integration of disaster mitigation strategy in Urban and Regional planning.
7. Financing and institutional Mechanisms for Projects: Municipal Finance, Polity support and budgetary allocations for implementation & Financing of urban projects, additional funding sources, resources based on achievement of urban reforms, implementation of urban projects, institutional capacity enhancement, issues on privatization, plan forms and indices.
8. Urban Governance & Management: Governance and Government, Concepts, Scope of Governance, Evolution of Governance, History of Urban Local Bodies in India and structural, Determines and indenture of good governance, reforms and policies in governance, determinants and indices.

**P.C.No.05 SCHEME AND SYLLABUS FOR THE POST OF ASSISTANT CHEMIST  
IN AP GROUND WATER 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	chemistry - I	150	150	150
Paper - III	chemistry -II	150	150	150
Total				450
<b>N.B.1:</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 1/3 <sup>rd</sup> of the marks prescribed for the question in all Objective type papers.				
<b>N.B.2:</b> The Candidate must possess M. Sc. Degree in Chemistry or Applied Chemistry or a Degree in Chemical Engineering, Chemical Technology 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-II**  
**Chemistry-I**

**1. PROCESS CALCULATIONS AND THERMODYNAMICS:** Laws of conservation of mass and energy; use of tie components; recycle, bypass and purge calculations ;degree of freedom. Zeroth law; Isothermal states, Principles of thermometry. Scales of temperature. First and second laws of thermodynamics, Equations of state and thermodynamics properties of real systems; Phase equilibria; excess properties and correlations of active components; chemical reaction equilibria. Basics statistical thermodynamics.

2. Chemical periodicity:Periodic properties

3. Atomic structure nuclear properties, molecular symmetry, bonding in polyatomic molecules, concepts of acids and bases

4. Main group elements and their compounds Synthesis, bonding and structure.

5. Transition metal Chemistry and coordination compounds : Structure and bonding, Molecular Orbital (MO) theory of complexes, Crystal field theory (CFT), Jahn- Teller effect, magnetic properties, orbital splitting, spin-orbit coupling, calculation of CFSE, spectra of octahedral and tetrahedral complexes of d1 to d9 systems, and reaction mechanisms.

6. Organometallic compounds, their synthesis, bonding and structure, and reactivity.Organometallic compounds in homogenous catalysis.

7. Cage like structures and metal clusters.

**PAPER-III**  
**Chemistry-II**

1. Analytical Chemistry: separation techniques spectroscopic electro- and thermo-analytical methods
2. Characterization of inorganic compounds by infrared-, Raman- NMR-, electron spin resonance (EPR)-, UV-Visible, and Mass spectroscopic techniques
3. Nuclear chemistry — nuclear reactions fission and fusion and their applications, radio-analytical techniques and activation analysis
4. Molecular spectroscopy: Principles and applications of rotational and vibrational spectroscopy, NMR and EPR.
5. Chemical equilibrium: basic concepts, Solubility product, common ion effect, pH and buffer solutions, acids and bases hydrolysis of salts, phase equilibrium
6. Characterization of organic compounds by infrared (IR)-, NMR- UVVisible- , and Mass-spectroscopy techniques

**P.C.No.06 SCHEME AND SYLLABUS FOR THE POST OF TOWN PLANNING ASSISTANT  
IN A.P.TOWN & COUNTRY PLANNING**

**SCHEME OF THE EXAMINATION**

**Degree Standard**

WRITTEN EXAMINATION (OBJECTIVE TYPE)				
Paper	Subject	No. Of Questions	Duration	Maximum Marks
Paper - I	General Studies & Mental Ability (Degree Standard)	150	150	150
Paper - II	Town planning-I	150	150	150
Paper - III	Town planning-II	150	150	150
Total				450
<b>N.B.1:</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 1/3 <sup>rd</sup> of the marks prescribed for the question in all Objective type papers.				
<b>N.B.2:</b> Candidate must possess a minimum qualification of B. Arch, or B.E/B.Tech (Civil) or B Planning/ B. Tech (Planning)				

