



## 10 BRIEF INFO ON UPSC CIVIL SERVICES EXAM

वैसे इसकी जरूरत नहीं होनी चाहिए, it's available on internet लेकिन कुछ लोग ये भी पूछते रहते हैं so here it is:

### 10.2.1 Syllabus of Preliminary examination

Paper-1 General Studies (2 hrs)	Paper-II Aptitude (2 hrs)
100 MCQs x 2 marks = 200 marks. They're counted for shortlisting candidates for the Mains exam stage.	80 MCQs x 2.5 marks = 200 marks. Since 2015 exam-reform, you need to score only 33% qualifying marks (i.e. 67 marks), and they're not counted while shortlisting candidates for the Mains exam stage.
<ol style="list-style-type: none"> <li>1. Current events of national and international importance.</li> <li>2. History of India, Indian National Movement.</li> <li>3. Indian and World Geography – Physical, Social, Economic Geo.of India, World.</li> <li>4. Indian Polity and Governance – Constitution, Political System, Panchayati Raj, Public Policy, Rights Issues, etc.</li> <li>5. <input checked="" type="checkbox"/> Economic and Social Development Sustainable Development, Poverty, Inclusion, Demographics, Social Sector initiatives, etc. <b>(Covered in this course)</b></li> <li>6. General issues on Environmental Ecology, Bio-diversity and Climate Change – that do not require subject specialization. (7) General Science.</li> </ol>	<ol style="list-style-type: none"> <li>1. Comprehension.</li> <li>2. Logical reasoning and analytical ability.</li> <li>3. General mental ability.</li> <li>4. Basic numeracy (numbers and their relations, orders of magnitude, etc.) (Class X level), Data interpretation (charts, graphs, tables, data sufficiency etc. – Class X level).</li> <li>5. **Interpersonal skills including communication skills.</li> <li>6. **Decision-making and problem-solving. ** while they're part of syllabus but not asked since 2015 due to protests by the Hindi-belt aspirants.</li> </ol>

### 10.2.2 Mains & Interview

Paper	Subject Name	Marks
	English language paper & regional language paper (Not counted in Merit)	N/A
<b>Paper-1</b>	Essay	250
<b>Paper-2</b>	General Studies–I (Indian Heritage and Culture, History and Geography of the World and Society)	250
<b>Paper-3</b>	General Studies –II (Governance, Constitution, Polity, Social Justice and International relations)	250
<b>Paper-4</b>	General Studies –III (Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)	250
<b>Paper-5</b>	General Studies –IV (Ethics, Integrity and Aptitude)	250
<b>Paper-6</b>	Optional Subject – Paper 1	250
<b>Paper-7</b>	Optional Subject – Paper 2	250
	Sub Total (Written test)	1750
	INTERVIEW/ Personality Test	275
	Grand Total	2025

### 10.2.3 General Studies Mains Paper 1 to 4: What is covered in your course?

= covered in Mrunal's Economy Course/Handout either fully or briefly. <see next table → → >



GS-I: Indian Heritage and Culture, History and Geography of the World and Society.		
History	001	Salient aspects of Art forms, Literature, Architecture (ancient to modern)
	002	History Mid-18th century - Present (significant events, personalities, issues)
	003	Freedom Struggle (various stages, important contributors from different parts of the country)
	004	Post-Independence (consolidation and reorganisation within country)
	005	18th century events (e.g. Industrial Revolution, WWs, redrawn boundaries, colonisation, decolonisation)
	006	Political philosophies (e.g. communism, capitalism, socialism) and their effect on society
Social Science	007	Salient features of Indian Society
	008	Diversity of India
	009	Role of women and women's organisation
	010	Population and associated issues <input checked="" type="checkbox"/> (Pillar6)
	011	Poverty and developmental issues <input checked="" type="checkbox"/> (Pillar6)
	012	Urbanisation (problems and remedies) <input checked="" type="checkbox"/> (Pillar5)
Geography	013	Globalisation (effects on Indian society)
	014	Social Empowerment, Communalism, Regionalism, Secularism
	015	Salient Features of World Physical Geography
	016	Distribution of key Natural Resources (world, S. Asia, Indian subcontinent)
	017	Factors responsible for location of Industries (primary, secondary, tertiary; India, world) REF: <a href="https://mrunal.org/tag/gsm1-geo-location">https://mrunal.org/tag/gsm1-geo-location</a>
	018	Important Geophysical phenomena (earthquakes, tsunami, volcanoes, cyclones)
Polity & Governance	019	Geographical features and location
	020	Critical geographical features, flora, fauna (changes and effects therof)
GS-II: Governance, Constitution, Polity, Social Justice and International Relations		
021	Constitution: Historical underpinnings & evolution- Features, amendments, significant provisions, basic structure	
022	Comparison of Indian constitutional scheme with other countries'	
023	Functions & responsibilities of the Union and the States; issues and challenges of federal structure	
024	Devolution of powers and finances to local levels; challenges therein	
025	Separation of Powers (between different organs, dispute redressal mechanisms, institutions)	
Welfare of Weaker Section	026	Union and State Legislatures (structure, functioning, conduct of business, powers & privileges; issues therein)
	027	Executive, Judiciary (structure, organisation, functioning)
	028	Ministries and Departments (of Union and State govts.)
	029	Pressure Groups & Formal, Informal associations (and their role in the polity)
	030	Salient features of the Representation of People's Act.
	031	Bodies: i) Appointment to various Constitutional posts (ii) Constitutional Bodies (powers, functions and responsibilities) (iii) Statutory, Regulatory and Quasi-judicial bodies <input checked="" type="checkbox"/> (only those related to economy e.g. Finance Commission in Pillar2, IBBI in Pillar1B2 etc.)
	032	Government Policies & Interventions for development of various sectors (issues in their design, implementation) <input checked="" type="checkbox"/>
	033	Development Processes & Development industry (role of NGOs, SHGs, groups & associations, donors, charities, institutional and other stakeholders)
	034	Welfare Schemes (centre, states; performance, mechanisms, laws, institutions and bodies constituted for protection of vulnerable sections) <input checked="" type="checkbox"/> (Ref Pillar6)



	035	Social Sector & Social Services (health, education, human resources - issues in development, management) <input checked="" type="checkbox"/> (Ref Pillar6)
	036	Poverty and hunger issues <input checked="" type="checkbox"/> (Ref Pillar6)
Governanc e	037	Important aspects of governance
	038	Transparency and accountability (institutional and other measures)
	039	E-Governance (applications, models, successes, limitations, potential)
	040	Citizens Charter <input checked="" type="checkbox"/> (Only Investors Charter @Pill1C & TaxPayers Charter@Pill2B)
	041	Role of Civil Services in a democracy.
Internation al Relations	042	India and its Neighborhood (relations)
	043	Bilateral, Regional, Global groupings & Agreements (involving and/or affecting India)
	044	Effect of Policies & Politics of Developed and Developing countries on India (India's interests, diaspora)
	045	Important International institutions, agencies, for a (structure, mandate)
<b>GS-III: Technology, Economic Development, Environment, Security Disaster Management</b>		
Economy & Agriculture	046	Indian Economy (issues re: planning, mobilisation of resources, growth, development, employment) <input checked="" type="checkbox"/> (Ref: Pillar2, 4C, 6)
	047	Inclusive growth and issues therein <input checked="" type="checkbox"/> (Ref: Pillar4C, 6)
	048	Government Budgeting) <input checked="" type="checkbox"/> (Ref: Pillar2D, 6)
	049	Major Crops in various parts of country (cropping patterns, types of irrigation, irrigation systems)
	050	Farm subsidies and MSP and issues therein (direct and indirect) <input checked="" type="checkbox"/> (Pill4A)
	051	storage, transport & marketing of agro-produce related issues & constraints, <input checked="" type="checkbox"/> (Pill4A)
	052	PDS (objectives, functioning, limitations, revamping, issues of buffer stocks & food security) <input checked="" type="checkbox"/> (Pill4A)
	053	e-technology to aid farmers, E-Technology missions <input checked="" type="checkbox"/> (Pill4A)
	054	Economics of animal-rearing <input checked="" type="checkbox"/> (Pillar4A)
	055	Food processing and related industries in India (scope & significance, location, upstream-downstream requirements, supply chain management) <input checked="" type="checkbox"/> (Pillar4A)
	056	Land Reforms in India <input checked="" type="checkbox"/> (Pillar4A- ONLY Brief overview)
	057	Effects of Liberalisation on the economy <input checked="" type="checkbox"/> Pillar#4B
	058	Changes in Industrial policy & their effects on industrial growth <input checked="" type="checkbox"/> Pillar#4B
	059	Infrastructure (energy, ports, roads, airports, railways) <input checked="" type="checkbox"/> (Pillar#5A)
	060	Investment models <input checked="" type="checkbox"/> (Pillar#5B)
Science Tech	061	(i) S&T developments and everyday applications & effects (ii) Awareness in fields of IT, Space, Computers, Robotics, Nanotech, Biotech, IPR issues
	062	(i) Achievements of Indians in S&T, (ii) Indigenization of technology & development of new technology
Environme nt & Disasters	063	Environmental conservation, pollution and degradation
	064	Environmental Impact Assessment
	065	Disasters & Disaster Management
Internal Security	066	Linkages between Development & spread of Extremism
	067	Role of External State & Non-State actors in creating internal security challenges
	068	Internal security challenges through communication networks
	069	Role of media and social-networking sites in internal security challenges



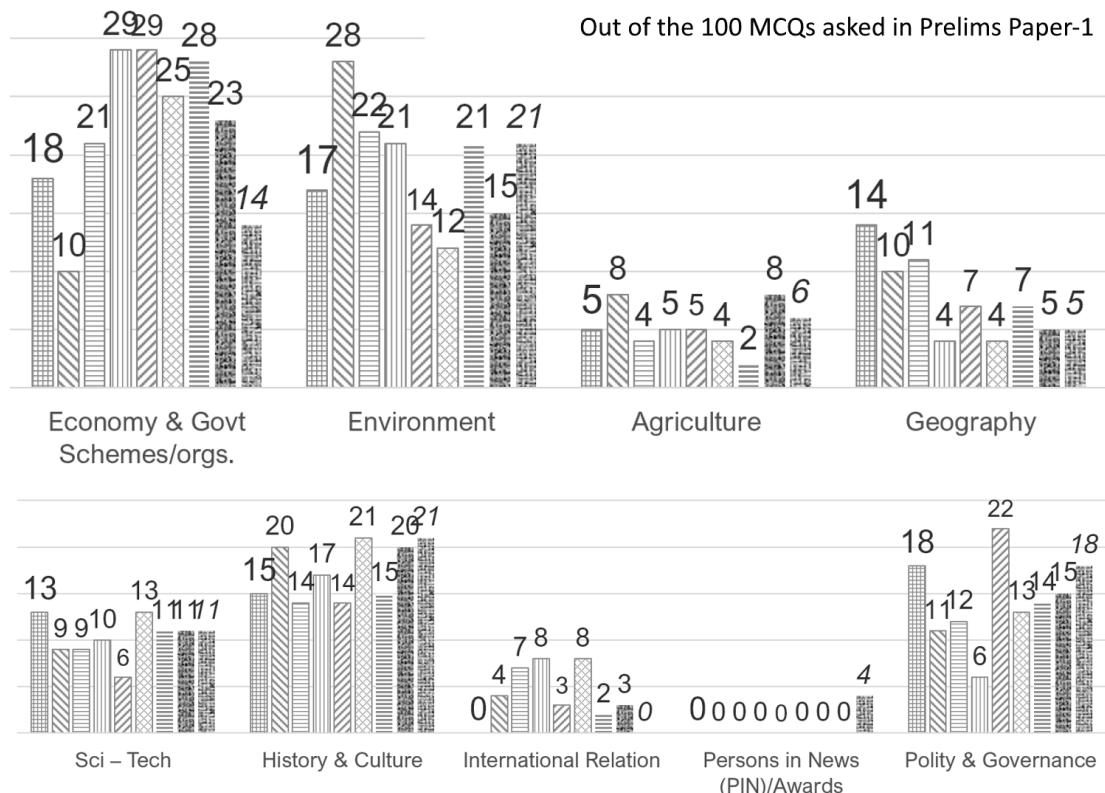
	070	Basics of Cyber Security
	071	Money laundering & Prevention <input checked="" type="checkbox"/> ( in  Pillar#2B)
	072	Border Areas (security challenges and management thereof)
	073	Linkages of Organised crime and Terrorism
	074	Security forces & agencies (mandate)
	<b>GS-IV: Ethics, Integrity and Aptitude (* including case studies)</b>	
Theory	075	Ethics and Human Interface (essence, determinants, consequences of ethics in human actions)
	076	Dimensions of ethics
	077	Ethics in public & private relationships
	078	Human values (lessons from great leaders, reformers & administrators)
	079	Emotional Intelligence (concepts, utility & application in administration & governance)
	080	Contributions of Moral Thinkers & Philosophers from India and world
Society & Behavior	081	Role of family, society, educational institutions in inculcating values
	082	Social Influence and Persuasion
	083	Attitude (content, structure, function, influence & relation with thought & behaviour)
	084	Moral and Political Attitudes
Civil Services	085	Civil Service aptitude & foundational values (integrity, impartiality, non-partisanship, objectivity, dedication to public service, empathy, tolerance & compassion towards weaker sections)
	086	Public service values & Ethics in Public Administration (status & problems)
	087	Ethical concerns and dilemmas in government & private institutions
	088	Laws, rules, regulations, conscience as sources of ethical Guidance
Governanc e	089	Accountability & ethical governance
	090	Strengthening of ethical & moral values in governance
	091	Ethical issues in international relations and funding
	092	Corporate Governance <input checked="" type="checkbox"/> ( in  Pillar#1C2)
	093	Probity in Governance (concept of public service)
	094	Philosophical basis of governance and probity
	095	Information (sharing & transparency in government), RTI
	096	Codes of Ethics, Codes of Conduct
	097	Citizens Charters, Quality of Service Delivery
	098	Work Culture
	099	Utilization of public funds
	100	Challenges of Corruption
	101	Case Studies on Above Subjects



**For more:** Refer to Topicwise Papers & Trend analysis available: [Mrunal.org/Prelims](http://Mrunal.org/Prelims) and [Mrunal.org/Mains](http://Mrunal.org/Mains)

#### 10.2.4 Breakup of Subjects in Prelims

—■ 2013 —■ 2014 —■ 2015 —■ 2016 —■ 2017 —■ 2018 —■ 2019 —■ 2020 —■ 2021

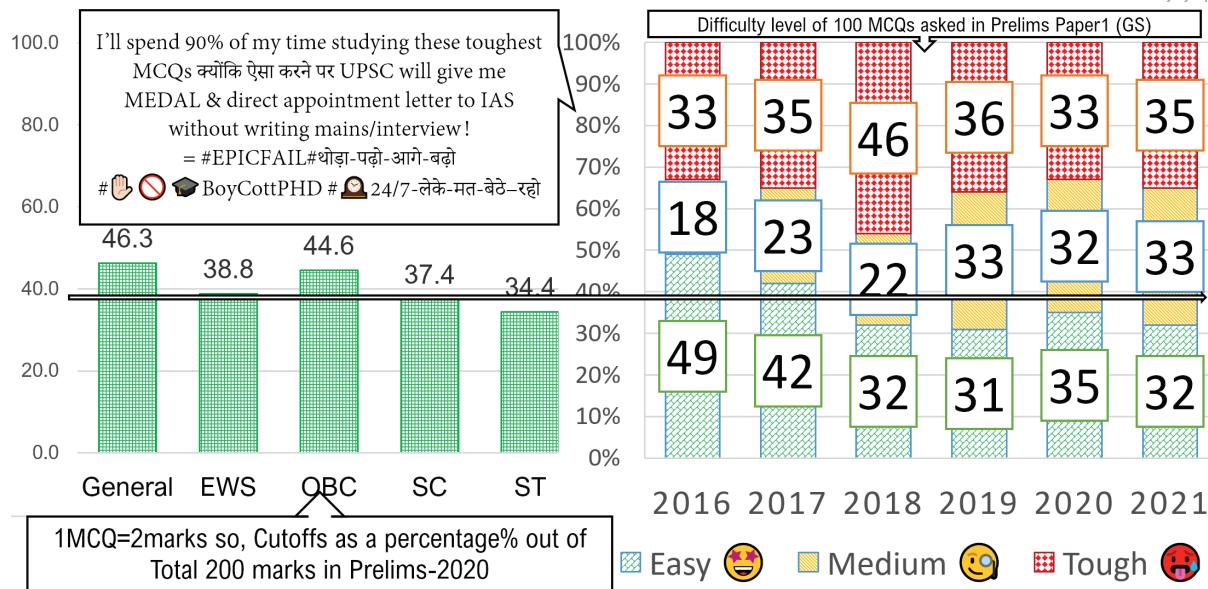


If you want to get married, Priority#1 should be to find bride/groom. i.e. FINISHING CORE SYLLABUS OF 1) Geography, 2) Environment, 3) Agriculture, 4) Economy, 5) Polity, 6) History-Culture, 7) Science-Tech, 8) IR 9) Ethics & 10) Optional Subject.  
☞ Current Affairs is NOT a separate subject. It should be seen embedded within above 10 Subjects.



