



## General Studies-III

### (Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)

- Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.
- Inclusive Growth and issues arising from it.
- Government Budgeting.
- Major Crops - Cropping Patterns in various parts of the country, - Different Types of Irrigation and Irrigation Systems; Storage, Transport and Marketing of Agricultural Produce and Issues and Related Constraints; E-technology in the aid of farmers.
- Issues related to Direct and Indirect Farm Subsidies and Minimum Support Prices; Public Distribution System - Objectives, Functioning, Limitations, Revamping; Issues of Buffer Stocks and Food Security; Technology Missions; Economics of Animal-Rearing.
- Food Processing and Related Industries in India- Scope' and Significance, Location, Upstream and Downstream Requirements, Supply Chain Management.
- Land Reforms in India.
- Effects of Liberalization on the Economy, Changes in Industrial Policy and their Effects on Industrial Growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment Models.
- Science and Technology- Developments and their Applications and Effects in Everyday Life.
- Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology.
- Awareness in the fields of IT, Space, Computers, Robotics, Nano-technology, Bio-technology and issues relating to Intellectual Property Rights.
- Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.
- Disaster and Disaster Management.
- Linkages between Development and Spread of Extremism.
- Role of External State and Non-state Actors in creating challenges to Internal Security.
- Challenges to Internal Security through Communication Networks, Role of Media and Social Networking Sites in Internal Security Challenges, Basics of Cyber Security; Money-Laundering and its prevention.
- Security Challenges and their Management in Border Areas - Linkages of Organized Crime with Terrorism.
- Various Security Forces and Agencies and their Mandate.

## ECONOMIC DEVELOPMENT

### Indian Economy & Issues Relating to Planning, Mobilization of Resources, Growth, Development & Employment

#### Planning

- Meaning of Planning
- Determinants of Growth & Development
- Importance & Limitations of Economic Growth

- Need for Planning in Economic Development
- Imperative Vs. Indicative Vs. Structural Planning
- Objectives of Planning
- Indian Planning History
- Techniques of Indian Planning
- Achievements & Failures of Indian Planning
- Shortcomings of Planning in India
- NITI Aayog Vs. Planning Commission

### Mobilisation of Resources

- Types of Resources - Financial, Human, Natural etc.
- Need for Resource Mobilisation
- Role of Savings & Investment
- Government Resources - Tax & Non-Tax ( or Fiscal & Monetary Policy)
- Banking Sector & NBFCs
- Capital Market
- External Sources - FDI, ODA etc.
- Public Borrowing & Management of Public Debt
- Challenges in Mobilising Resources for Development
- Steps That Can Be Taken

### Growth & Development

- Meaning of Development & Growth
- Difference between Development & Growth

- Jobless Growth
- Pro-Poor Growth
- Balanced & Unbalanced Growth
- Dimensions of Development
- Measurement & Indicators of Development
- Approaches to Development:
  - Market-Based Approach
  - Role of State and Planned Approach
  - Mixed Economy Approach
- Challenges to Development & Growth

### Employment

- Nature - Rural vs. Urban, Formal Vs. Informal
- Terms Related to Employment - Labour Force Participation Rate, Employment Rate, Working Age Population etc.
- Sectoral Distribution of Employment
- Quality of Employment
- Causes of Lack of Employment
- Restructuring of Workforce
- Government Initiatives for Generating Employment

## Inclusive Growth & Issues Arising From It

- What is Inclusive Growth?
- Elements of Inclusive Growth
- Need for Inclusive Growth

- Indicators of Inclusive Growth
- Challenges in Achieving Inclusive Growth in India
- 12<sup>th</sup> FYP & Inclusive Growth

## Government Budgeting

### Need for Government Budgeting

### Components of the Government Budget

- Revenue Account - Revenue Receipts & Revenue Expenditure
- Capital Account - Capital Receipts & Capital Expenditure