**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 its 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-II**

**Town planning-I**

1. History of Town planning: - Principles of town Planning, Town planning in ancient India, Indus valley Civilization, medieval period, necessity of town planning, growth and forms of towns, site selection for an ideal town, urbanization and, industrialization and its effects on town planning.
2. Density gradient / distribution for carrying capacity analysis in relation to utilities and services.
3. Urban design considerations in Urban planning theory and practice.
4. Planning techniques:- Basic methods of various types of surveys, collection of data, methods adopted to collection of data standards for development and re-development of residential, commercial, industrial and re-recreational areas, land use planning, socio- economic data for urban planning, inclusive planning and sustainable development.
5. Master planning and Zoning:- Objects and necessity of Master plan , stages in preparation of master plan, principles of zoning, objects and importance of zoning, development control regulations, site plans /area plans. Physical and social infrastructure.

6. Slum and re-development of existing towns: causes, growth, characteristics, effects of slums, slum clearance and re-habilitation, presentation of slum formation, compensation for slum clearance, objects of development, urban renewal.
7. Housing:- Housing policy, different types of housing Agencies involved in housing, infrastructure planning for housing, different categories of houses HUDCO norms, requirements and classification of residential buildings.  
Fundamentals of Development Control Norms / Regulations, ECBC Norms and GRIHA relating systems, concepts behind development of areaspecific byelaws (for eg.in Heritage & Conservation areas).
8. Parks and Playgrounds: Selection of site for parks, forms of recreational grounds planning standards for parks / open spaces, sports stadiums.
9. Industrial planning:- Classification of industries, selection of site/location for industries, planning of industrial estate, Industrial wastes, treatment.
10. Traffic and Transportation planning : Principles of traffic and transportation planning, classification of roads, principles of segregation of traffic, types of streets, road system, road junctions, parking facilities, traffic signals, street lightings, traffic management.
11. Town planning legislations:- A.P Town planning Act,1920, A.P Urban area act, 1975, A.P Municipality Act, 1965, Hyderabad Municipal corporation Act, 1955 and other relevant Act.
12. Regional Planning:- Concept of Regional Planning, principle involved in delineation of regions, factors influencing, Regional planning.

**PAPER-III**  
**Town planning-II**

1. Environmental Management: Resource Planning, Sustainable Development & Environmental Economics, Biodiversity conservation and Management, Environmental impact studies, Environmental policies and awareness, introduction to climate change, climate change and related sectoral issues, urban climate change, climate change impact assessment, mitigation and adaptation to climate change, climate change and governance / legislation.
2. Planning principles for eco-sensitive zones (coastal habitat, hill towns, riverfront, etc): Bio-climatic considerations at neighbourhood level to city level.
3. Planning & Management for Disasters: Disaster risk, vulnerability and capacity assessment (concepts and methodology), Disaster management and Planning, Hazard safety legislations, role of various stakeholders and community based disaster risk management.
4. Integration of disaster mitigation strategy in Urban and Regional planning.
5. Financing and institutional Mechanisms for Projects: Municipal Finance, Polity support and budgetary allocations for implementation & Financing of urban projects, additional funding sources, resources based on achievement of urban reforms, implementation of urban 12 projects, institutional capacity enhancement, issues on privatization, plan forms and indices.
6. Urban Governance & Management: Governance and Government, Concepts, Scope of Governance, Evolution of Governance, History of Urban Local Bodies in India and structural, Determines and indenture of good governance, reforms and policies in governance, determinants and indices.

**P.C.No.07 SCHEME AND SYLLABUS FOR THE POST OF ROYALTY INSPECTOR  
IN A.P. MINING 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	300
Total				450
<b>N.B.1:</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 1/3 <sup>rd</sup> of the marks prescribed for the question in all Objective type papers.				

**SYLLABUS**

**PAPER-I: GENERAL STUDIES AND MENTAL ABILITY**

- Events of national and international importance.
- Current affairs- international, national and regional.
- General Science and its applications to the day to day life Contemporary developments in Science & Technology and information Technology.
- Social- economic and political history of modern India with emphasis on Andhra Pradesh.
- Indian polity and governance: constitutional issues, public policy, reforms and e-governance initiatives with specific reference to Andhra Pradesh.
- Economic development in India since independence with emphasis on Andhra Pradesh.
- Physical geography of Indian sub-continent and Andhra Pradesh.
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- Sustainable Development and Environmental Protection
- Logical reasoning, analytical ability and data interpretation.
- Data Analysis:
  - Tabulation of data
  - Visual representation of data
  - Basic data analysis (Summary Statistics such as mean, median, mode, variance and coefficient of variation) and Interpretation
- Bifurcation of Andhra Pradesh and its Administrative, Economic, Social, Cultural, Political, and Legal implications/problems.