Booking Pre-wedding photographer CANNOT be PRIORITY#1 i.e. #Daily-2-hr-Current-Affairs-Videos #Daily-Mock-Tests #Daily-Mains-Ans-Writing, #RayjasabhaTV & all other 'Pageview' oriented 'Products'

**Figure 1:** क्योंकि बहोत सारे बच्चे ये सबसे ज़रूरी चीज़ समझते नहीं, और चिकनी-चुपड़ी बाते करनेवाले Baba-लोगों के 'अंधे- भक्त' बनके अपने age/attempt बर्बाद करते हैं।



1MCQ=2marks so, Cutoffs as a percentage% out of Total 200 marks in Prelims-2020

Figure 2: यानि की इधर Economy मे हमको B.Com, M.Com, CA, BBA, MBA, PHD करना नहीं है! #थोड़ा-पढ़ो-आगे-बढ़ो #लेके-मत-बेठे-रहो

### 10.2.5 IAS Study Planner / Calendar

Month#1							Month#2							Month#3							Month#4						
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
✓	Economy (P+M)						✓	Economy (P+M)						✓	Economy (P+M)						✓	Economy (P+M)					
✓	Polity & Governance (P+M)						✓	Polity & Governance (P+M)						✓	Polity & Governance (P+M)						✓	Polity & Governance (P+M)					
✓	Optional Subject						✓	Optional Subject						✓	Optional Subject						✓	Optional Subject					
✓	♀ Ethics (Mains GS4)						✓	♀ Ethics (Mains GS4)						✓	♀ Ethics (Mains GS4)						✓	♀ Ethics (Mains GS4)					
Month#5														Month#6													
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
✓	International Relation						✓	International Relation						✓	International Relation						✓	International Relation					
✓	Geography & Agriculture						✓	Geography & Agriculture						✓	Geography & Agriculture						✓	Geography & Agriculture					
✓	Environment & Disaster Management (Pre + Mains)						✓	Environment & Disaster Management (Pre + Mains)						✓	Environment & Disaster Management (Pre + Mains)						✓	Environment & Disaster Management (Pre + Mains)					
✓	Opt Sub (Revision, Supplementary Reading, Ans Writing)						✓	Opt Sub (Revision, Supplementary Reading, Ans Writing)						✓	Opt Sub (Revision, Supplementary Reading, Ans Writing)						✓	Opt Sub (Revision, Supplementary Reading, Ans Writing)					
✓	Mains (GSM1: communal, regionalism, GSM2: E-Governance, GSM3: cyber-security, internal security)						✓	Mains (GSM1: communal, regionalism, GSM2: E-Governance, GSM3: cyber-security, internal security)						✓	Mains (GSM1: communal, regionalism, GSM2: E-Governance, GSM3: cyber-security, internal security)						✓	Mains (GSM1: communal, regionalism, GSM2: E-Governance, GSM3: cyber-security, internal security)					
Month#8														Month#9													
Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
✓	Current Affairs						✓	Current Affairs						✓	Current Affairs						✓	Current Affairs					
✓	History, Art, Culture						✓	History, Art, Culture						✓	History, Art, Culture						✓	History, Art, Culture					
✓	Science Tech						✓	Science Tech						✓	Science Tech						✓	Science Tech					
✓	GSM1-2-3: Remaining Topics such as World History, Post Independent India, Land Reforms, Food Processing etc.						✓	GSM1-2-3: Remaining Topics such as World History, Post Independent India, Land Reforms, Food Processing etc.						✓	GSM1-2-3: Remaining Topics such as World History, Post Independent India, Land Reforms, Food Processing etc.						✓	GSM1-2-3: Remaining Topics such as World History, Post Independent India, Land Reforms, Food Processing etc.					
Morning														Upto Lunch Hour													
Newspaper														Big GS Subject#1 (Pre+Mains)													
Then Till Evening														Big GS Subject#2 (Pre+Mains)													
Evening to Dinner														Optional / Mains' Small GS Topics													
Post-Dinner to Midnight														Mains' Small GS Topics													

Figure 3: IAS Study Planner. If you've less than 10 months then do more study every day/study some parts after Prelims is over.



#### 10.2.6 🔊 Current Affairs (CA) for General Studies



Figure 4: Out of the 100 MCQs asked in Prelims, how many came from Current Affairs?

- Any one newspaper: Daily IndianExpress or theHindu. ✌️ Not both ! Use Only one.
- **Make newspaper NOTES ONLY FOR Optional Subject, Cases Quotable for Essay / GSM4, & factoids imp. for UPSC interview i.e. about your home-state, hobbies, graduation & job (if any).**
- ✌️ No need to make notes for GS.
- It's true that not many Qs are coming from PDF/Mag compilation, but if you manually try to make your own current affairs notes from newspaper, you'll never finish other parts of syllabus.
- CA-Excel/PDF file at <https://Mrunal.org/current>
- Use any one FREE PDF/Mag compilation: Unacademy Articulate, VisionIAS, iaspalliament, (#)DrishtiIAS, etc. minimum from 1/1/2020 onwards (if targeting CSE-2022)

#### 10.2.7 🏛️ 📚 UPSC CSE-2021: Basic Reading List for GS

- (#) = का मतलब है कि ये किताबें / PDF हिंदी में भी उपलब्ध हैं
- 📚 = icon means instead of given book, you may use Unacademy booklet given to you, if you've.
- IYB-2022= India (yearbook) 2022 by I&B Ministry. BUT NOT need buy, go thru free e-summaries on Internet.
- Refer to the table given on Next page



## 10.2.8 🏛️ UPSC CSE-2021: Basic Reading List for GS

<p> <b>Geography</b></p> <ul style="list-style-type: none"> <li>⇒ # NCERT: First class 11-12's four textbooks on physical, Indian &amp; human geography. Then NCERT 7-10 Social Science- only those chapters not covered in Class 11-12.</li> <li>⇒ Geography Lecture in your [+] subscription</li> <li>⇒ Goh Cheng Leong: All ch EXCEPT 4 to 10.</li> <li>⇒ # If time, IYB-2022* ch. 1 and 30, else ignore.</li> <li>⇒ <a href="https://mrunal.org/tag/gsm1-geo-location">https://mrunal.org/tag/gsm1-geo-location</a> (Selective study only. Upar-upar se dekh lo)</li> </ul> <p> <b>Agriculture</b></p> <ul style="list-style-type: none"> <li>- # NCERT Geography, Science Textbooks, Followed by Current Affairs (CA) related to Biotech</li> <li>- Agri's Economy / Scheme / Budget angles → Mrunal's class &amp; handout Pillar 4A</li> </ul> <p> <b>Economy</b></p> <ul style="list-style-type: none"> <li>- <input checked="" type="checkbox"/> Mrunal's lecture series and its handouts for Theory, Contemporary, and Current issues.</li> <li>-  No need for NCERT 9-10 or Class 12 Micro/Macroeconomics or Old NCERT or Tamilnadu State Board textbooks.  No need for Ramesh Singh, Sanjeev Verma, Nitin Singhania, SriRAMIAS or any other book/material.</li> </ul> <p><b>To improve vocabulary &amp; expression skills for Mains:</b></p> <ul style="list-style-type: none"> <li>- <input checked="" type="checkbox"/> # NCERT Class 11 Indian Economic Dev.</li> <li>- <input checked="" type="checkbox"/> # After my course is over, read Introductions and conclusions of each chapter of vol 1 of all economic surveys from 2015 onwards from <a href="http://indiabudget.gov.in/">http://indiabudget.gov.in/</a></li> <li>- <input checked="" type="checkbox"/> # Chief Editor's Desk (Preface page) of last 2 years' Yojana &amp; Kurukshetra mags from <a href="http://yojana.gov.in/Recent_archive_2020.asp">http://yojana.gov.in/Recent_archive_2020.asp</a> (URL mein change year number for previous Archives) alternatively <a href="https://www.publicationsdivision.nic.in/journals/index.php">https://www.publicationsdivision.nic.in/journals/index.php</a></li> </ul>	<p> <b>Environment</b></p> <ul style="list-style-type: none"> <li>- # NIOS PDF on Environment, # IYB22 Ch. 12</li> <li>- # NCERT Chemistry Class 11: Ch. on Environ. Chemistry.</li> <li>- # NCERT Biology 11-12: selective study of chapters related to flora-fauna, biotech</li> <li>- Followed by Current Affairs (CA) PDF</li> </ul> <p> <b>Polity</b></p> <ul style="list-style-type: none"> <li>- # Indian Polity by M. Laxmikanth</li> <li>- # Governance in India by M. Kartikeyan for GSM 2</li> <li>- # IYB22: ch. 2, 3, 20, 28.</li> <li>- Current Affairs: Notable judgements, Committees, Appointments.</li> <li>- # PrsIndia.org: Passed Acts</li> <li>- IndianExpress ki Explained Series</li> <li>- # (Selective) NCERT Socio and PolSci 11-12</li> </ul> <p> <b>International Relations (IR)</b></p> <ul style="list-style-type: none"> <li>-  Pavneet Singh's IR Book (selective study).</li> <li>- Followed by CA from Newspaper/PDF/Mags.</li> </ul> <p> <b>History-Culture</b></p> <ul style="list-style-type: none"> <li>-  No need for old NCERTs. Poor Cost:Benefit</li> <li>- Refer to Tamilnadu (New Color Edition) Class 11-12, # New NCERT</li> <li>- Freedom Struggle: i) (#) Spectrum for Prelims ii) (#) Plassey to Partition for Mains</li> </ul> <p> <b>Science Tech</b></p> <ul style="list-style-type: none"> <li>-  (#) Ravi Agrahari's Science-Tech book.</li> <li>- (then, If time permits) Read all chapters: NCERT 7-10. (then, If time permits) Read only selective chapters of: NCERT 11-12 related to Environment, Biotech, Spectrum waves etc.</li> </ul> <p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>- <b>CSAT-Paper 2:</b> Use any Paper-II Manual or BOOK by McGraw-Hill, Arihant, Pearson, Disha or ANY PUBLISHER etc. solve few <math>\begin{smallmatrix} AB \\ CD \end{smallmatrix}</math> ? MCQs from each section and/or the classes on Unacademy / Youtube.</li> </ul>
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### 10.2.9 🏛️🎙️ Instructions for Live Class

- If audio/video stuck then refresh page by Ctrl+SHIFT+R; If electricity / internet outage, fear not, because recording will be available in your account.
- Keep following things ready before the class (1) Handout PDF saved in your harddisk. No need to take printouts. You may get them printed after Corona is subdued. (2) Pens (3) Unruled A4 sized pages. Don't staple/spiral the pages or printouts, so you can add more blank pages in future to add your own thoughts/answers.
- If doubts in lecture itself, notedown in paper/diary → Ask in Google query form after class, which I'll reply in a combined PDF file on weekly basis. (गूगल फॉर्म से मिले आपके प्रश्नों का साप्ताहिक क्रम से जवाब दिया जाएगा, निश्चित रहिए!)
- To Download Handout: <https://unacademy.com/course/mrunals-economy-course-for-upsc-prelims-mains-2022-52/I1OWWV6Y> → click on 'updates' button → a sidebar opens → download from there.

### 10.2.10 🏛️💻 What has UPSC asked from Economy in recent years?

Economy: 6 Pillars™	Prelims P1 (GS 100 📊 MCQs)						Mains GSM-1-2-3 (750 Marks)						Remarks
	2016	2017	2018	2019	2020	2021	2016	2017	2018	2019	2020	2021	
1_Money Banking, Finance & Insurance	6	6	7	7	9	6	25	0	0	0	15	15	Most useful in Prelims but less in Mains
2_Budget, FC, GST, FRBM	3	3	4	1	1	1	12.5	30	25	25	15	20	Second lowest utility after 5_Infra
3_Intl_Trade, BoP	11	4	4	7	7	2	25	0	30	0	15	15	Third lowest utility after 2_Budget.
4_Sectors, GDP, Inflation, Microeconomics	4	8	3	8	5	5	25	60	50	65	55	60	Useful for both prelims and Mains.
5_Infrastucture	2	4	1	3	1	0	37.5	10	15	15	15	30	Lowest utility among 6 pillars.
6_HRD	3	4	6	2	0	0	50	40	60	75	85	45	Useful for both prelims and Mains.
Total	29Qs	29Qs	25Qs	28Qs	23Qs	14Qs	175m	140m	180m	180m	200m	185m	



# Economy Pillar #1-A1) Money: Barter to BitCoin

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10.2.4	🏛️ Breakup of Subjects in Prelims .....	5
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### 10.3 🛍️ BARTER SYSTEM & ITS DISADVANTAGES: (वस्तु विनिमय प्रणाली)



Barter system was introduced by Mesopotamian tribes. It has following challenges: (चुनौतिया )

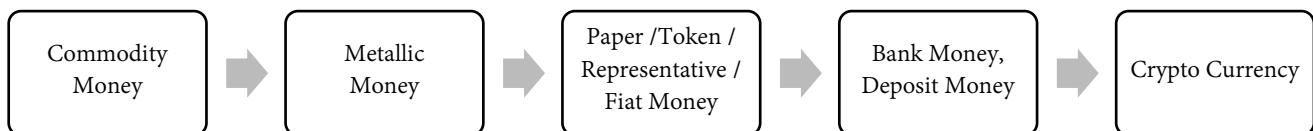
- 🤔 Double co-incidence of Wants (आवश्यकताओं का दोहरा संयोग नहीं होगा तो व्यापार असंभव).
- 🤔 Search Cost & Transaction cost is high. (सही दाम पर चीज ढूँढ़ने व लेनदेन की लागत बढ़ जाती है)
- 🤔 Storage of perishable commodities is difficult, results in loss of value. (नाशवान वस्तुओं का मूल्यहास)
- 🤔 Doesn't encourage specialization and division of labour (श्रम विभाजन को प्रोत्साहित नहीं करता).



