ANNEXURE
PAPER-I AGRICULTURE
(DEGREE STANDARD)

UNIT- I: IMPORTANCE OF AGRICULTURE
Importance of Agriculture in Indian Economy and its sectoral relationship - Agricultural Development through five year plans in India and Tamil Nadu - Growth pattern of crops in India and Tamil Nadu in terms of area, production and productivity - Government Agricultural Policies – Agricultural development through NITI AYOG – Import and export – Role of NSC, FCI and PDS.

UNIT - II: FUNDAMENTALS OF CROP PRODUCTION
Factors of Production - Agricultural seasons of India and Tamil Nadu - Cropping patterns in India and Tamil Nadu - Package of practices of different crops - Agro-Climatic zones of India and Tamil Nadu and their features - Weather and Climate - Weather forecasting - Climate change and its impact – Minimal tillage practices – Stress mitigating technologies including microorganisms – Nanoparticles and their applications.

UNIT - III: NATURAL RESOURCE MANAGEMENT

UNIT - IV: CROP MANAGEMENT & ALLIED AGRICULTURAL ACTIVITIES

UNIT - V: CROP IMPROVEMENT
UNIT VI: SEED SCIENCE AND TECHNOLOGY
Seeds - Importance of quality seeds in agriculture – Nucleus, breeder, foundation, certified and labelled seeds - Seed certification techniques and processing in Tamil Nadu - Seed testing – Seed testing laboratories-ISTA standards for seed testing - Seed village concept Seed Act - Seed coating and priming technologies - Seed enhancement technologies.

UNIT VII: CROP PROTECTION PRINCIPLES AND PRACTICES
Importance of pest, disease, nematodes and weed management in agriculture – categories of pests, diseases, nematodes and weeds - Pest and disease surveillance and forecasting weather on pest and disease incidence - Symptoms of damages and control measures of pest, disease and nematodes of major crops in Tamil Nadu - Integrated pest, disease and nematode management in crop production - Pesticides and their use in IPM – Mode of action - Pattern - Plant protection equipments and their use - Plant quarantine. Storage pests, disease and nematodes and their management. Importance of biological control in pest, disease and nematode management. Weeds - Major weeds and their control.

UNIT VIII: FARM BUSINESS AND FINANCE MANAGEMENT
Farm business management - Principles of farm business management – Types and systems of farms-Classical production functions - Cost concepts - Management of resources - Farm Planning and budgeting - Investment analysis – Risk and uncertainties in agriculture - Agricultural credit system in India - Multi credit delivery system - Role of nationalized banks, NABARD and Regional Rural Banks - Lead Bank Scheme - Service area approach - Scale of finance-Credit Worthiness-3 Rs,5Cs and 7Ps of credit- Crop Insurance - Kisan Credit Cards (KCC) - Agricultural Insurance Company.

UNIT IX: AGRICULTURAL MARKETING AND MARKET INTELLIGENCE

UNIT X: AGRICULTURAL EXTENSION: PRINCIPLES AND METHODS
Extension methods for transfer of technology - AV aids-Communication models - Use of ICT in transfer of technology-Diffusion and adoption- Pre and post independence rural development initiatives: key features, strength and weakness of individual programmes - Programme planning and evaluation methods- Rural sociology - Key features of Indian rural system-Value system-Social change- Rural migration. Role of women in agriculture.
UNIT - I: GENERAL SCIENCE


**Chemistry**  Elements and Compounds-Acids, bases and salts-Oxidation and reduction-Chemistry of ores and metals-Carbon, nitrogen and their compounds-Fertilizers, pesticides, insecticides-Biochemistry and biotechnology-Electrochemistry-Polymers and plastics.

**Botany**  Main concepts of life science-The cell-basic unit of life-Classification of living organism-Nutrition and dietetics-Respiration-Excretion of metabolic waste-Bio-communication.

**Zoology**  Blood and blood circulation-Endocrine system-Reproductive system-Genetics the science of heredity-Environment, ecology, health and hygiene, Bio- diversity and its conservation-Human diseases-Communicable diseases and non- communicable diseases-prevention and remedies- Alcoholism and drug abuse-Animals, plants and human life.

UNIT - II: CURRENT EVENTS

**History**  Latest diary of events – National symbols-Profile of States-Defence, national security and terrorism-World organizations-pacts and summits-Eminent persons & places in news-Sports & games-Books & authors -Awards & honours-Cultural panorama-Latest historical events - India and its neighbours - Latest terminology- Appointments-who is who?


**Geography**  Geographical landmarks-Policy on environment and ecology.

**Economics**  Current socio-economic problems-New economic policy & govt. sector

**Science**  Latest inventions on science & technology-Latest discoveries in Health Science-Mass media & communication.
UNIT - III: GEOGRAPHY
Earth and Universe - Solar system-Atmosphere hydrosphere, lithosphere - Monsoon, rainfall, weather and climate - Water resources - Rivers in India-Soil, minerals & natural resources - Natural vegetation - Forest & wildlife-Agricultural pattern, livestock & fisheries -Transport including Surface transport & communication - Social geography – population -density and distribution-Natural calamities – disaster management-Climate change - Impact and consequences - Mitigation measures - Pollution Control.

UNIT - IV: HISTORY AND CULTURE OF INDIA
Pre-historic events -Indus valley civilization-Vedic, Aryan and Sangam age-Maurya dynasty-Buddhism and Jainism-Guptas, Delhi Sultans, Mughals and Marathas-Age of Vijayanagaram and the Bahmanis-South Indian history - Culture and Heritage of Tamil people-Advent of European invasion-Expansion and consolidation of British rule - Effect of British rule on socio-economic factors-Social reforms and religious movements - India since independence-Characteristics of Indian culture-Unity in diversity – race, colour, language, custom-India-as secular state-O rganizations for fine arts, dance, drama, music-Growth of rationalist, Dravidian movement in TN-Political parties and populist schemes- Prominent personalities in the various spheres – Arts, Science, literature and Philosophy – Mother Teresa, Swami Vivekananda, Pandit Ravishankar, M.S.Subbulakshmi, Rukmani Arundel and J.Krishnamoorthy etc.

UNIT - V: INDIAN POLITY

UNIT - VI: INDIAN ECONOMY
Nature of Indian economy-Need for economic planning-Five-year plan models-an assessment-Land reforms & agriculture-Application of science in agriculture Industrial growth-Capital formation and investment-Role of public sector & disinvestment-Development of infrastructure- National income- Public finance & fiscal policy- Price policy & public distribution- Banking, money & monetary policy- Role of Foreign Direct Investment (FDI)-

UNIT - VII: INDIAN NATIONAL MOVEMENT
National renaissance-Early uprising against British rule-1857 Revolt- Indian National Congress-Emergence of national leaders-Gandhi, Nehru, Tagore, Nethaji -Growth of militant movements -Different modes of agitations-Era of different Acts & Pacts-World war & final phase struggle-Communalism led to partition-Role of Tamil Nadu in freedom struggle - Rajaji, VOC, Periyar, Bharathiar & Others-Birth of political parties /political system in India since independence.

UNIT - VIII: APTITUDE AND MENTAL ABILITY TESTS