

UPSC Mains GS-3 syllabus

(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	<ul style="list-style-type: none"> ■ Meaning of Planning ■ 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	<ul style="list-style-type: none"> ■ Types of Resources – Financial,

	<p>Human, Natural etc.</p> <ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ Meaning of Development & Growth ■ Difference between Development & Growth ■ Determinants of Growth & Development ■ Importance & Limitations of Economic Growth ■ Jobless Growth ■ Pro-Poor Growth ■ Balanced & Unbalanced Growth ■ Dimensions of Development ■ Measurement & Indicators of Development ■ Approaches to Development: ■ Market-Based Approach

	<ul style="list-style-type: none"> ■ Role of State and Planned Approach ■ Mixed Economy Approach ■ Challenges to Development & Growth
Employment	<ul style="list-style-type: none"> ■ 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	
<ul style="list-style-type: none"> ■ What is Inclusive Growth? ■ Elements of Inclusive Growth ■ Need for Inclusive Growth ■ Indicators of Inclusive Growth ■ Challenges in Achieving Inclusive Growth in India ■ 12th FYP & Inclusive Growth 	
Government Budgeting	
Need for Government Budgeting	
Components of the Government Budget	<ul style="list-style-type: none"> ■ 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 ■ Components of Land Reforms ■ Impact of Land Reforms ■ Problems in Implementation of Land Reforms ■ Success of Land Reforms ■ Recent Initiatives - Land Leasing, Land Acquisition, Rehabilitation & Resettlement Act, etc.	
Effects of Liberalization on the Economy	
● Phase of Liberalisation ● Impact on Different Sectors of the Economy	
Changes In Industrial Policy & their Effects on Industrial Growth	

- Industrial Policy Before 1991
- Industrial Policy After 1991
- Phases of Industrial Growth
- Linkage Between Economic Reforms and Economic Outcomes
- Weaknesses and Failures of Industrial Policies
- National Manufacturing Policy
- SEZs
- Make in India

Infrastructure

- Energy
- Ports
- Roads
- Airports
- Railways

Investment Models

Need for Investment	
Sources of Investment	
Types of Investment Models	<ul style="list-style-type: none"> ■ Domestic Investment Models ■ Public Investment Model ■ Private Investment Model ■ Public Private Participation Investment Model ■ Foreign Investment Models: ■ FDI

	<ul style="list-style-type: none"> ■ FII, etc. ■ Sector Specific Investment Models ■ Cluster Based Investment Models
Investment Models Followed by India	

AGRICULTURE	
Major Crops Cropping Patterns in Various Parts of the Country	
<ul style="list-style-type: none"> ■ Importance of Cropping Pattern ■ Types of Cropping Pattern ■ Reasons Why Cropping Pattern Differ ■ Factors Influencing Cropping Pattern ■ Emerging Trends in Cropping Pattern ■ Long-Run Effects of Current Trends in Cropping Pattern 	
Different Types of Irrigation & Irrigation Systems Storage	
<ul style="list-style-type: none"> ■ Modes of Irrigation ■ Sources of Irrigation ■ Choosing an Irrigation System ■ Problems Associated with Irrigation ■ Progress of Irrigation Under Five Year Plans ■ Environmental Effects of Irrigation ■ Need for Systemic Irrigation Reforms ■ Need for a National Water Policy 	

Transport & Marketing of Agricultural Produce & Issues & Related Constraints

- Process of Agricultural Marketing - Marketing Channels, Functionaries, Costs, etc.
- Role of FCI
- Regulated Markets
- Warehousing
- Cooperative Marketing
- Shortcomings of Current Agricultural Marketing Process
- APMCs
- National Agricultural Market (NAM)
- Farmer Producer Organisations (FPO)
- Contract Farming
- Futures Trading in Agricultural Commodities

E-Technology in the Aid of Farmers, Technology Missions

Issues Related to Direct & Indirect Farm Subsidies & Minimum Support Prices

- Agricultural Pricing Policy
- Rationale for Subsidies
- Types of Subsidies
- Effectiveness, Extent & Problems of Subsidies
- Clash with WTO Agreements

Public Distribution System Objectives, Functioning, Limitations, Revamping

- Objectives/Significance
- Functioning - Fair Price Shops, FCI, Ration Cards, Aadhar Linking, etc.
- Shortcomings or Problems Associated with PDS

- Need to Improve the Working of PDS
- Measures to Improve the Loopholes & Lacunae Associated with PDS
- Steps Taken by Government in this Regard

Issues of Buffer Stocks & Food Security

- Buffer Stock – Objectives & Norms in India
- Impact of Government Procurement & Distribution
- Need for Food Security
- NFSM And Other Food Security Related Government Initiatives

Economics of Animal-Rearing

Food Processing & Related Industries in India

- Scope & Potential in India
- Significance
- Location
- Constraints and Challenges
- Upstream & Downstream Requirements
- Supply Chain Management
- Government Policies and Initiatives – SAMPADA, 12th FYP, etc.