## 10.4 MONEY: FUNCTIONS OF (पैसे के कार्य)

Primary: 2 functions [प्राथमिक]	Secondary (S-T-D) 3functions [सहायक कार्य]	Contingent 3functions [प्रासंगिक कार्य]
<p>1.  Measure of Value: gm=wt, ml=vol, ₹=value (मूल्य का मापक).</p> <p>2.  Medium of Exchange: Buy &amp; Sell goods and services using money as the 'medium'. (विनिमय का माध्यम).</p>	<p>1.  Store of Value (मूल्य का संचय)</p> <p>2.  Transfer of Value (मूल्य का स्थानांतरण). Soldier in Kashmir to parents in Kanyakumari</p> <p>3.  Deferred Payments (स्थगित भुगतानों का मानक). E.g. Buy iphone12 @₹3177 only per month x 36 months' Equated Monthly Installments (EMIs) = ₹1,14,372. Actual price is ₹79,900, but ₹34,472 extra Interest. (ब्याज पर किश्तों में खरीदारी संभव)</p>	<p>1. Basis of credit system, Financial markets (share, bond etc.: More in  Pillar#1C-sharemarket) वित्तीय बाजार का आधार है पैसा</p> <p>2. Employing factor of production i.e. Land, Labour, Capital (More in  Pillar#4C) उत्पादन के कारक जुटाने में मदद करता है है पैसा</p> <p>3. Creation &amp; Redistribution of National Income via taxation. ( Pillar#2) अमीरों पे ज्यादा कर वसूल के राष्ट्रीय आय के पुनःवितरण करने में मदद</p>

## 10.5 MONEY: EVOLUTION & TYPES (मुद्रा की उत्कर्षता व् प्रकार)



### 10.5.1 Commodity Money / वस्तु मुद्रा (Intrinsic value: अंतर्भूत मूल्य? Yes)



- ⇒ Iron Nails, Bear Pelts, Cocoa Beans, Whale Teeth, Gold Nuggets
- ⇒ **Problems?** Perishable, not uniform, not pure, foreigners may not accept.  
नाशवान, एकसमान नहीं, शुद्ध नहीं, अस्वीकार भी कर सकते हैं.

### 10.5.2 Metallic Money / धातु मुद्रा (Intrinsic value? Yes)

- ⇒ Traders & Kings stamped their marks on gold nuggets for uniformity & trust. (सोने पर अपना चिन्ह/छाप लगा देते)
- ⇒ Indo Greek kings & Kushana kings issued gold coins, but Gupta Gold coins most spectacular- king is playing Veena, shooting animals, standing with wife. (इन राजाओंने सोने के सिक्के निकाले थे)
- ⇒ Delhi Sultanate Kings: **Silver Tanka**. Sher Shah Suri **Rupiyah** silver coin. Akbar: **Muhr**.
- ⇒ Metal has INTRINSIC VALUE i.e. Metallic money = Use it as "money", or you can melt the metal → use that metal for making jewellery / weapons because metal itself has its value / usages. उस मुद्रा की धातु पिघला कर कुछ और चीजें भी बना सकते हैं. क्योंकि धातु का अपना : अंतर्भूत मूल्य / उपयोगिता है.
- ⇒ On the other hand, paper-currency note= You can't use currency-note's paper as a notebook or diary. So currency notes have no intrinsic value. उसके कागज का उपयोगिता कुछ नहीं है, क्योंकि उसपे छपाई कर दी है.



**Further SELF STUDY:** History of Indian coins from Nitin Singhania's book on Art & Culture.

IF you don't have the book, then ref: NCERT/Tamilnadu/Unacademy books.

Table 1: Types of Coins



Gupta Coin: ~8 gm GOLD



50 paisa modern coin: ~4 gm steel

### Full Bodied Coins

Intrinsic Value (अंतर्भूत मूल्य) is Equal to or MORE than its Face Value (अंकित मूल्य)

Challenge?

⇒ **Debasement:** ▼ decreasing the amount of metal in coins. Usually happens when king's rule gets weak/poor e.g. Aurangzeb, Roman Kings. सिक्के में धातु की मात्रा को कम किया जाए तब लोगों का उस राजा के शासन से विश्वास कम होने लगता है

### Token Coins (प्रतीककात्मक)

LESS. (धातु एकदम सस्ती वाली इस्तेमाल करते हैं या बहुत ही कम वजन की धातु इस्तेमाल करते हैं)

⇒ 1330s: Tughlaq's Token coin experimentation = #EPICFAIL (Why? Prepare in History subject).

⇒ Modern Indian coins are token coins. Cupronickel metal used to discourage melting. **Coinage Act 2011** prohibits melting of coins.

### 10.5.3 Paper Money / कागजी मुद्रा (Intrinsic Value? No)

**Fiat money** (वैधानिक मुद्रा): It MUST fulfil two conditions **SIMULTANEOUSLY**: दो शर्तें का एकसाथ पालन :

1. It MUST BE in the form of Physical Currency Coin / Physical Currency Notes / VirtualCoin/ DigitalCoin/ CryptoCoin which can measure value **AND simultaneously** और साथ ही साथ
2. It MUST BE issued by the order of a King / Queen / Government / Central Bank.

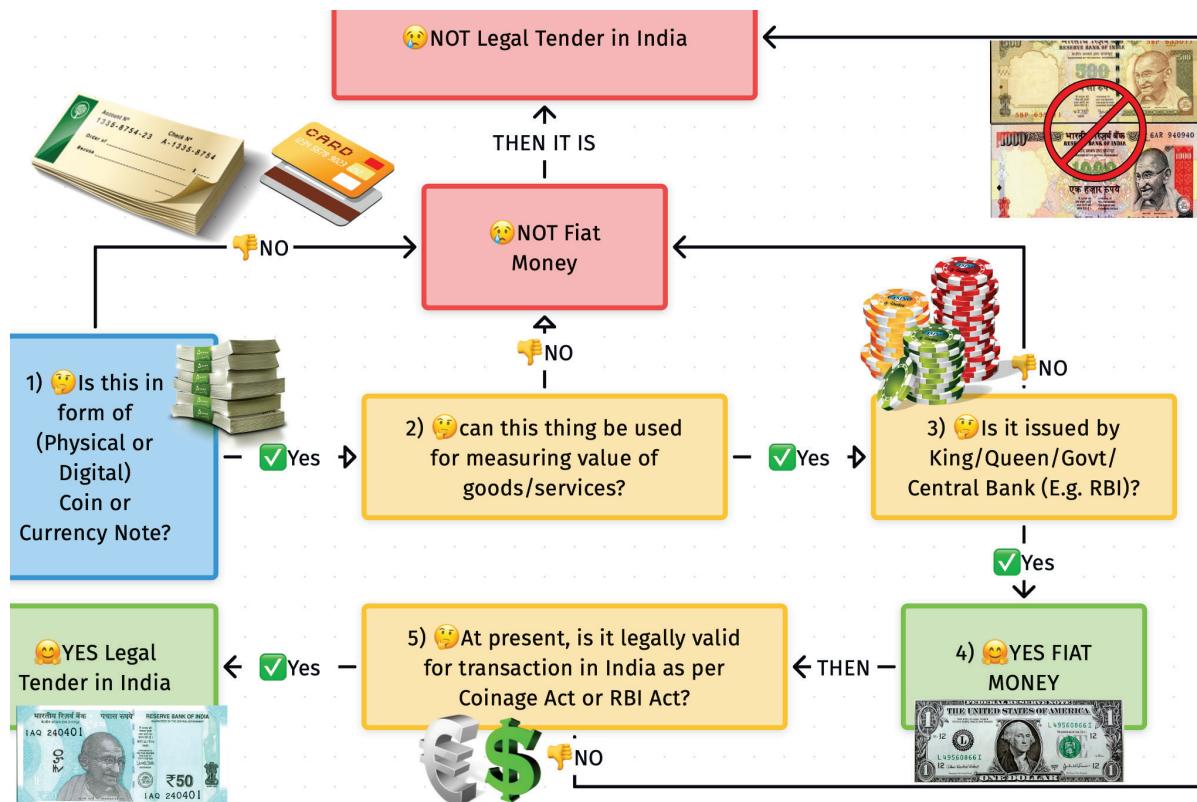
	<p>⇒ Govt issues all coins upto ₹ 1,000, using powers of Coinage Act 2011.</p> <p>⇒ ₹ 1 Note signed by Finance Secretary (वित्त सचिव)</p> <p>⇒ ₹ 1 note doesn't contain "I promise to pay bearer..."</p>
	<p>⇒ <b>RBI issues:</b> Currency notes other than ₹ 1 Note using the powers of RBI Act 1934.</p> <p>⇒ Currency notes have Governor's sign: "I promise to pay bearer..."</p>

**FAQ: why is it like this!!!?? WHY CAN'T RBI ISSUE BOTH coins & currency notes!!?**

**Ans.** Send your suggestion to PM, to merge above two laws. Until it's implemented, remember table for passing exam. प्रधानमंत्री को कागज लिखो- दोनों कानूनों का एकीकरण करने के लिए. जब तक वह नहीं होता तो इस handout को रटो।



#### 10.5.4 📈₹ Legal Tender (वैधानिक निविदा)

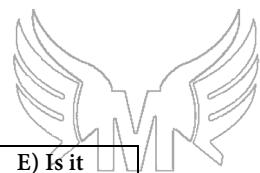


To become a 'legal tender', a given coin/currency MUST fulfil two conditions **SIMULTANEOUSLY**:  
एक साथ दो शर्तें को पूरा करना होगा.

1. It must be a FIAT MONEY (जो हमने ऊपर के सेक्षण में पढ़ा). **AND SIMULTENOUSLY** और साथ ही साथ
2. It must be legally valid for all debts & transactions throughout the country. Other party can't refuse to accept. (लेनदार उसको अस्वीकार नहीं कर सकता)

Table 2: fiat money and legal tender in India

ITEM	A) Is it in form of a physical coin OR physical Note OR Digital Coin that can measure 'value'?	B) Is it issued by Central Bank / Govt / King / Queen	C) Result: Is it Fiat money? (YES If Both Cell A+B give ✓ + ✓)	D) At present, is it legally valid for transaction in India as per Coinage Act or RBI Act?	E) Is it LEGAL Tender in India (Yes, IF C+D give ✓ + ✓)
₹ Indian Rupee: Coins & Notes, CBDC	✓	✓	✓	✓	✓
Demonetized (विमुद्रीकृत) ₹500, ₹1000	✓	✓	✓	✋	✋
Dollar\$, Yuan, Yen, Euro etc	✓	✓	✓	✋	✋
G-Sec, T-Bill (what is this-Ans. explained in video)	✋	✓	✋	✋	✋
Shares, Bonds, DD, Cheque, ATM, Cards, Kirana coin, Casino coin, Filmstar-Notes	✋	✋	✋	✋	✋



ITEM	A) Is it in form of a physical coin OR physical Note OR Digital Coin that can measure 'value'?	B) Is it issued by Central Bank / Govt / King / Queen	C) Result: Is it Fiat money? (YES If Both Cell A+B give ✓ + ✓)	D) At present, is it legally valid for transaction in India as per Coinage Act or RBI Act?	E) Is it LEGAL Tender in India (Yes, IF C+D give ✓ + ✓)
Marshall Island: SOV Venezuela: Petro coin	✓	✓	✓	✋	✋
Bitcoins	✓	✋	✋	✋ <sup>#</sup>	✋

⇒ ##Bitcoin is not a Fiat money, yet it is legal tender in El-Salvador nation. But it is an exception.

(बिट-कोइन का अल-साल्वाडोर देश में वैधानिक निविदा होना केवल एक अपवाद है, जो पूरी दुनिया के लिए नियम/व्याख्या नहीं है।)

⇒ ⚡ FAQ: we can use cheque / credit card to pay fees. So, why are they not fiat money/legal tender? Ans. They're instruments to use money. They're not money. Primary auction on the money is to measure value. We can say 1 tea cup = ₹15. Two tea cups = ₹30. But, We cannot SAY "1 tea cup = 1 chequebook. 2 tea cup = 2 credit cards- they can't be used for measuring value like that. For more, watch lecture video peacefully.

⇒ ⚡ FAQ: I did not understand this thing and/or I want to engage in intellectual debate why "X" thing is legal tender? Ans. Please watch lecture's recorded video again, more peacefully.

⇒ **Commemorative Coins (सृतिचिन्ह रूप सिक्के)** = Fiat money yes but not legal tender unless notified to be used as legal tenders.

Table 3: Fiat Money: Two types of legal tenders

A) ⓘ Limited legal tenders (सीमित वैधानिक निविदा)	B) ∞ Unlimited legal tenders: (असीमित वैधानिक निविदा)
	
<p>Recipient can refuse accepting payment beyond a limit (एक हद से ज्यादा छूटटे पेसे स्वीकारने से सामने वाला मना कर सकता है)</p> <p>⇒ Coinage Act 2011 ⇒ Rs. 1 / above → upto Rs.1000 ⇒ 50 paisa x 20 coins → upto Rs.10 ⇒ Below 50 paisa coins are withdrawn (in 2011) So, 10 paisa, 25 paisa are ✋ not legal tenders. (10 पैसा और 25 पैसा वैधानिक निविदा नहीं है। 50 पैसा वैधानिक निविदा है।)</p>	<p>No such restriction.* *</p> <p>⇒ RBI Act 1934 - Section 26: Every bank note is legal tender in India. ⇒ They can be used for settling any amount of debt in India** , lender can't refuse to accept it.</p>

\*\*Although in real life, Finance Act 2017: "Cash transactions for less than Rs.2 lakh only. Beyond that use Cheque, DD, NEFT etc. else penalty= entire amount." This rule is to discourage tax-evasion / black money. For more Ref: ⚡ Pillar#2. But for MCQs, simply accept that bank notes = unlimited legal tenders. हालांकि वास्तविक जीवन में काले धन / करचोरी को रोकने के लिए नगदी लेनदेन पर कुछ सीमा के बाद रोक है, किन्तु MCQ के लिए स्वीकार लो की



FAQ# my shopkeeper doesn't accept 50 paisa. Then how it is legal tender? मेरा दुकानदार नहीं लेता 50 पैसा का सिक्का। तो आप कैसे कह सकते हैं वो वैधानिक निविदा है?

Ans. as per RBI notification, 50 paisa is legal tender. So, accept it for MCQ & move to next topic. Further, feel free to file police case against shopkeeper, if you have plenty of free time/outrage for it.

#### **MCQ: Which correctly describes the meaning of legal tender money? (Pre-2018)**

- (a) The money which is tendered in courts of law to defray the fee of legal cases
- (b) The money which a creditor is under compulsion to accept in settlement of his claims
- (c) The bank money in the form of cheques, drafts, bills of exchange, etc.
- (d) The metallic money in circulation in a country

#### **MCQ: Consider the following statements (Asked in UPSC-CDS-2011-II)**

1. In India the minimum denomination coin acceptable for transaction is 50 paise.
2. Coins below 50 paise is not a legal tender for payment.

Which of the statements given above is/are correct?