### Changes in Budgetary Process in 2017

### Measures of Government Deficit

- Revenue Deficit

- Fiscal Deficit
- Primary Deficit

### Fiscal Policy

### Deficit Reduction

### FRBM Act

### Other Types of Budgets - Outcome, Zero-Based, etc.

## Land Reforms in India

- Rationale for Land Reforms

- Success of Land Reforms

<ul style="list-style-type: none"> <li>▪ Components of Land Reforms</li> <li>▪ Impact of Land Reforms</li> <li>▪ Problems in Implementaion of Land Reforms</li> </ul>	<ul style="list-style-type: none"> <li>▪ Recent Initiatives - Land Leasing, Land Acquisition, Rehabilitation &amp; Resettlement Act, etc.</li> </ul>
<b>Effects of Liberalization on the Economy</b>	
Phase of Liberalisation	<ul style="list-style-type: none"> <li>▪ Impact on Different Sectors of the Economy</li> </ul>
<b>Changes In Industrial Policy &amp; their Effects on Industrial Growth</b>	
<ul style="list-style-type: none"> <li>▪ Industrial Policy Before 1991</li> <li>▪ Industrial Policy After 1991</li> <li>▪ Phases of Industrial Growth</li> <li>▪ Linkage Between Economic Reforms and Economic Outcomes</li> </ul>	<ul style="list-style-type: none"> <li>▪ Weaknesses and Failures of Industrial Policies</li> <li>▪ National Manufacturing Policy</li> <li>▪ SEZs</li> <li>▪ Make in India</li> </ul>
<b>Infrastructure</b>	
<ul style="list-style-type: none"> <li>▪ Energy</li> <li>▪ Ports</li> <li>▪ Roads</li> </ul>	<ul style="list-style-type: none"> <li>▪ Airports</li> <li>▪ Railways</li> </ul>
<b>Investment Models</b>	
<p><b>Need for Investment</b></p> <p><b>Sources of Investment</b></p> <p><b>Types of Investment Models</b></p> <ul style="list-style-type: none"> <li>▪ Domestic Investment Models <ul style="list-style-type: none"> <li>◦ Public Investment Model</li> <li>◦ Private Investment Model</li> <li>◦ Public Private Participation Investment Model</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Foreign Investment Models: <ul style="list-style-type: none"> <li>◦ FDI</li> <li>◦ FII, etc.</li> </ul> </li> <li>▪ Sector Specific Investment Models</li> <li>▪ Cluster Based Investment Models</li> </ul> <p><b>Investment Models Followed by India</b></p>

## AGRICULTURE

<b>Major Crops Cropping Patterns in Various Parts of the Country</b>	
<ul style="list-style-type: none"> <li>▪ Importance of Cropping Pattern</li> <li>▪ Types of Cropping Pattern</li> <li>▪ Reasons Why Cropping Pattern Differ</li> </ul>	<ul style="list-style-type: none"> <li>▪ Factors Influencing Cropping Pattern</li> <li>▪ Emerging Trends in Cropping Pattern</li> <li>▪ Long-Run Effects of Current Trends in Cropping Pattern</li> </ul>
<b>Different Types of Irrigation &amp; Irrigation Systems Storage</b>	
<ul style="list-style-type: none"> <li>▪ Modes of Irrigation</li> <li>▪ Sources of Irrigation</li> <li>▪ Choosing an Irrigation System</li> <li>▪ Problems Associated with Irrigation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Progress of Irrigation Under Five Year Plans</li> <li>▪ Environmental Effects of Irrigation</li> <li>▪ Need for Systemic Irrigation Reforms</li> <li>▪ Need for a National Water Policy</li> </ul>
<b>Transport &amp; Marketing of Agricultural Produce &amp; Issues &amp; Related Constraints</b>	
<ul style="list-style-type: none"> <li>▪ Process of Agricultural Marketing - Marketing Channels, Functionaries, Costs, etc.</li> <li>▪ Role of FCI</li> </ul>	<ul style="list-style-type: none"> <li>▪ APMCs</li> <li>▪ National Agricultutal Market (NAM)</li> <li>▪ Farmer Producer Organisations (FPO)</li> <li>▪ Contract Farming</li> </ul>