SCIENCE & TECHNOLOGY

Chemicals in Food

- Artificial Sweetening Agents
- Food Preservatives

Drugs	<ul style="list-style-type: none"> ■ Antacid ■ Antihistamines ■ Neurologically Active Drugs <ul style="list-style-type: none"> ○ Tranquilizers ○ Analgesics ■ Antimicrobials <ul style="list-style-type: none"> ○ Antibiotics ○ Antiseptic and Disinfectant ○ Anti-Fertility Drugs, etc.
Cleansing Agents	<ul style="list-style-type: none"> ■ Soaps ■ Synthetic detergents
Glass	
Water Softener	
Water Purification/Disinfection	
Microwave Oven, etc.	
Achievements of Indians in Science & Technology	
<ul style="list-style-type: none"> ■ Chandrasekhara Venkata Raman ■ Acharya Jagadish Chandra Bose ■ Satyendra Nath Bose ■ Meghnad Saha ■ Homi Jehangir Bhabha ■ Subrahmanyam Chandrasekhar 	

- A.P.J. Abdul Kalam
- Vikram Sarabhai
- Mokshagundam Visvesvaraya
- Har Gobind Khorana
- Tessy Thomas
- C.N.R. Rao

Indigenization of Technology & Developing New Technology

- IT & Computers
- Space
- Nanotechnology
- Biotechnology
- Robotics
- Defence
- Nuclear

Awareness in Different Fields

- IT & Computers
- Space
- Nanotechnology
- Biotechnology
- Robotics
- Defence
- Nuclear

Issues Relating to Intellectual Property Rights

- Need for Intellectual Property Rights

- Types of IPR
- IPR Regime in India
- International Agreements Related to IPRs
- Geographical Indicators
- Recent Issues - Evergreening, Compulsory Licensing, Prominent Cases etc.

BIODIVERSITY & ENVIRONMENT

Conservation

What is Biodiversity?

Types of Biodiversity – Genetic, Species, Ecosystem, etc.

Importance of Biodiversity – Ecosystem Services, Bio Resources of Economic Importance, Social Benefits etc.

Reasons for Loss of Biodiversity

Conservation

- In-situ & Ex-Situ
- Eco-Sensitive Areas
- Ecological Hotspots
- National Guidelines, Legislations & Other Programmes.
- International Agreements & Groupings

Environmental Pollution & Degradation

Types of Pollution & Pollutants

Impact of Pollution & Degradation

- Ozone Layer Depletion and Ozone

	Hole <ul style="list-style-type: none"> ■ Greenhouse Gas Effect & Global Warming ■ Eutrophication ■ Desertification ■ Acid Rain ■ Hazardous Waste, etc.
Causes/Sources of Pollution & Degradation	
Prevention & Control of Pollution & Degradation	
National Environment Agencies, Legislations and Policies	
International Environment Agencies & Agreements	
Environmental Impact Assessment (EIA)	
<ul style="list-style-type: none"> ■ What is EIA? ■ Indian Guidelines & Legislations ■ EIA Process ■ Need & Benefits of EIA ■ Shortcomings of EIA in India ■ Measures to Make EIA Effective 	
Disaster Management	
<ul style="list-style-type: none"> ■ Types of Disasters ■ Management of Disasters ■ Community Level Disaster Management ■ Government Initiatives on Disaster Management 	

SECURITY

Linkages Between Development & Spread of Extremism

- Factors Responsible for Spread of Extremism
- Steps that State can Taken to Reduce the Spread of Extremism due to Underdevelopment
- Naxalism

Role of External State & Non-State Actors in Creating Challenges to Internal Security

Threats from Non-State Actors	<ul style="list-style-type: none"> ■ J&K Separatism ■ Left Wing Extremism ■ North East Insurgency ■ Terrorism in Hinterland & Border Areas ■ Right Wing Terrorism
Reasons for Spread of Terrorism	
State Sponsored Terrorism	
Institutional Framework to Tackle Challenge of Internal Security	<ul style="list-style-type: none"> ■ NIA ■ NATGRID ■ MAC ■ UAPA ■ TADA ■ POTA ■ NCTC

Challenges to Internal Security Through Communication Networks

- Role of Media & Social Networking Sites in Internal Security Challenges
- Challenges in Managing Social Media
- Steps That can be Taken

Basics of Cyber Security

- Cyber Security
- Threats to Indian Cyber Security
- Steps taken by India
- International Cooperation on Cyber Security
- Cyber Warfare
- Terms Associated with Cyber Security

Money-Laundering & its Prevention

- Process of Money Laundering
- Impact of Money Laundering
- Challenges to Tackle Money Laundering
- Steps to Counter Money Laundering
- Terms Related To Money Laundering

Security Challenges & their Management in Border Areas

- Challenges in Managing Border Security – Coastal & Terrestrial
- Land Boundary Disputes with Neighbours
- India's Policy in Border Area Security Management

Linkages of Organized Crime with Terrorism

- Types of Organised Crime
- Challenges in Controlling Organised Crime
- Indian Context – Link between Organised Crime & Terrorism

Various Security Forces & Agencies & Their Mandate

- Central Armed Police Forces
- Central Paramilitary Forces
- Security & Intelligence Agencies – IB, R&WA, etc.