- (a) Only 1
- (b) Only 2
- (c) Both 1 and 2
- (d) Neither 1 nor 2

#### **10.5.5 (New) Visually Handicapped (VH) friendly Coins, 2019-March**

- ✓ Govt launched new series of VH-friendly coins of ₹ 1, 2, 5, 10, 20. Ascending order of size & weight. National Institute of Design (NID) helped to design.
- ✓ ₹ 20 coin: 12-sided Polygon (Dodecagon आकार: बारह बाजुओं वाला चतुष्कोण है)
- ✓ Remaining coins are round shaped. (बाकी के सिक्के गोलाकार हैं)

#### **10.5.6 (New) RBI's App to help the blind identify currency notes**

80 lakh people in India are blind (नेत्रहीन). To help them identify currency notes:

- ⇒ Old series of Gandhi notes have square (50), triangle (100), circle (500) diamond (1000)
- ⇒ New series of Gandhi notes have bleed lines, raised printing of Gandhi etc.
- ⇒ But, so many varieties of notes, difficult for VH persons to remember size & shapes so,

#### **2020-Jan: RBI launched 'Mobile Aided Note Identifier (=MANI)' App.**

- ⇒ Mobile camera scan & identifies the note (Even if it's half folded), gives audio notification in Hindi/English, also works offline
- ⇒ But can't validate whether note is genuine or fake (Counterfeit जाली नोट नहीं पकड़ सकता यह ऐप),
- ⇒ If a user is both blind and deaf, the app will tell him by giving vibrations. (मोबाइल कंपन)
- ⇒ Daffodil Software company developed this App for RBI. (ये कंपनी ने बनाया है एप)

#### **10.5.7 (New) Mahatma Series Currency Notes in India**





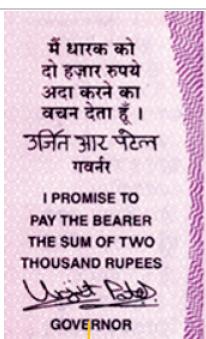
Table 4: ⓘ Less important for UPSC-exams, more IMP for Non-UPSC Exams

Note	What image is given in this currency note? (इस नोट के पीछे कौन सा चित्र होता है?)
₹ 10	Sun Temple, Konark, Odisha. 13 <sup>th</sup> Century Narsimhadev-I
₹ 20	Greenish Yellow, Ellora Caves in reverse.
₹ 50	Humpi Chariot from Vittala Temple, Karnataka
₹ 100	Lavender color. Rani ki Vav on Saraswati river, Patan. Rani Udaymati for King Bhima-I of Chalukya / Solanki dynasty in 11 <sup>th</sup> century, UNESCO Heritage site
₹ 200	Sanchi Stupa, Madhya Pradesh.
₹ 500	Red Fort, Delhi by Shah Jahan.
₹ 1000	(update when/if released)
₹ 2000	Mangal Yaan / Mars Orbiter Mission
New rupee symbol	₹: selected through a competition by Dept of Economic Affairs in 2010. Designed by D.Udaya Kumar, a Professor @IIT Guwahati.
Nation Symbol	- Lion Emblem: Sarnath Pillar, Uttar Pradesh से लिया गया है - “Satyamev Jayate”: slogan from Mundaka Upanishad से लिया गया है
Languages	While Constitution's 8 <sup>th</sup> Schedule has 22 languages, but currency note has only 17. (15 on Reverse + Hindi & English on frontside (obverse) = 17) ⓘ FAQ: Why it is like this? Ans. Either some Indian languages have similar fonts and/or send suggestion to RBI.
Museum	Budget-2020: a museum on numismatics and trade (सिक्षाशास्त्र और व्यापार का संग्रहालय) will be built at the historic 'Old Mint Building' in Kolkata .

You can read more about currency notes' features at <https://paisabolthai.rbi.org.in>. Although not IMP for IAS.

#### 10.5.8 ⓘ "I promise to pay the bearer...": Meaning of this promise?

Currency note is zero interest, anonymous bearer bond / Promissory Note.

	<b>Colonial era:</b> Promised to convert into full bodied gold or silver bars / coins worth the equal value in weight. E.g. 1 US Dollar = ~14 grams of gold. 1 British pound = ~73 grams of gold. ( ⓘ in my handout '~' means 'approximate')
	<b>Modern era:</b> Conversion into other Bank notes and "token coins" of equal face value. ₹ 2000 = 500 x 4 Nos.= 100 x 20 Nos etc. Not inflation adjusted value. Not linked with weight of gold or silver.

#### 10.5.9 ⓘ Demonetization of Fiat Money (विमुद्रीकरण: Previously 1946, 1978)

**Definition?** Demonetization is the wholesale withdrawal of currency notes from circulation. (मुद्राचलन में से कुछ खास किस की नोटों को सरकार द्वारा हटा देने की क्रिया को विमुद्रीकरण या नोटबंदी कहते हैं)

⇒ 8/Nov/2016: Finance Ministry → Dept of Economic Affairs → notification to ban the "Specified Bank Notes" (SBN) of Mahatma Gandhi series ₹ 500 and 1000.



- ⇒ Specified Bank Notes (Cessation of Liabilities) Act 2017= RBI not required to honor “I promise to pay...”. Old notes can't be kept except for research or numismatics or museum- and that too in limited amount! *More in Pillar#2: taxation → black money.*

## 10.6 REDENOMINATION: DROP ZEROS, CHANGE NAME



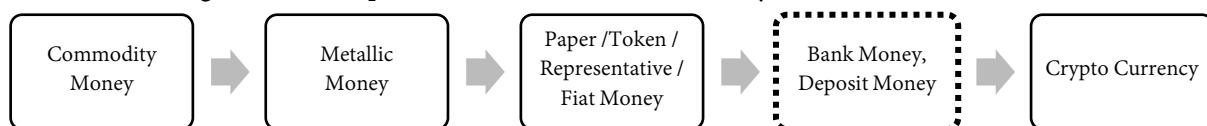
Figure 5: expression when you need 2.5 lakh riyal for a box of eggs

- ⇒ Inflation is the rise in the general level of prices of goods and services in an economy over a period of time. [*More in Pillar4C lecture*] (मुद्रास्फीति/मंहगाई=चीजों के सामान्य दामों में वृद्धि)
- ⇒ **REDENOMINATION** involves removing zeros from currency's face value, to facilitate transactions during high inflation. (सुदूरा नॉट के कुछ शून्यों को हटा दिया जाए)
- ⇒ Here, the old currency is not instantly declared illegal / withdrawn from circulation immediately. Old currency is allowed to continue side by side with new currency. People are given the option to switch to the new currency. Thus redenomination is considered to be different than demonetization. (नोटबंदी से यह थोड़ा अलग है क्योंकि अचानक से सारे पुराने नोटों को बंद नहीं किया जा रहा)
- ⇒ **REDENOMINATION** doesn't fix inflation problem in reality because (इससे मंहगाई कम नहीं होती)
  - 1) not increasing the supply of goods (बाजार में वस्तुओं की आपूर्ति को नहीं बढ़ा रहा)
  - 2) your purchasing power remains the same as before (आंकड़ों की ऐसी लीपापोती से आपकी खरीदशक्ति बढ़ेगी नहीं). Further PHD useless. More on inflation Pillar#4C lecture.

### 10.6.1 Iran = Toman to replace Iranian Rial (2020)

Iran suffering from

- ⇒ 1) High levels of inflation. 1 box of eggs cost ~250,000 Iranian rials. (मंहगाई बहुत ज्यादा है उधर)
- ⇒ 2) Weak exchange rate (कमजोर विनियम दर). \$1 costs ~42,000 Iranian rials. [*More in Pillar3A*]
- ⇒ So, very inconvenient to carry/count such a large quantity of paper currency.
- ⇒ 2020-May: Iranian Parliament approved a new paper currency “Toman” to replace its existing paper currency “Iranian Rial” at the rate of **1 TOMAN = 10,000 Rial**.
- ⇒ Although it's not an ‘instant demonetization’ of Iranian Rial. It will be replaced with TOMAN gradually in the next 2-5 years. **Benefit?** Ease of carrying currency and making transactions. (थेला भरके नगदी नहीं ले जानी होगी तो खरीदारी/ लेनदेन में सुगमता)
- ⇒ Similar thing was done in past in Zimbabwe (2006) but very old GK NOT.IMP.





## 10.7 📈 💳 BANK MONEY / DEPOSIT MONEY



### 10.7.1 📈 💳 Paper orders: Cheque, Demand Draft (DD)

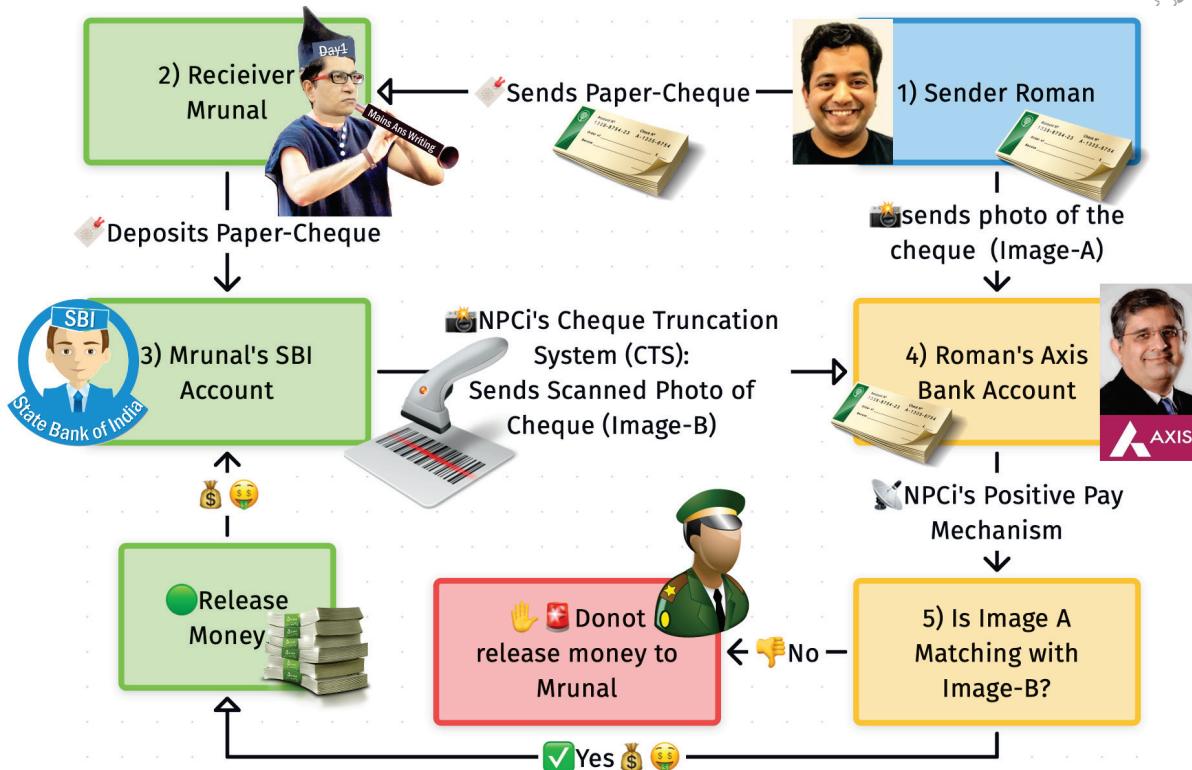
- Viceroy Ripon's Negotiable Instruments Act, 1881: Primary Objective? Cheque dishonor & forgery (परक्राम्य लिखत अधिनियम: बैंक खाते में अप्राप्त रकम के चलते चेक अस्वीकार होना/जालसाजी के लिए कानून).
- 2017: Law was amended for faster justice to victim. (त्वरित न्याय के लिए कानून में सुधार)
- **THREE parties in a cheque:** 1) Drawer (Sender), 2) Drawee (Bank), 3) Payee (Recipient)
- **Types of cheques:** 1) **Stale:** Not withdrawn in 3 months (3 महीनों में नहीं डाला तो बासी/अस्वीकार्य होगा), 2) **Post-dated:** After a specific date, 3) **Ante-Dated:** ~~not imp for IAS exam.~~
- **Open / bearer cheque:** No 'crossing'. Anyone can encash.
- **IFSC code:** Indian Financial System Code- 11 alphanumeric numbers to identify the bank branch, just like PINCODE identifies an area. (कौन सी बैंक ब्रांच है उसे चिन्हित करता है, जैसे इलाके के पिन कोड होते हैं)
- **MICR code:** Magnetic Ink Character Recognition. 9 digits code written in Iron Oxide ink for automated clearance. (चुम्बकीय स्थाही से चेक के नम्बर को जाँचने के लिए।)
- **Demand Draft (DD):** can't be dishonored (अस्वीकृत नहीं होगा) because sender has to pay amount beforehand to Bank before the Bank issued DD to him → then sender gives DD for paying university fees etc.
- **Overdraft:** When person has insufficient bank balance, still he may withdraw money from his account (as a loan). Such facility is called **Overdraft**. Pradhan Mantri Jan-Dhan account has **Overdraft** upto Rs 10,000/- with certain conditions. (*More in Pillar 1D: Financial Inclusion*).
  - o **Overdraft** is mainly for short-term operating expenses. (अस्थाई रूप से लघु अवधि के लिए कर्ज)
  - o **Loans** is mainly for longer term higher value expenses. (दीर्घ अवधि के लिए मोटी रकम का कर्ज लेना)

### 10.7.2 📈 💳 Cheque → NPCi's Cheque Truncation System (CTS-2010)

- CTS= canned image of cheque electronically sent to the drawee branch for faster clearance without theft or tempering. <see diagram given on next page>

### 10.7.3 📈 💳 💳 Cheque → Positive Pay Mechanism for Cheques

- ⇒ Suppose Sender Roman (Axis Bank, Bengaluru) sends ₹50,000 cheque to Mrunal (SBI, A'bad)
- ⇒ What if Mrunal (recipient) manipulated/ tempered cheque to encash more amount? (चेक की रकम में छेड़खानी द्वारा पैसा ग़बन करने की कोशिश की तो?)
- ⇒ 2016: ICICI Bank introduced Positive Pay for its customers to safeguard. (उससे बचाने के लिए सुविधा)
- ⇒ Later, NPCi adopted it within CTS system (as per the chart shown above)
- ⇒ 2020: RBI ordered all banks to implement it from 1/1/2021 for amounts larger than ₹ "X".
- (👉 Exact DATE/number NOT IMP)



## 10.8 🎓 💳 💼 ELECTRONIC ORDERS / DIGITAL PAYMENT



Payment & Settlement System Act 2007 empowers RBI to regulate card payment, e-payment related products and services. (भुगतान और निपटान प्रणाली अधिनियम 2007)

### 10.8.1 💳 💼 CBS ( full form: Core Banking Solution /system)

- ⇒ It is a banking software with web-platform for centralized data management & branch-less banking. E.g. Finacle software; BanCS software; E-Kuber (used in RBI)
- ⇒ 💵 Budget-2022: Post Office Savings Bank (POSB) will be connected with Core Banking System (CBS). So, their depositors too can use E-banking/net-banking, mobile banking, ATMs etc.
- ⌚ What is POSB? Ans. Ref Pillar1B1- Bank Classification.

▶ 🧑🎓 FAQ I didn't understand this. Ans. Watch lecture, sufficiently explained in it.

▶ 🧑🎓 FAQ: What is the difference between Core Banking Solution (CBS) versus Core Banking System (CBS)? Ans. Fundamentally it is the same thing. Dictionary word difference/legal pedantry/academic pedantry/hairsplittery= notimp4exam. #⌚ થોડા-પઢો-આગે-કઢો



### 10.8.2 💳💸 Next Generation Treasury Application (NGTA), 2020-Oct

- ⇒ RBI planning this web based application / software for management of
- 💳 Money Market Securities (📄 Ref: HDT-Pillar#1C)
  - Gold Reserves, 💳 Foreign exchange, 💳 Multi currency transactions (📄 Ref: HDT-Pillar#3A)
- ⇒ 🤔 Will this replace E-Kuber? How will it work? Ans. Topic still under development. Further operational aspects not important for the scope of IAS exam. # થોડા-પઢો-આગે-બઢો

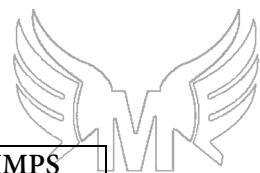
### 💡❓ MCQ: The term ‘Core Banking Solutions’ correct term? (Asked in UPSC Prelims-2016)

1. It is a networking of a bank’s branches which enables customers to operate their accounts regardless of where they open their accounts.
2. It is an effort to increase RBI’s control over commercial banks through computerization.
3. It is a detailed procedure by which a bank with huge non-performing assets is taken over by another bank.