**PAPER-2: GEOLOGY**

**Part – I**

- 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.
- 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.
- 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, characteristics 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.

c) **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

a) **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.

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.08 SCHEME AND SYLLABUS FOR THE POST OF TECHNICAL ASSISTANT IN A.P. POLICE  
(TRANSPORT ORGANIZATION) SERVICE**

**SCHEME OF THE EXAMINATION**

<b>WRITTEN EXAMINATION (OBJECTIVE TYPE) Degree Standard</b>				
PAPER	SUBJECT	No. Of Questions	Duration Minutes	Maximum Marks
Paper – I	General Studies & Mental Ability	150	150	150
Paper - II	Automobile Engineering	150	150	300
Total				450
<b>NEGATIVE MARKS: As per G.O.Ms. No.235, Finance (HR-I, Plg &amp; Policy) Dept., Dt. 06/12/2016, for each wrong answer will be penalized with 1/3<sup>rd</sup> of the marks prescribed for the question.</b>				

**Syllabus**

**Paper – I GENERAL STUDIES AND MENTAL ABILITY**

- Events of national and international importance.
- Current affairs- international, national and regional.
- General Science and it applications to the day to day life Contemporary developments in Science & Technology and information Technology.
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**Paper – II**

**AUTOMOBILE ENGINEERING**

- Thermodynamics: systems – Zeroth Law of thermodynamics – First law of thermodynamics – Second Law of thermodynamics – Entropy – Statistical thermodynamics – Air Compressors I.C. Engines cycles and Process – Combustion in I.C. Engines – Engine performance – Scavenging and supercharging of Engines – Modern development in I.C. Engines – I.C. Engine plant layout.
- Heat Transfer: Conduction Convection – Thermal Radiation – Heat Exchangers.
- Fluid Mechanics and Machinery: Fluid properties – Dimensional analysis – Fluid static's – Flow past immersed bodies – Centrifugal pumps – Axial flow pumps – Rotary pumps – Reciprocating pumps – Oil Hydraulic systems.
- Instrumentation: Transducers – Flow measuring transducers – Temperature measurement – Strain gauges – Mechanical measuring devices – Slip gauges – Plug gauge – Micrometers in bars optical flat etc.
- Automobile chasis & Systems: Chasis layout – Shock absorbers in dependent suspension – torsion bars – gear suspension – wheel balancing – tyres and tubes – constructional details of the engine – Ignition system – Fuel system – Lubrication system – Cooling system – Transmission system – Brakes steering mechanism – Electrical circuits and equipment's – Engine troubles – Air conditioning system – Modern trends in automobiles & Engines.

06. Material Science: Crystallography of metals – Binary alloys – Constitution and equilibrium diagram – methods of studying metal structure – Heat treatment – of steels – Casehardening and surface treatment of steels – Non Ferrous metals and alloys – Creep – Fatigue.
07. Kinematics of Machines: Kinematics – Velocity and Acceleration – Properties of instantaneous centre – Gears – Gears trains – Oams – Governors – Brakes and dynamometers – Clutches – Power transmission – Chain drives.
08. Dynamics of Machines: Static force Analysis – Dynamic Force Analysis – Dynamics of Reciprocating Engines – Balancing – Vibration Analysis of Single degree freedom systems – Torsional Vibrations – Vibration isolation.
09. Design of Automobile Machine Parts: Design of welded joints Design of bolts & nuts – Shafts and Axles – Curved beams – Springs – Bearings – clutches – Brakes – Design of connecting rod – Crank shaft fly wheel.
10. Production Technology: Machine tools – Lathes – Shaper, planner and slotting machines – Drilling and boring machine – Milling – Lapping – Tool room – Electro machining – Welding – Brazing – Foundry.
11. Industrial Engineering: Industrial management – personnel function – Production facilities – Production Planning and control – Wages and incentives – Cost Control – Marketing and Sales Promotion.

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