<ul style="list-style-type: none"> <li>Regulated Markets</li> <li>Warehousing</li> <li>Cooperative Marketing</li> <li>Shortcomings of Current Agricultural Marketing Process</li> </ul>	<ul style="list-style-type: none"> <li>Futures Trading in Agricultural Commodities</li> </ul>
<b>E-Technology in the Aid of Farmers, Technology Missions</b>	
<b>Issues Related to Direct &amp; Indirect Farm Subsidies &amp; Minimum Support Prices</b>	
<ul style="list-style-type: none"> <li>Agricultural Pricing Policy</li> <li>Rationale for Subsidies</li> <li>Types of Subsidies</li> </ul>	<ul style="list-style-type: none"> <li>Effectiveness, Extent &amp; Problems of Subsidies</li> <li>Clash with WTO Agreements</li> </ul>
<b>Public Distribution System Objectives, Functioning, Limitations, Revamping</b>	
<ul style="list-style-type: none"> <li>Objectives/Significance</li> <li>Functioning - Fair Price Shops, FCI, Ration Cards, Aadhar Linking, etc.</li> <li>Shortcomings or Problems Associated with PDS</li> </ul>	<ul style="list-style-type: none"> <li>Need to Improve the Working of PDS</li> <li>Measures to Improve the Loopholes &amp; Lacunae Associated with PDS</li> <li>Steps Taken by Government in this Regard</li> </ul>
<b>Issues of Buffer Stocks &amp; Food Security</b>	
<ul style="list-style-type: none"> <li>Buffer Stock - Objectives &amp; Norms in India</li> <li>Impact of Government Procurement &amp; Distribution</li> </ul>	<ul style="list-style-type: none"> <li>Need for Food Security</li> <li>NFSM And other Food Security Related Government Initiatives</li> </ul>
<b>Economics of Animal-Rearing</b>	
<b>Food Processing &amp; Related Industries in India</b>	
<ul style="list-style-type: none"> <li>Scope &amp; Potential in India</li> <li>Significance</li> <li>Location</li> <li>Constraints and Challenges</li> </ul>	<ul style="list-style-type: none"> <li>Upstream &amp; Downstream Requirements</li> <li>Supply Chain Management</li> <li>Government Policies and Initiatives - SAMPADA, 12th FYP, etc.</li> </ul>

## SCIENCE & TECHNOLOGY

<b>Developments &amp; their Applications &amp; Effects in Everyday Life</b>	
<p><b>Chemicals in Food</b></p> <ul style="list-style-type: none"> <li>Artificial Sweetening Agents</li> <li>Food Preservatives</li> </ul> <p><b>Drugs</b></p> <ul style="list-style-type: none"> <li>Antacid</li> <li>Antihistamines</li> <li>Neurologically Active Drugs <ul style="list-style-type: none"> <li>Tranquilizers</li> <li>Analgesics</li> </ul> </li> <li>Antimicrobials <ul style="list-style-type: none"> <li>Antibiotics</li> <li>Antiseptic and Disinfectant</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Anti-Fertility Drugs, etc.</li> </ul> <p><b>Cleansing Agents</b></p> <ul style="list-style-type: none"> <li>Soaps</li> <li>Synthetic detergents</li> </ul> <p><b>Glass</b></p> <p><b>Water Softener</b></p> <p><b>Water Purification/Disinfection</b></p> <p><b>Microwave Oven, etc.</b></p>
<b>Achievements of Indians in Science &amp; Technology</b>	
<ul style="list-style-type: none"> <li>Chandrasekhara Venkata Raman</li> <li>Acharya Jagadish Chandra Bose</li> <li>Satyendra Nath Bose</li> <li>Meghnad Saha</li> </ul>	<ul style="list-style-type: none"> <li>A.P.J. Abdul Kalam</li> <li>Vikram Sarabhai</li> <li>Mokshagundam Visvesvaraya</li> <li>Har Gobind Khorana</li> </ul>