**Answer Codes:** (a) 1 only      (b) 2 and 3 only      (c) 1 and 3 only      (d) 1, 2 and 3

Table 5: Digital Payment Systems- transaction limits may differ, depending on banks

	RBI's centralised payment systems (CPS)##		NPCI's IMPS
💻 Type	RBI's RTGS: Real Time Gross Settlement	⌚ RBI's NEFT: National Electronic Funds Transfer	Immediate Payment Service
💸 Transfer Amount	Min ₹2 lakh to ₹2000 crores (SBI).	upto ₹10 lakhs (SBI).	₹ 1 to maximum ₹2 lakhs [this limit ↑ to ₹5 lakh in 2021]
👤 Target customers	Bizmen wanting high value transactions instantly	Ordinary retail customers (आम जनता के छोटे भुगतानों के लिए है)	
➡️ Settlement mechanism	😊 Instant settlement (झटपट/ तुरंत निपटारा)	- Settles net amount between banks at interval of 30 min.	😊 Instant settlement
⌚ Timing	BEFORE: Only working days 8AM to 5:30PM(SBI)  From 2020-Dec: 24/7	- BEFORE: from 8 am to 7 pm on working days.  - From 2019-Dec: NEFT operates on 24/7 basis.	24/7 on all days (दिन रात अविरल रूप से)
₹ Fees	fee + GST**		fee + GST#



	RBI's centralised payment systems (CPS)##	NPCi's IMPS
💡 Who can provide this facility?	<ul style="list-style-type: none"> <li>- <b>BEFORE-2021:</b> Only Banks can provide this facility</li> <li>- <b>2021:</b> RBI announces that non-bank entities can also become members of centralized payment systems (CPS = NEFT &amp; RTGS). So, in future, Amazonpay, PhonePe etc could also directly allow this</li> </ul>	Banks + Prepaid Payment Instrument (PPI)/ / mobile-wallet cos like Phonepe, Mobikwik

- ⇒ \*\* from 1/1/2020 **no fees** if doing online transactions. (but if NEFT/RTGS done by filling paper-form at bank branch then fees may be levied. ( आपके पास कंप्यूटर या मोबाइल नहीं है फिर भी आप ऑनलाइन पैसा भेजना चाहते हैं तो आपने बैंक ब्रांच में जाकर NEFT/RTGS करवाने वास्ते कागजी फॉर्म भरना पड़ता है उस वक्त थोड़ी बहुत फ्रीस शायद लग भी सकती है)
- ⇒ # Although some banks don't charge IMPS fees for transactions upto ₹ "X"/- (EXACT Fig NOTIMP)
- ⇒ ##FAQ: 🎯💡🎓 Why doesn't RBI Merge RTGS & NEFT? Ans. RBI may have some technical operational reasons for it. RBI never bothered to disclose it in some big press release or newspaper headline. So I never bothered to do Google search/PHD, because it is an inefficient way of preparing for UPSC. Nonetheless, if u feel morally-outraged then Send suggestion to RBI Governor. Until implemented, prepare things as given in handout. Also, Plz change your 'approach' towards preparation of competitive exam. PHD-walli academic curiosity is of no use.

#### 10.8.3 💳UPI NPCi's UPI-IMPS- 2 lakh → ⏚ 5 lakh

2021: Reforms by RBI (using powers of payment and settlement systems act 2007 )	BEFORE	AFTER
IMPS Daily Money transfer limit	₹2 lakhs	₹5 lakhs
UPI Based Mobile Apps: Transaction limit for A) Retail Direct Scheme for investment in G-secs (Ref#1A2) B) Initial Public Offering (IPO) applications (Ref#1C)	₹2 lakhs	₹5 lakhs

💡 **Mrunal comments before next section:** In the digital wallet apps → companies introduce new features & RBI introduces new technical norms on daily basis. We are not here to write a MBA research paper on their business-model & RBI regulations. Q.“sir u said x thing can't be done in phonepe App but now it can be done...as per my experience!! Ans. I've given simple illustration to explain thing. They keep adding new features in the App. UPSC asking only general broad MCQs from this. If they ask technical, then goto page1, Fig#2. #⌚ थोड़ा-पढ़ो-आगे-बढ़ो

#### 10.8.4 💳📱👤 Interoperability Problem (इंटरऑपरेबिलिटी)



Figure 6: can't connect Apple Watch to Android Phone 💳

- ⇒ (Definition) Interoperability is the ability of customers to transact across commercially and technically independent payment platforms. व्यावसायिक और तकनीकी रूप से स्वतंत्र भुगतान प्लेटफार्मों के बीच लेन-देन करने की सुविधा
- ⇒ Legal complications under Payment & Settlement System Act 2007, so, we don't have full interoperability; We can't transfer money between one wallet to another wallet, can't use wallet to pay all type of taxes, fees, insurance premiums etc. कानूनी बाधाओं के चलते संपूर्णता इंटरऑपरेबिलिटी नहीं थी
- ⇒ This is an obstacle to 'cashless-economy'. So, later on, RBI issued technical guidelines for interoperability. इस सुविधा को लागू करने के लिए तकनीकी दिशानिर्देश दिए हैं रिजर्व बैंक ने।

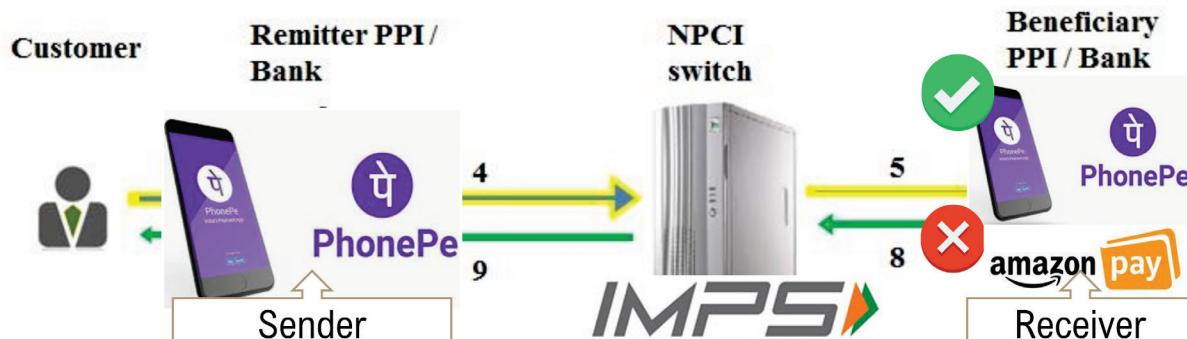


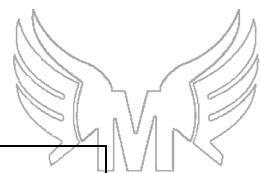
Figure 7: in above diagram, interoperability is absent. Phonepay money can't be transferred to Amazonpay directly.

## 10.9 NATIONAL PAYMENT CORPORATION OF INDIA(NPCl)

- ⇒ 2008: NPCl is registered under Company Act as a "Not for Profit Company". (मुनाफा रहित कंपनी)
- ⇒ Originally it was founded by 10 banks with ₹ 100cr capital. 2020-Dec: Paytm, PhonePe, Amazon Pay etc also became shareholders of NPCl (ये सब शेयर धारकों ने पूँजी डालकर इस कंपनी को बनाया है)
- ⇒ Objective? cost-effective payment solutions / technology for Banks. (रियायती लागत पर बैंकिंग टेक्नोलॉजी)
- ⇒ Its UPI-BHIM app & other mechanisms also help in financial inclusion of villagers & poors by expanding the reach of banking network. (गरीबों / गाँववालों के वित्तीय समोवेशन में मदद के लिए अलग अलग तकनीकी आविष्कार किए हैं)  More abt financial inclusion in  Pillar# 1D.

Table 6: NPCl has built following mechanisms / platforms / systems / apps:

BBPS & UPMS	<ul style="list-style-type: none"> <li>- Bharat Bill Payment system for monthly payments of utility bills (gas, electricity etc.)</li> <li>- 2022-Jan: NPCl's daughter/subsidiary company Bharat BillPay Ltd. Company → launched a Unified Presentment Management System (UPMS) → users can set up standing instructions for auto-debit for their recurring bill payments online e.g. "pay every month's electricity bill from my "X" bank account, automatically."</li> </ul> <p> FAQ: How is BBPS vs UPMS similar or different? Ans. NOT IMP 4 Exam. These are one-liner GK. Not PHD thesis topics!</p>
NACH	<p>National Automated Clearing House for bulk monthly payments of utility bills, dividends, salaries, pension / insurance premiums etc.</p> <p> FAQ: How is BBPS vs UPMS vs NACH similar or different? Ans. NOT IMP 4 Exam. These are one-liner GK. Not PHD thesis topics!</p>



NFS	National Financial switch. This technology runs the ATM network
CTS	Cheque Truncation System (2010) learned in previous section
  UPI 1.0 (2016)	<p><b>Full Form: Unified Payment Interface</b>=It's a technology for building digital payment apps based on IMPS with following features:</p> <ul style="list-style-type: none"> <li>⇒ QR Scan &amp; Pay to merchants.</li> <li>⇒ You can link bank account for direct transfer of money without storing money in 'wallet' first. (unlike AmazonPay / Mobicwick etc)</li> <li>⇒ Such app can have Push transaction (e.g. Remittance to family), Pull Transaction (e.g. monthly bill deduction by Electricity Co.) or even Bill sharing among friends.</li> <li>⇒ <b>Examples of UPI based app:</b> SBI's SBIBuddy/Yono, Axis Bank's AxisPay and NPCI's own BHIM.</li> <li>⇒ <b>UPI 2.0 (2018):</b> Upgraded version of UPI. What are its new features? How is it different than UPI 1.0? Ans. not important for our exam.</li> </ul> <p>UPI based apps allow for both <input checked="" type="checkbox"/> Push transactions and <input type="checkbox"/> pull transactions.</p> <ul style="list-style-type: none"> <li>⇒ <input checked="" type="checkbox"/> Push = when u send money by your own discretion(मत्ती) e.g. sending money to a relative/friend based on your mood.</li> <li>⇒ <input type="checkbox"/> Pull transaction = when you have given command that every month electricity company should cut the money from my bank account → company will pull money without requiring u to push/click buttons every month.</li> <li>⇒ Beyond that, whether "X" thing is push/pull transaction?= Ans. not imp for exam.</li> </ul>
  BHIM (2016)	<p><b>Full form: Bharat Interface for Money (remember this Fullform for exam!)</b></p> <ul style="list-style-type: none"> <li>⇒ It works on Android, iOS/Apple mobiles as an APP,</li> <li>⇒ Works even on non-smart (=basic feature) phones using *99# USSD- Unstructured Supplementary Service Data.</li> <li>⇒ Bank to bank / peer to peer transaction using mobile phone (xyz@upi). No need to install multiple apps for each bank account (SBIBuddy, AxisPay etc) just one BHIM app to use all such bank accounts. App has <b>3 factor</b> authentication system.</li> <li>⇒ Your money stays in bank account and earns interest. It's not stored in 'wallet outside your bank account' as it happens in Mobicwick, PhonePe etc. (PS: in later stage, PhonePe etc private apps also included UPI type mechanism so storing money in 'wallet' became optional but we need not engage in Hairsplittery/PHD.)</li> <li>⇒ No cards involved so no MDR or such hidden charges.</li> </ul>



 <b>RuPay</b> (2012)	<ul style="list-style-type: none"> <li>⇒ Rupee + Payment = RuPay card is world's 7th payment gateway similar to Mastercard, Visacard, China's Union Pay- but, at less service charges.</li> <li>⇒ Works in <b>3 channels</b>: 1) ATM, 2) Point of Sale Device (PoS/card reader machine), 3) Online portals.</li> <li>⇒ Used by banks, railway and even Dairies (to pay ₹₹ to milk depositor farmers).</li> <li>⇒ Rupay debit card given free with PMJDY (Jan Dhan) Bank account (Ref Pill1D).</li> <li>⇒ Rupay has signed collaboration agreements with some digital payments companies in Singapore, Japan etc. So, it may be used in those countries. But presently Rupay is not having the widest reach across all the countries unlike MasterCard and Visa.</li> </ul>
<b>AEPS: Aadhar Enabled Payment System</b>	<ul style="list-style-type: none"> <li>⇒ Useful for Direct Benefit Transfer (DBT: प्रत्यक्ष हस्तांतरित लाभ) into beneficiary's account for MNREGA wages, LPG subsidy, scholarship etc.  More in Pill#6</li> <li>⇒ It's also required for Bankmitra-MicroATM system.</li> </ul>
<b>NETC</b>	<ul style="list-style-type: none"> <li>⇒ National Electronic Toll Collection provides technology support to the FASTag toll collection. (राजमार्ग पर पथकर वसूलने के लिए)</li> </ul>
<b>PAI chatbot</b>	<p>Artificial Intelligence (AI) based chatbot to reply to people's online queries about NPCI's products like FASTag, RuPay, UPI, AePS etc.</p>
<b>DakPay (2020)</b>	<p>Payment App by Department of Post and its India Post Payments Bank</p>
<b>BharatQR(2016)</b>	<p>Given in next section of this handout. Scroll down</p>
<b>E-Rupi (2021)</b>	<p>Given in next section of this handout. Scroll down</p>

#### 10.10 DBT → E-RUPI BY NPCI (2021)



- (Origin) E-rupi is an SMS /QR Code based Prepaid Cashless Electronic Voucher created by National Payment Corporation of India (NPCI) using its UPI Platform. [क्यूआर कोड आधारित प्रीपेड नगदीरहित इलेक्ट्रॉनिक रसीद जिसे भारतीय राष्ट्रीय भुगतान निगम (एनपीसीआई) ने अपने यूपीआई प्लेटफॉर्म का उपयोग कर बनाया]
- It is also supported by finance ministries Department of Financial Services and Health ministry's National Health Authority (NHA) [वित्त मंत्रालय के वित्तीय सेवा विभाग और स्वास्थ्य मंत्रालय के राष्ट्रीय स्वास्थ्य प्राधिकरण ने भी इसकी मदद की है]

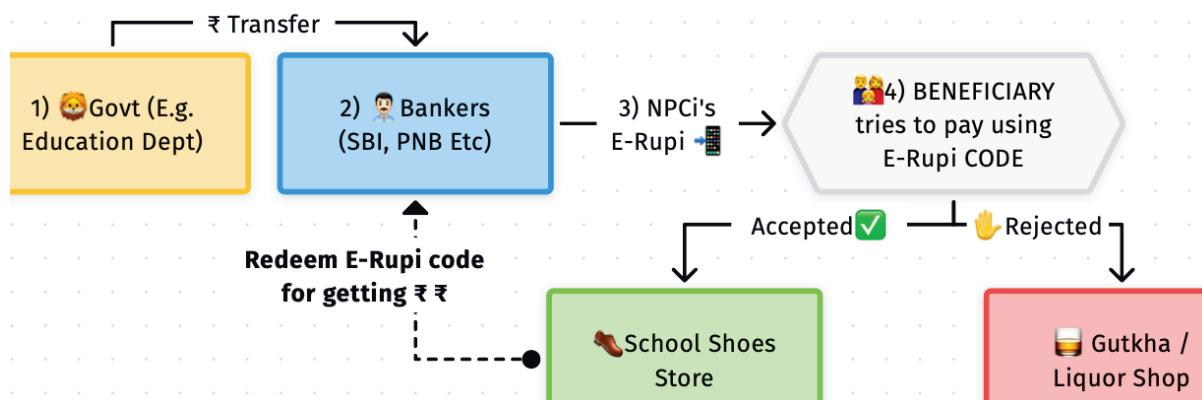


### 10.10.1 ₹₹₹ E-Rupi: Challenges in Physical Procurement/DBT

Suppose the government wants to give Rs.500 worth shoes to schoolchild of a poor family. Following as the ways to accomplish it. [मान लीजिए सरकार स्कूल के गरीब बच्चों को ₹500 के जूते देना चाहती है]

Method तरीका	How?	Problem समस्या
<b>Physical procurement</b> [सरकार भौतिक स्वरूप में जूतों की खरीद करें और गरीब बच्चों दे,]	Government (Minister/IAS) buys shoes from Bata/Lakhani/XYZ company → send to school principal → Delivered to Child [लेकिन यहाँ मंली, अफ़सर, विद्यालय के हेडमास्टर पैसे या जूतों का गबन करें ऐसा डर]	⇒ 🚫 Minister/IAS demand bribe from Bata/Lakhani/XYZ to Approve the government purchase tender. [सरकारी ठेका पारित करवाने के लिए रिश्ता] ⇒ 🚫 Substandard quality of shoes may be purchased from crony company who paid bribes. ⇒ 🚫 District education Officer (DEO), School principal may siphon/selloff shoes to the retail stores instead of giving to poor children [जूतों का गबन. हेड मास्टर गरीब जूतों के बच्चे जूते की दुकान को बेच दे] ⇒ 🚫 Shoe Size mismatch → Child may get the “sarkaari” shoes but may not wear it= waste of taxpayer’s money. [जूते बच्चे के पैर के नाप के बराबर ना हो]
<b>Direct benefit transfer (DBT):</b> प्रत्यक्ष लाभ अंतरण	Govt transfers ₹500 to father’s account	🚫 Father may use DBT money on Vimal, liquor and gambling instead of buying shoes for the child
	Govt transfers ₹500 to child’s account	🚫 Child may use DBT money to buy Chocolates or Video Games instead of shoes.

### 10.10.2 ₹₹₹ E-Rupi: How does it fix Problems in Physical Procurement/DBT?



- ⇒ Govt (e.g. Education department) deposits money in a bank account (e.g. SBI) → NPCI generates E-rupi code. [Thus it is “pre-paid” by Government for beneficiary]
- ⇒ Government sends this E-Rupi QR Code/SMS Code to father → ke “Use this Rs.500 to buy shoes for child” [सरकार लाभार्थी के मोबाइल फ़ोन पर इ-रुपी नामक कोड भेजेगा, केवल जूता खरीदने के लिए इस्तेमाल हो सके]
- ⇒ Father takes child to the shoe store, buys the shoes Pays via E-rupi digital code. Shoestore then sends E-rupi code to banker (e.g. SBI) to redeem money (which was deposited by Govt).
- ⇒ Suppose Child prefers Bata (₹800 ka more comfortable leather shoe) over Lakhani (₹500 ka less comfortable rubber shoe) → Father pays E-Rupi QR(₹500)+Father’s own cash (300)= buy Bata.



Thus E-rupi gives more freedom to the beneficiary to purchase the goods as per their requirement/preference. [लाभार्थी को अपनी पसंद और ज़रूरत के हिसाब से सामान खरीदने का अवसर/ स्वतंत्रता मिले]

- ⇒ IF Footware store “X”’s staff very arrogant then father may goto Footware Store “Y” = **Dignity & Power to customer.** Unlike PDS stores where beneficiary has to stand in long queues and often get humiliated by the shopkeeper for asking questions abt quality of rice/wheat/sugar/edible oil. [ सरकारी राशन की दुकान पर अगर गरीब लाभार्थी अनाज की गुणवत्ता या खाद्य तेल में मिलावट की कोई शिकायत करे तो उसे दुकानदार ज़लील करता था . लेकिन E-rupi के चलते ग्राहक को स्वतंत्रता मिलती है कि यदि कोई दुकानदार बतमीजी करता है तो ग्राहक दूसरी दुकान चला जाएगा. ]
- ⇒ Money will ultimately go to the best quality shoe maker (e.g. Bata). Less scope for corruption/purchase of substandard quality shoes by taking bribes by the Minister/IAS = crony capitalism will decrease. [लाभार्थी वो सामान खरीदेगा जो उच्च गुणवत्ता का है. इससे पहले कंपनियां मंत्री अफसरों को रिश्वत खिलाकर, लाभार्थीओं को घटिया किस का सामान दे दी थी= वो पक्षपाती पूँजीवाद कम होगा]
- ⇒ Father will not be able to use this QR code At Gutkha Parlor, Liquor Shop or Gambling Den. [लक्षित वस्तुओं के अलावा किसी अन्य चीज़ की खरीद में ही इ-रुपी कोड इस्तेमाल नहीं हो पाएगा]
- ⇒ District education Officer (DEO) or School principal cannot siphon shoes to blackmarket.
- ⇒ Footwear store accepted the E-rupi payment → money transfer takes place through banks = less scope for evading GST, Income Tax, Corporation Tax. [unlike cash transactions] [डिजिटल तरीके से बैंक खाते में पैसों का लेन देन होगा तो करचोरी और कालेधन के अवसर भी व्यापारी के लिए कम होंगे]
- ⇒ E-Rupi issued on mobile phone. = **Less touchpoints between the beneficiary and government officials.** Beneficiary need not stay in queue to get the physical vouchers from govt office = less scope for bribery and harassment [कोड सीधे लाभार्थी के मोबाइल फोन में आ जाएगा। गरीब आदमी ने सरकारी दफ्तर के धक्के नहीं खाने होंगे, सरकारी बाबू को रिश्वत नहीं देनी होगी]

#### 10.10.3 E-Rupi: potential applications in Future [भविष्य में उपयोग]

- Food for mother, child and poor families under various schemes. Medicines for TB, Corona etc. Fertilizer subsidies for farmers [खाद्य दवाइयां उर्वरक की सब्सिडी दी जा सकेगी]
- Even private sector companies can issue it for 1] employees e.g. Gym membership, golf club membership, hotel tourism travel. 2] use it for Corporate Social Responsibility (CSR) programs. [निजी कंपनियां भी कर्मचारियों को विविध चीजों के लिए दे सकती हैं. कारपोरेट सामाजिक दायित्व अदायगी में भी इसका इस्तेमाल हो सकता है]

**Conclusion:** Appreciable step by government to deliver the entitlements to the poor families in targeted and leakproof manner. This will help in a long way in increasing the accountability, transparency and efficacy of Direct benefit transfer (DBT) programs. [सरकार का प्रशंसनीय कदम. गरीब परिवारों को लक्षित रूप से और रिसावमुक्त तरीके से सरकारी योजनाओं का लाभ मिले, जिससे प्रत्यक्ष लाभ अंतरण योजनाओं की जवाबदेही, पारदर्शिता और प्रभावकारिता बढ़ेगी।]

#### 10.11 QR CODES: COMPULSORY TO IMPLEMENT UPI/BHARAT QR FROM 2022

- 1990s: 2 dimensional (2D) Quick Response (QR) Code system developed in Japan.
- Indian E-payment systems function on 3 types of QR Codes, namely,



Table 7: Difference between UPI QR vs Bharat QR? NOT.IMP.4.EXAM थोड़ा-पक्के-आगे-बढ़ते

<b>Proprietary QR code</b>	⇒ e.g. Paytm or PhonePe ke exclusive QR codes.  Problem? Other companies' app may not be able to scan and pay it. ⇒ So, RBI has prohibited companies from launching any new proprietary QR code.
<b>UPI QR code</b>	Generated by UPI app of NPCi.  It can be scanned by all Apps which are developed using UPI technology.
<b>Bharat QR code</b>	Developed by NPCi with help of Visa and Mastercard.  It can be scanned by all Apps which are developed using UPI technology.

- ⇒ RBI has ordered all the Payment System Operators (PSOs e.g. Paytm, PhonePe, MobiKwik, Google Pay etc) to shift to UPI QR or Bharat QR by March 31, 2022.
- ⇒ Benefit? All Payment apps will be able to scan these QR codes → 'interoperability'.

#### 10.11.1 NPCi's UPI: International cooperation

- ✓ India and Singapore joint-project to link UPI with PayNow (Singapore's money transfer system)  
→ Indian tourists can use BHIM/UPI-walle apps for shopping in Singapore (After converting Rupee into Singapore's currency online. HOW? NOT.IMP)
- ✓ Factoid#1: Bhutan became the first country outside India to adopt UPI and its QR code- says Newspaper-Business-Standard Published in 2021-july and says Economic Survey 2022 published in 31/1/2022.
- ✓ Factoid#2: Nepal to become the first outside India country to adopt India's UPI system- says IndianExpress published in Feb-2022.

FAQ: then which of the above factoid#1 vs #2 is correct? Ans. I don't care for PHD investigation. Tick as per options of MCQ in real exam. If both Bhutan and Nepal given in the MCQ, then complaint to exam-authority to cancel MCQ because multiple answers possible!

#### 10.12 PAYMENT SYSTEM OPERATORS?

Payment and Settlement Systems Act, 2007: RBI gives license to Payment System Operators (PSOs).

Type of PSO	Examples
<b>Umbrella Entity For Retail Payments</b> →	NPCi (learned in previous section)
<b>Card Payment Gateway Operator</b> →	MasterCard, Visa, Rupay
<b>Crossborder / International Remittance</b>	Western Union, MoneyGram
<b>Prepaid Payment Instrument (PPI)</b>	AmazonPay, Mobikwik, Phonepe, PayU, PayTM Wallet etc
<b>ATM Operators</b>	SBI etc's own ATMs White label ATMs by Tata, Muthoot, SREI etc



<b>Financial Market Infrastructure Provider</b>	Clearing Corporation of India (CCI): provides digital infrastructure for share/bond/foreign currency deals etc.  Ref: HDT-Pillar#1C)
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#### 10.12.1 🚩 New Umbrella Entity (NUE) for Retail Payments System (2019)

- ⇒ Paytm has rival companies like Mobikwick, Phonepe; Mastercard vs Visa; SBI vs Axis Bank;
  - ⇒ But there is no rival company against NPCi. वर्तमान समय में NPCi का प्रतिस्पर्धी कोई नहीं है
  - ⇒ NPCi is an umbrella entity for retail payments system - it operates in card payment (RuPay), Money transfer (IMPS), Mobile Apps (UPI, BHIM), ATM Network (NFS) etc.
  - ⇒ 2020: RBI issued a proposal, “if any Indian company interested to compete in this (NPCi-like) retail payment segment, we'll license them as new umbrella entity (NUE: खुदरा भुगतान के लिए नई छतरी इकाई). Subject to these technical “XYZ” technical eligibility requirements” [What are those eligibility conditions e.g. Minimum Capital, Shareholding Pattern etc ?  NOTIMP4EXAM, no matter how many private mock test walla ASK it in their Faaltu Tests # थोड़ा पढ़ो आगे बढ़ो ]
  - ⇒  Benefits? More companies like NPCi → more competition → more innovation and cheaper services for users. (स्पर्धा बढ़ेगी तो नए तकनीकी आविष्कार होंगे, डिजिटल भुगतान सेवाएं पहले से भी ज्यादा सस्ती / किफायती, ग्राहक का फायदा)

 MCQ. Find Correct Statement(s) [asked in UPSC- Prelims-2017]

1. NPCI helps in promoting the financial inclusion in the country.
  2. NPCI has launched RuPay, a card payment scheme.

Answer codes: (a) 1 only      (b) 2 only      (c) Both 1 and 2      (d) Neither 1 nor 2

**Q** MCQ. Find Correct Statement(s) [asked in UPSC- Prelims-2018]

1. BHIM app allows the user to transfer money to anyone with a UPI-enabled bank account.
  2. While a chip-pin debit card has four factors of authentication, BHIM app has only two factors of authentication.

Answer codes: (a) 1 only      (b) 2 only      (c) Both 1 and 2      (d) Neither 1 nor 2

#### 10.12.2 Third Party Application Providers (TPAPs): Google Pay, Whatsapp Pay

- WhatsApp Pay is a feature that allows users to send/receive money via WhatsApp to their contact list using UPI technology. UPI technology is developed by (NPCI).
  - ⇒ Google Pay (GPay, formerly called ‘Tez’) is an App by Google for online payments.
  - ⇒ As per rules, Payment Service Operators need to register with RBI under Payment and Settlement Systems Act, 2007. But Google functioned without authorization. बिना आरबीआई के पंजीकरण के चला रहा है
  - ⇒ 2019-April: Delhi HC inquired. Google clarified: “Google Pay operates as a technology service provider to its partner banks, using UPI infrastructure. We are not part of payment processing or settlement. Payment is directly done from one bank account to another. So, we require no license / authorization / registration required from RBI.” Beyond that     जिसको आंदोलनकारी बनना है → वो झंडा लेकर जंतर-मंतर पर धरना प्रदर्शन करे, जिसको IAS/IPS बनना है वह आगे का Next topic पढ़े....



### 10.13 CREDIT & DEBIT CARDS (ALSO CALLED ‘PLASTIC MONEY’)



Table 8: Card Types based on Payment modality

1) Credit Card (कर्ज पे शॉपिंग)	2) Debit Card (अपने बैंक बचत का पैसा इस्तेमाल करो)
<ul style="list-style-type: none"> <li>⇒ It allows holder to make purchase on credit (=loan), even if he may / may not have sufficient balance in his bank account at the time of purchase. एक तरह से कर्ज पर खरीदने की सेवा</li> <li>⇒ Customer does shopping using credit card → bank transfers ₹ ₹ to merchant from bank's own funds and later bank recovers ₹ ₹ from customer.</li> <li>⇒ Customer can pay entire due amount at once or convert it into Equated Monthly Installments (EMI). बकाया रकम किश्तों में भुगतान कर सकता है</li> <li>⇒ Interest rate may be charged depending on billing cycle, grace period and other terms and conditions  PhD करने की हमको जरूरत नहीं है.</li> </ul>	<ul style="list-style-type: none"> <li>- It allows holder to make purchases upto the extent of the amount lying in own his bank balance. अपने बैंक खाते में जितना पैसा है उतना ही इस्तेमाल</li> <li>- Customer does shopping using debit card → bank transfer ₹ ₹ from customer's own bank account to merchant. So, if he has insufficient balance, he may not be able to make purchase. Although nowadays e-commerce sites allow debit-card based EMIs but that much  PhD/Hairsplittery unnecessary for IAS</li> </ul> <p>For  MCQ. Simply remember: <b>Debit card</b>= shopping ONLYIF you have ₹ in bank balance, <b>Credit card</b>= shopping without ₹ in bank balance.</p>
If Credit card used for withdrawing money from ATM, then it's a type of ‘borrowing’, so, bank levies interest rate.	Debit card can be used to withdraw ₹ ₹ from ATM from your existing bank balance. So, it's not ‘borrowing’.
<p><b>Credit card vs Overdraft ?</b></p> <ol style="list-style-type: none"> <li>1. Credit cards = for shopping. You carry card in your pocket. Bank may give u some reward-points/gifts if you spend “₹.X” per year</li> <li>2. - for overdraft= you have to manually visit the bank branch, fillup form. It's not in the form of a ‘card’. Doesn't give u points/gifts.  Further difference not.imp.not.here.for.IBPS-exam</li> </ol>	<p><b>Debit card vs Overdraft ?</b></p> <p>You should be intelligent enough to self-understand that much. शिक्षक हर चीज की सून फीडिंग करेगा/चमच से खिलाएं वह विद्यार्थी के मानसिक विकास के लिए अच्छी बात नहीं</p>

⇒ 3) **Hybrid Card / Duo Card:** Single card with two chips for 1) credit card and 2) debit card. So, you don't have to carry two separate cards. E.g. Indusbank Hybrid card. एक ही कार्ड में दोनों का मजा



⇒ 4) **Pre-paid card:** It's a subtype of debit card. Debit card is linked to a given bank account. But Pre-paid card can be bought even without having account in the given bank e.g. IRCTC's UBI **Prepaid Card** which can be used for buying rail tickets, meals etc. Backend support provided by Union Bank of India (UBI) and NPCI's Rupay gateway. (इस कार्ड को पैसा देके खरीदना पड़ता है। बैंक खाता होना जरूरी नहीं।)

#### 10.13.1 Card Types based on Security Features: (सुरक्षा प्रणाली के हिसाब से कार्ड के प्रकार)

1. **Magnetic Card:** 1960s technology. Data on magnetic strip. But, such data can be duplicated, cloned, skimmed while swiping the card = fraud. So, RBI stopped such cards from 1/1/2019 using powers under Payment & Settlement Act. चुंबकीय कार्ड में जालसाजी का खतरा  → इसलिए आरबीआई ने  प्रतिबंधित किया
2. **EMV card:** Full form: Europay+Mastercard+Visa chip infrastructure with encryption. RBI had ordered migration in 2013- finally effective from 1/1/2019. Two sub-types
  - o (A) **EMV-Contact:** cards must remain in Point of Sale (PoS) Terminal during transaction.
  - o (B) **EMV-Contactless cards:** simply tap the card on terminal using RFID (radio-frequency identification) technology. (बस छूकर निकल जाओ. कार्ड को मशीन में घुसेंगे की जरूरत नहीं)

**HomeWork:** Read about RFID & NFC from Sci-Tech book/internet.

#### 10.13.2 Card Tokenization (2019)



Figure 8: थप्पड़ से डर नहीं लगता, Identity theft se lagta hai!