<ul style="list-style-type: none"> <li>▪ Homi Jehangir Bhabha</li> <li>▪ Subrahmanyam Chandrasekhar</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tessy Thomas</li> <li>▪ C.N.R. Rao</li> </ul>
<b>Indigenization of Technology &amp; Developing New Technology</b>	
<ul style="list-style-type: none"> <li>▪ IT &amp; Computers</li> <li>▪ Space</li> <li>▪ Nanotechnology</li> <li>▪ Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>▪ Robotics</li> <li>▪ Defence</li> <li>▪ Nuclear</li> </ul>
<b>Awareness in Different Fields</b>	
<ul style="list-style-type: none"> <li>▪ IT &amp; Computers</li> <li>▪ Space</li> <li>▪ Nanotechnology</li> <li>▪ Biotechnology</li> </ul>	<ul style="list-style-type: none"> <li>▪ Robotics</li> <li>▪ Defence</li> <li>▪ Nuclear</li> </ul>
<b>Issues Relating to Intellectual Property Rights</b>	
<ul style="list-style-type: none"> <li>▪ Need for Intellectual Property Rights</li> <li>▪ Types of IPR</li> <li>▪ IPR Regime in India</li> </ul>	<ul style="list-style-type: none"> <li>▪ International Agreements Related to IPRs</li> <li>▪ Geographical Indicators</li> <li>▪ Recent Issues - Evergreening, Compulsory Licensing, Prominent Cases etc.</li> </ul>

## BIODIVERSITY & ENVIRONMENT

<b>Conservation</b>	
<p><b>What is Biodiversity?</b></p> <p><b>Types of Biodiversity - Genetic, Species, Ecosystem, etc.</b></p> <p><b>Importance of Biodiversity - Ecosystem Services, Bio Resources of Economic Importance, Social Benefits etc.</b></p> <p><b>Reasons for Loss of Biodiversity</b></p>	<p><b>Conservation</b></p> <ul style="list-style-type: none"> <li>▪ In-situ &amp; Ex-Situ</li> <li>▪ Eco-Sensitive Areas</li> <li>▪ Ecological Hotspots</li> <li>▪ National Guidelines, Legislations &amp; Other Programmes.</li> <li>▪ International Agreements &amp; Groupings</li> </ul>
<b>Environmental Pollution &amp; Degradation</b>	
<p><b>Types of Pollution &amp; Pollutants</b></p> <p><b>Impact of Pollution &amp; Degradation</b></p> <ul style="list-style-type: none"> <li>▪ Ozone Layer Depletion and Ozone Hole</li> <li>▪ Greenhouse Gas Effect &amp; Global Warming</li> <li>▪ Eutrophication</li> <li>▪ Desertification</li> <li>▪ Acid Rain</li> <li>▪ Hazardous Waste, etc.</li> </ul>	<p><b>Causes/Sources of Pollution &amp; Degradation</b></p> <p><b>Prevention &amp; Control of Pollution &amp; Degradation</b></p> <p><b>National Environment Agencies, Legislations and Policies</b></p> <p><b>International Environment Agencies &amp; Agreements</b></p>
<b>Environmental Impact Assessment (EIA)</b>	
<ul style="list-style-type: none"> <li>▪ What is EIA?</li> <li>▪ Indian Guidelines &amp; Legislations</li> <li>▪ EIA Process</li> </ul>	<ul style="list-style-type: none"> <li>▪ Need &amp; Benefits of EIA</li> <li>▪ Shortcomings of EIA in India</li> <li>▪ Measures to Make EIA Effective</li> </ul>
<b>Disaster Management</b>	
<ul style="list-style-type: none"> <li>▪ Types of Disasters</li> <li>▪ Management of Disasters</li> </ul>	<ul style="list-style-type: none"> <li>▪ Community Level Disaster Management</li> <li>▪ Government Initiatives on Disaster Management</li> </ul>