- ⇒ During the purchase customer may have to enter following data about his credit/debit card: Account Holder's Name, 16-Digit Account Number, Expiry Date, Security Code (CVV/PIN).
- ⇒ Often merchant site (e.g. Amazon) offers to store this data in their server so next time customer does not have to retype it and he can do "one click purchase".  Challenge? Data may be hacked/leaked/misused.
- ⇒ Tokenisation = creates a set of numbers called 'token' to replace/hide the sensitive card data such as the 16-digit account number, expiry date and security code. (हैंकिंग से बचने वाले असली कार्ड नंबर की जगह टोकन/काल्पनिक-नंबर बनाकर दे दो ऐसी बात है। ताकि विक्रेता का आपके कार्ड की गुप्त जानकारी मिले नहीं)
- ⇒ This ensures your card information is not disclosed to merchant website.
- ⇒ Card owner can generate Tokenization through visiting card-issuer's/banker's website/App through laptops, desktops, tablet, wearables (smartwatch) etc.
- ⇒ From 1/1/2022, Merchant / Seller can't store card details. He'll have to delete previous card data. Only source banks and card issuers (such as Rupay, Visa, and Mastercard) can store card details.



However, bankers, card companies wanted more time to upgrade servers/technology, so RBI postponed the deadline. (लागू करने की तारीख को रिजर्व बैंक ने पीछे धकेला है।)

#### 10.13.3 📱 🚕 National Common Mobility Card (NCMC, 2019)



Figure 9: NCMC card unboxing ka video bhi youtube & Instagram पे डालते हैं

'One Nation One Card Model' by **Ministry of Housing & Urban Affairs (MoHUA)** with the help of NPCi, Bharat Electronics Limited (BEL Company), and some banks. It has 3 components: (तीन घटक हैं इसके)

- ⇒ 1) **NCMC Card:** To be issued by banks. Nature can be Debit/Credit/Prepaid. Can be used for metro, bus, suburban railways, toll, parking, retail shopping etc.
- ⇒ 2) **SWEETAR:** Automatic Fare Collection System. (यात्री किराया वसूलने की स्वचालित प्रणाली)
- ⇒ 3) **SWAGAT:** Swachalit / Automated Gate at railway/bus station. (अपने आप खुलने-बंद होने वाले दरवाजे)

#### 10.13.4 📱 🚕 FASTag for paying toll fees at highways (2017)

FASTags are prepaid rechargeable tags that allow for automatic toll collection at electronic toll collection gates Radio-frequency Identification (RFID) technology.

- ⇒ 2013 onwards Govt required automobile companies to install RFID tags on windscreens of cars.
- ⇒ 2017: National Highways Authority of India (NHAI, a statutory body under Highway ministry) launched 2 mobile apps MyFASTag and FASTag Partner to facilitate Electronic Toll Collection (इलेक्ट्रॉनिक माध्यम से पथकर/टोल वसूली के लिए राष्ट्रीय राजमार्ग प्राधिकरण द्वारा अलग अलग एप बनवाए गए हैं).
- ⇒ NPCi's has developed **National Electronic Toll Collection (NETC)** technology to aid this.
- ⇒ Persons loads up ₹ ₹ in his mobile app → activates RFID tag in his car → when it passes through highway toll-booth, the money is automatically deducted. (गाड़ी टोल नाके से गुजरेगी अपने आप पैसा कट जाएगा)
- ⇒ 😊 Benefit? faster traffic movement. (तेज यातायात में मदद क्योंकि गाड़ी रोककर हाथ से भुगतान नहीं करना)
- ⇒ FASTag has validity of 5 years. It is vehicle specific and once it is affixed to a vehicle, it cannot be transferred to another vehicle = helps in tracking of vehicle theft, criminal's movement etc (एक बार वाहन को चिपकाया तो दूसरे वाहन में उस टेग/स्टिकर को स्थानांतरित नहीं कर सकते इसके जरिए चुराए वाहनों को ढूँढ़ना पुलिस के लिए आसान)
- ⇒ From Mid-Feb-2021, it became mandatory for all vehicles passing through tolls to have FASTags. Vehicles without FASTags will have pay up more fees/toll at the gates. (ये लगाना अनिवार्य हुआ, अन्यथा ज्यादा फीस)

#### 10.13.5 📱 💀 Card Entities in Negative News: MasterCard, HDFC Bank

- **HDFC Bank:** 2020-Dec: RBI suspended it from issuing new card due to security /server problems. 2021-Sept: Ban lifted. (रिजर्व बैंक ने सुरक्षा कारणों से रोक लगाई थी कि तुम नए ग्राहकों को कार्ड नहीं दे सकते)
- **MasterCard** is a payment gateway operator for various banks. But despite RBI directive it was not storing Indian customer data in Indian servers. So 2021: RBI has prohibited MasterCard

from onboarding (=issuing new cards) to Indians. (भारतीय ग्राहकों का डेटा केवल भारतीय सर्वर में ही संग्रहित करना है। ऐसे रिज़र्व बैंक के नियम को ये मान नहीं रहा था तो रिज़र्व बैंक ने इसे ग्राहकों को नए कार्ड जारी करने से मनाई की)

#### 10.13.6 ATM and its Types



- ⇒ Automated Teller Machine (ATM) allow bank customer to withdraw money or check balance without visiting any branch of a bank. (स्वचालित रूप से नकदी मुद्रा देने वाला यांत्रिक डिव्हांग)
- ⇒ ATM network works on NPCi's NFS (National Financial Switch) technology.

<b>Bank label</b>	Bank itself owns and operates the ATM network.
<b>Brown label</b>	<p>Bank owns but operations outsourced (cash refilling truck, guard)</p> <p>⇒ <i>Note: Some books offer different definition, but I've taken above definition from Economic Times Article 2015.</i> (कुछ किताबों में व्याख्या अलग है मैंने इधर से ली है)</p>
<b>White label</b>	<p>Non-Bank owns and operates. E.g. Muthoot Finance, Tata Communication, Prism</p> <p>⇒ In 2012: RBI invited application, 4 companies given license.</p> <p>⇒ From 2013-19 no new applications invited.</p> <p>⇒ <b>2019-Aug:</b> RBI announced 'on-tap' licensing system for white label ATM i.e. a company can apply to RBI as and when it wants (just like applying for driving license). company need not wait for notification (unlike IAS exam notification).</p>
<b>Micro-ATM</b>	Bankmitra manually makes entries of deposit and withdrawal for customer. He uses handheld device for using card & Aadhar biometrics. NPCi's AEPS technology gives backend technological support.

2019 June: RBI setup V G Kannan Committee on ATM charges by banks such BankingGK  
#notIMP4IAS.

#### 10.14 MDR: FULL FORM: MERCHANT DISCOUNT RATE (व्यापारिक छूट दर)

- ⇒ MDR is the fees that a merchant must pay to his (acquirer) bank for every credit / debit card transaction.
- ⇒ MDR fees is **shared** among 3 parties 1) customer's card issuing bank 2) merchant's acquiring bank 3) payment gateway provider. (तीन पक्षों में इस फीस को बांटा जाता है)
- ⇒ MDR hurts merchants' profit margin, discourages them from adopting Point of Sale (PoS) terminals (=card swiping machine) → obstacle to digital economy. (व्यापारी के मुनाफे पर असर होता है इसलिए वह कार्ड मशीन अपनाने में उदासीनता दिखाते हैं।)

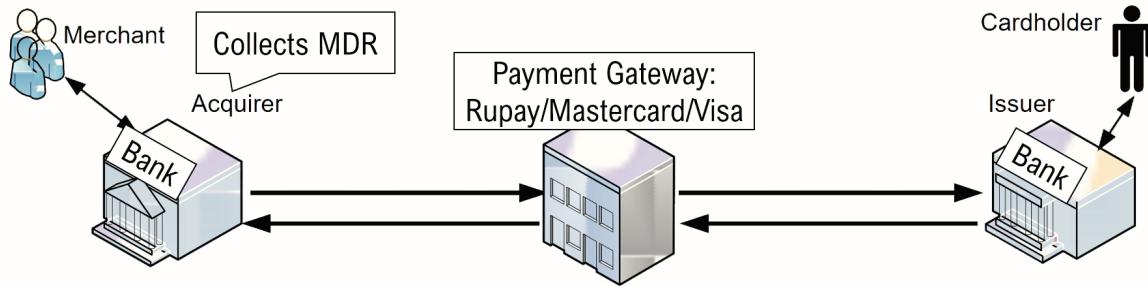


Table 9: Steps taken to address MDR issue

RBI	⇒ 2017: Imposed ceilings on MDR fees i.e. MDR can't be more than "x%" of the transaction amount. (रिजर्व बैंक द्वारा तय सीमा से ज्यादा फीस नहीं मांग सकते)
Budget 2019	⇒ It imposed some technical rules to help companies. I'm deleting it because old /faded news, mostly technical.

#### 10.14.1 MDR Subsidy by MEITY

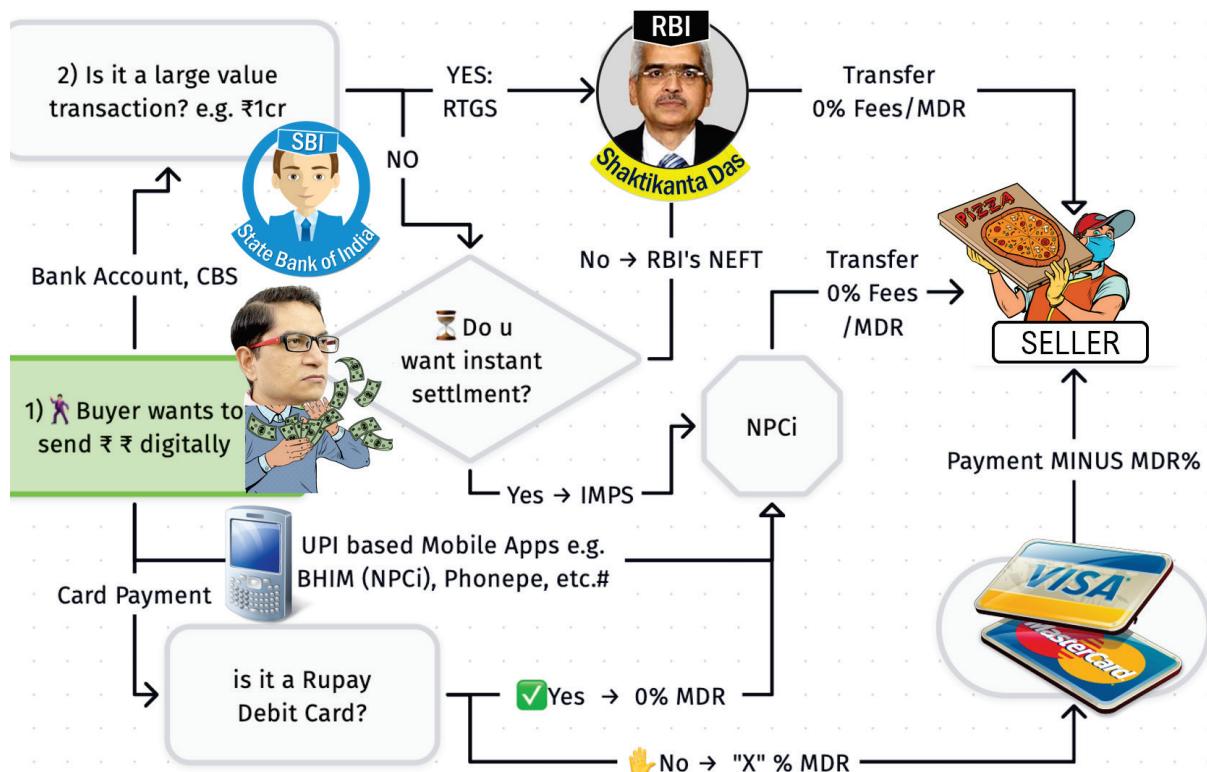


Figure 10: Note: Above chart not 100% legally-technically correct. There may be instances where a Bank's App may be giving both NEFT & IMPS facility. This chart is meant for simple illustration for MCQ, and NOT for submitting as evidence in some Supreme Court PIL case. In short, while reading this handout, " = avoid this mentality."

Instrument	UPI	NPCI's Rupay Debit Card	NPCI's Rupay Credit Card
MDR % on transaction value	0%	0%	"x" % (NOT ZERO)

⇒ So, if a banker promotes Rupay debit card / UPI App → Banker will not earn MDR fees. So bankers promote MasterCard & Visacard to their customers and merchants (instead of Rupay/UPI). (बैंकर को मज़ा नहीं आता क्योंकि उसे डेबिट कार्ड व यूपीआई एप में MDR की फीस नहि मिलेगी !)