# SECURITY

<b>Linkages Between Development &amp; Spread of Extremism</b>	
<ul style="list-style-type: none"> <li>▪ Factors Responsible for Spread of Extremism</li> <li>▪ Steps that State can Taken to Reduce the Spread of Extremism due to Underdevelopment</li> </ul>	<ul style="list-style-type: none"> <li>• Naxalism</li> </ul>
<b>Role of External State &amp; Non-State Actors in Creating Challenges to Internal Security</b>	
<p style="background-color: #8ebf42; color: white; padding: 2px;"><b>Threats from Non-State Actors</b></p> <ul style="list-style-type: none"> <li>▪ J&amp;K Separatism</li> <li>▪ Left Wing Extremism</li> <li>▪ North East Insurgency</li> <li>▪ Terrorism in Hinterland &amp; Border Areas</li> <li>▪ Right Wing Terrorism</li> </ul> <p style="background-color: #8ebf42; color: white; padding: 2px;"><b>Reasons for Spread of Terrorism</b></p> <p style="background-color: #8ebf42; color: white; padding: 2px;"><b>State Sponsored Terrorism</b></p>	<p style="background-color: #8ebf42; color: white; padding: 2px;"><b>Institutional Framework to Tackle Challenge of Internal Security</b></p> <ul style="list-style-type: none"> <li>▪ NIA</li> <li>▪ NATGRID</li> <li>▪ MAC</li> <li>▪ UAPA</li> <li>▪ TADA</li> <li>▪ POTA</li> <li>▪ NCTC</li> </ul>
<b>Challenges to Internal Security Through Communication Networks</b>	
<ul style="list-style-type: none"> <li>▪ Role of Media &amp; Social Networking Sites in Internal Security Challenges</li> <li>▪ Challenges in Managing Social Media</li> </ul>	<ul style="list-style-type: none"> <li>• Steps That can be Taken</li> </ul>
<b>Basics of Cyber Security</b>	
<ul style="list-style-type: none"> <li>▪ Cyber Security</li> <li>▪ Threats to Indian Cyber Security</li> <li>▪ Steps taken by India</li> </ul>	<ul style="list-style-type: none"> <li>▪ International Cooperation on Cyber Security</li> <li>▪ Cyber Warfare</li> <li>▪ Terms Associated with Cyber Security</li> </ul>
<b>Money-Laundering &amp; its Prevention</b>	
<ul style="list-style-type: none"> <li>▪ Process of Money Laundering</li> <li>▪ Impact of Money Laundering</li> <li>▪ Challenges to Tackle Money Laundering</li> </ul>	<ul style="list-style-type: none"> <li>▪ Steps to Counter Money Laundering</li> <li>▪ Terms Related To Money Laundering</li> </ul>
<b>Security Challenges &amp; their Management in Border Areas</b>	
<ul style="list-style-type: none"> <li>▪ Challenges in Managing Border Security - Coastal &amp; Terrestrial</li> <li>▪ Land Boundary Disputes with Neighbours</li> </ul>	<ul style="list-style-type: none"> <li>▪ India's Policy in Border Area Security Management</li> </ul>
<b>Linkages of Organized Crime with Terrorism</b>	
<ul style="list-style-type: none"> <li>▪ Types of Organised Crime</li> <li>▪ Challenges in Controlling Organised Crime</li> </ul>	<ul style="list-style-type: none"> <li>▪ Indian Context - Link between Organised Crime &amp; Terrorism</li> </ul>
<b>Various Security Forces &amp; Agencies &amp; Their Mandate</b>	
<ul style="list-style-type: none"> <li>▪ Central Armed Police Forces</li> <li>▪ Central Paramilitary Forces</li> </ul>	<ul style="list-style-type: none"> <li>▪ Security &amp; Intelligence Agencies - IB, R&amp;WA, etc.</li> </ul>