- ⇒ So, 2021-Dec: MEITY (Ministry of Electronics & Information Technology) announced up to ₹2,000 MDR Subsidy to Merchant's Bank for RuPay debit cards transactions and UPI transactions.<sup>#</sup> (तो सरकार ने बैंकरों को बोला की तुमको मज़ा दिलवाने के लिए MDR नुकसान के एवज़ में सब्सिडी देंगे)
- ⇒ this will encourage digital payment especially in small towns / rural areas डिजिटल भुगतान ऊपर लगने वाले मरचण्ट डिस्काउंट रेट पर सरकार द्वारा सब्सिडी दी जाएगी यदि भुगतान रूपये डेबिट कार्ड या UPI द्वारा हो रहा है
- ⇒ Foreign Players like MasterCard and Visacard are opposed to Indian govt's preferential treatment given to India's Rupay. (इस प्रकार की भेदभावपूर्ण रवैये से विदेशी कार्ड क्यां नाराज़)
- ▶ FAQ: "I've 500 jaat ke PHD doubts & counter arguments about this MDR subsidy" Ans. Plz waste your precious time reading [egazette.nic.in/WriteReadData/2021/231960.pdf](http://egazette.nic.in/WriteReadData/2021/231960.pdf)

### 10.15 MEASURES TO PROMOTE LESS-CASH ECONOMY

- ⇒ During 2016-17 in the aftermath of Demonetization (नोटबंधी/विमुद्रीकरण के बाद)
  - ✓ Ratan Watal Committee to Finance Ministry for medium term recommendations to strengthen digital payment ecosystem. (डिजिटल भुगतान पारिस्थितिकी तंत्र को मजबूत करना)
  - ✓ Chandrababu Naidu chief ministers' Committee to PM to promote digital payment.
  - ✓ HRD ministry's Vittiya Saksharta Abhiyan wherein college students explain people about digital transactions. (डिजिटल भुगतान कैसे करें उसकी जागृति फैलाना)
  - ✓ NITI+NPCI launched lottery / cashback schemes for customers (**Lucky Grahak**) and merchants (**Digi Dhan Vyapar**). Government itself launched further cashback schemes for using UPI-BHIM.
- ⇒ **Budget-2017:** imposed ceilings on cash transactions, gave tax incentives to companies for using digital transactions, custom duties on ATM devices. (नगदी व्यवहारों पर रोकथाम, डिजिटल भुगतान अपनाने पर करों में रियायत)
- ⇒ **Budget-2018:** promised to explore blockchain technology [of cryptocurrencies] for promoting digital economy.
- ⇒ **Budget-2019:** imposed TDS on withdrawal of ₹1 cr/> cash from a single user account. <More in Pillar2: Taxation → Black Money> (अपने बैंक खाते से मोटी नगदी रकम उठाने पर टीडीएस कटेगा)
- ⇒ **Digidhan Mission (2017) Digital Payment Abhiyan (2019)** = Ministry of Electronics and Information Technology (MeitY)'s camapgism to digital payment. But, outdated topics. We'll not waste time learning exact features. DONOT lose Sleep

#### 10.15.1 RBI's Nandan Nilekani Panel (2019: Jan to May)



Nilekani (Ex-chairman of UIDAI, also associated with Infosys) gave 70+ suggestions. Notable are:

##### Suggested Reforms @Government (नीलेकणि ने सरकार को ये सुझाव दिए)

- ⇒ Government transfers welfare schemes' money directly into bank accounts of poor people under Direct Benefit Transfer (DBT) mechanism. But poor people withdraw cash from bank account



entirely because local merchants not accepting digital payments. So, raise awareness about BHIM-UPI and its adoption. ( सरकार गरीबों के बैंक खाते में विविध योजनाओं का पैसा जमा तो करती है, किन्तु गांव के व्यापारी डिजिटल भुगतान स्वीकार नहीं करते इसलिए गरीब आदमी हमेशा बैंक से नकदी रकम निकालनी पड़ती है और नकदी में भुगतान करना पड़ता है)

- ⇒ Give companies tax incentives for using digital payments. (कर प्रोत्साहन /करों में छूट दी जाए)
  - ⇒  reduce taxes on the devices required for digital payments. (डिजिटल भुगतान की मशीनों पर करों में कटौती)
  - ⇒ Govt orgs should not charge **convenience fees** (सुविधा शुल्क) from citizens while accepting digital payments.
  - ⇒ **National Common Mobility Card (NCMC):** Allow its usage in all transport routes and PoS.
  - ⇒ Setup Computer Emergency Response Team for finance (FIN- CERT: आपातकालीन प्रतिक्रिया टीम).

## Nilekani's Suggested Reforms @RBI ( नीलेकणि ने रिजर्व बैंक को ये सुझाव दिए)

- ⇒ RBI should prepare area wise ‘**Digital Financial Inclusion Index**’ (डिजिटल वित्तीय समावेशन सूचकांक) to monitor progress & take remedial steps. Ensure no user is more than 5 kms away from a banking access point.
  - ⇒ Setup a **Fund** to develop digital payment infrastructure in poorly served areas e.g. subsidy on PoS devices. RBI and Banks should co-contribute ₹ ₹ in this fund. (रिझर्व बैंक और अन्य बैंक द्वारा एक निधि बनाई जाए. जिसके पैसों से पिछड़े इलाकों में डिजिटल भुगतान मशीन खरीद/इस्तेमाल के लिए व्यापारियों को सब्सिडी दी जाएगी)
  - ⇒  Reduce the MDR / card payment fees. Allow customer to do “x” no. of digital payment transactions per month with zero charges. (कार्ड भुगतान पर लगने वाले विविध फीस में कटौती की जाए)
  - ⇒ RBI should make NEFT available 24/7 and remove its fees. ( Done in 2019-20: RBI removed charges on both NEFT and RTGS.)

 Nilekani's Suggested Reforms @NPCi

- ✓ NPCI shd offer RuPay and BHIM UPI in other countries to facilitate remittance to India.
  - ✓ Encourage local language apps/ software for digital payments. (स्थानीय भाषाओं में सॉफ्टवेयर बनवाओ)

Nilekani also suggested many other technical reforms but not imp4exam

**MCQ.** Who among the following was the Chairman of the Committee on Deepening Digital Payments appointed by the RBI ? (Asked in UPSC-CDS2019-II-Q116)

10.15.2  Payments Infrastructure Development Fund (PIDF) 2020-Jun

- ⇒ ₹250cr from RBI + ₹250 cr from (Banks and Card Gateway Operators) → ₹500 cr fund setup.
  - ⇒ **Objective?** Provide funding/ subsidy to encourage merchants in the small towns, villages and North Eastern states to adopt point-of-sale (PoS) card swiping machines.

### 10.15.3 : Offline Retail Payments Using Cards and Mobile Devices

- ✓ While mobile phones, cards, e-wallets, etc. available but, internet connectivity issues especially in rural/remote areas (ग्रामीण और दुर्गम प्रदेशों में इंटरनेट की ख़राबी/समस्याएँ)
  - ✓ 2021: RBI allowed offline mode of payments using cards, wallets or mobile devices upto Rs.200 per transaction AND overall limit of Rs 2,000 for all transactions until balance in the account is replenished/recharged. (overall limit is prescribed to prevent big frauds if card/mobile gets



stolen. HOW? Ans. ▶ 🎯 James-Bond-girl not important) (इंटरनेट बंद हो तब भी डिजिटल भुगतान हो सके उस प्रणाली। शुरुआत में एक-एक लेनदेन में २०० ज्यादा का लेनदेन नहीं हो सकता। और कुल मिलाकर २००० रुपये से ज्यादा का लेन देन नहीं हो सकता जब तक कि ग्राहक अपने कार्ड/ बैंक खाते इत्यादि में पैसा वापस न भर दे।)

- ✓ 🎯 Benefit? Error-free digital transactions in areas with poor internet connectivity (दुर्गम प्रदेश जहाँ इंटरनेट की सतत रूप से सेवा उपलब्ध नहीं, वहाँ पर भी डिजिटल भुगतान को प्रोत्साहन मिलेगा.)

#### 10.15.4 📊 Payment and Settlement Systems in India: Vision 2019 – 2021

RBI published this document in 2019-May. it repeated most of the points that Nilekani report said. As such 📚 not much IMP unless preparing for RBI exams (रिजर्व बैंक के दस्तावेज प्रकाशित करता है हालांकि मोटी मोटी बातें हमने पढ़ ली)

#### 10.16 📊 DIGITAL PAYMENT REGULATORY BODIES (नियंत्रण संस्थाएँ)

##### 10.16.1 📊 Digital Transactions Ombudsman (DTO-2019)

- ⇒ RBI designates senior RBI officials at 21 places across India as DTO. They hear customer complaints upto ₹ 20 lakh against prepaid payment instruments, Mobile wallets, Apps, NEFT/RTGS and other digital transactions. ((डिजिटल लेनदेन शिकायत निवारण अधिकारी/लोकप्रहरी)).
- ⇒ They can order the company / bank to fix problem and pay upto additional ₹ 1 lakh for mental agony of customer (मानसिक उत्पीड़न के लिए जुर्माना/मुआवजा). → Higher Appeal to Dy. Gov of RBI.
- ⇒ If matter > ₹ 20 lakh, then matter outside his jurisdiction. Victim has to approach court. (20 लाख से अधिक रकम का मामला होगा, तो पीड़ित ने न्याय/इसाफ के लिए अदालत/कोर्ट में जाना होगा)

##### 10.16.2 📊 (Proposed but NOT YET DONE) Payment Regulatory Board (PRB)

- ⇒ 1998: Narsimham-II Committee on Banking Reforms suggested regulatory framework for e-banking, card payment etc.
- ⇒ 2007: Payment & Settlement Systems Act (भुगतान और निपटान प्रणाली अधिनियम) → RBI → (Statutory) Board for Regulation and Supervision of Payment and Settlement Systems (BPSS: भुगतान और निपटान प्रणाली के विनियमन और पर्यवेक्षण के लिए बोर्ड).
- ⇒ All types of payment system providers have to register with RBI's BPSS- whether bank, non-bank, wallet/Prepaid Payment Instrument (PPI) etc. (सभी भुगतान संस्थाओं ने इस वैधानिक संस्था में पंजीकरण करवाना अनिवार्य)
- ⇒ 2016: Ratan Watal Committee suggested replacing above BPSS with a Payments Regulatory Board (PRB: भुगतान नियामक बोर्ड) in RBI. (उक्त BPSS संस्थान को बदलकर एक नया PRB संस्थान बनाने का सुझाव दिया गया)
- ⇒ 2018: draft Payment and Settlement System Bill to implement PRB. (विधेयक का मसौदा भी बनाया गया)
- ⇒ But, not yet setup. RBI vs Govt difference of opinion about who should be chairman, how many members from Govt side etc. रिजर्व बैंक और सरकार के बीच मतभेद के चलते ये नई प्रस्तावित PRB संस्था अभी तक बनी नहीं है।



## 10.17 📈📊 DIGITAL PAYMENT RELATED INDEX / COMPETITIONS

### 10.17.1 📈📊 RBI Digital Payments Index (DPI: डिजिटल भुगतान सूचकांक)

- ⇒ With 5 component: (i) Payment Enablers (weight: भारंक 25%), (ii) Payment Infrastructure – Demand-side factors (10%), (iii) Payment Infrastructure – Supply-side factors (15%), (iv) Payment Performance (45%) and (v) Consumer Centricity (5%). (⚠ WEIGHT NOT IMP4IAS but for RBI-Officer-EXAM)
- ⇒ Report will be published 4-4 months. (हर चार महीने पर प्रकाशित होगा ये रिपोर्ट)
- ⇒ Base Year 2018, then annual growth measured in Digitisation of payments then → backward areas will be found → RBI will give those areas more attention. (आधार वर्ष 2018 की तुलना में डिजिटल भुगतान के विभिन्न मानकों में कितनी बढ़ोतरी हुई, उस हिसाब से इलाकों का पिछ़ापन तय होगा और रिजर्व बैंक सुधार के लिए ज्यादा ध्यान देगी)

### 10.17.2 📈📝 RBI's Financial Inclusion Index (वित्तीय समावेशन सूचकांक)

- ⇒ 2021: RBI Governor announced to publish Financial Inclusion Index to capture the extent of financial inclusion across the country in Banking, Investments, Insurance, Pension Sector.
- ⇒ Index has 3 broad parameters (weights indicated in brackets) viz., Ease of Access (35%), Usage of services & their availability (45%), and Quality of services (20%)
- ⇒ Score of 0% = complete financial exclusion and 100% = full financial inclusion of every eligible person. For 2021 the All India score is 54%. (यदि जवाब 100% आये तो सभी लोगों का अच्छे ढंग से वित्तीय समोवशन हो गया है, लेकिन अभी अपना स्कोर 54% ही है)
- ⇒ FI-Index has been constructed without any ‘base year’ कोई आधार वर्ष के सामने तुलना नहीं हो रही)

### 10.17.3 📈💡 Harbinger Hackathon 2021

- RBI's first-ever hackathon competition for digital payments systems.

## 10.18 💡ocurrency & BLOCKCHAIN TECHNOLOGY



- ⇒ [Definition] **Cryptocurrency:** is a digital / virtual currency created & stored using blockchain technology. क्रिएटरुप्रा एक डिजिटल मुद्रा है जिसे ब्लॉकचेन तकनीक का उपयोग करके बनाया और संग्रहीत किया जाता है।
- ⇒ [Definition] **Blockchain:** A secured decentralized database/ distributed ledger technology (DLT) that maintains a continuously growing list of records / transactions. Old entries can't be deleted, new entries will be visible to all. Mainly used for running cryptocurrency network. But it can also store any type of data. (ब्लॉकचेन एक डेटाबेस है जो रिकॉर्ड की निरंतर बढ़ती सूची को विकेन्ट्रीकृत रूप से बनाए रखता है।)
  - o Decentralised finance (DEFI) is a system in which customers can do financial transactions using blockchain networks, without the need for middlemen such as banks and card companies. (विकेन्ट्रीकृत वित्तीय प्रणाली)



- ⇒ [Origin] Anarchist groups lost faith in FIAT MONEY because USA's Subprime Crisis (2007) eroded the purchasing power of US Dollar. They also dislike Banks & Card Companies because of transaction charges on e-banking, card payments, MDR, interoperability issues. (अशासनवादी समूहों को सरकार द्वारा जारी की मुद्रा नापसंद। इन अशासनवादी समूहों को बैंक और कार्ड कंपनियों से भी नफरत है)
- ⇒ 2009: An anonymous user (अनाम/अज्ञात) Satoshi Nakamoto launched a cryptocurrency 'Bitcoin'.
- ⇒ total 21 million Bitcoins, wherein 1 Bitcoin (BTC) =  $10^8$  Satoshi (the smallest unit).
- ⇒ Other examples: Ethereum, Litecoin, Digicoin, Laxmicoin, Ripple, Dogecoin etc..

#### 10.18.1 📱 Hot Wallet vs Cold Wallet

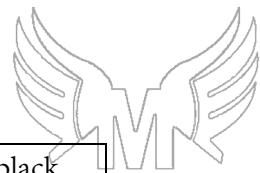
Just like you store money in Paytm DIGITAL Wallet. You can store Bitcoin and other cryptocurrency in Crypto Digital Wallets. Such wallet could be hot wallet or cold wallet.

- ⇒ 💳 Hot wallets are connected to the internet, (e.g. an online app)
- ⇒ ❄️ Cold wallets are not connected to internet (e.g. a USB pendrive).

#### 10.18.2 ⚙️ 💳 🗃️:Crypto-Winter in Bitcoin Prices (भाव गिरा अब उठ नहि रहा है)

Between 2021-Nov to 2022-Jan: Bitcoin fell from ~\$70,000 to < \$35000 → almost 50% loss! & similar situation in many other cryptocurrencies. Some experts fear the prices will remain frozen in this range for upcoming months, hence using the term "Crypto-Winter" to denote it. (क्रिएटो-मुद्राओं के दाम गिर गए हैं और वापस ऊपर नहि चढ़ रहे, लगता है जेसे के क्रिएटो-बाज़ार सर्दी/ठंडी में जम गया है)

3 ways to obtain Cryptocurrency	⚠️ Negative Points / Challenges (क्रिएटो मुद्रा हासिल करने के तीन तरीके, और वे खराब क्यों हैं?)
<b>1) Mining of the blockchains using powerful computers</b> शक्तिशाली कंप्यूटर द्वारा डिजिटल-खनन	<ul style="list-style-type: none"> <li>- Graphics cards demand &amp; price hike: 2x-4x times due to bitcoin mania. E-waste generation. (ग्राफीक्स कार्ड अप्रत्याशित रूप से महंगे हो गए हैं)</li> <li>- Thermal Electricity wastage worth 20 megaton CO<sub>2</sub> per year (बिजली की बबंदी)</li> <li>- Iran: People deploying large number of computers for Bitcoin mining → Electricity outage in normal houses → Diesel generator →</li> <li>⚠️ Pollution → 2021-Iran banned bitcoins. (ईंजल जनरेटर से वायु प्रदूषण)</li> </ul>
<b>2) Selling goods and services to a miner / owner of cryptocurrency</b> जिसके पास क्रिएटो मुद्रा है उसे कोई वस्तु या सेवा बेचो	<ul style="list-style-type: none"> <li>⇒ Bitcoin wallets have "public address" (like an email) &amp; private key (like a password). Unlike Paytm wallet, possible to create a Bitcoin wallet without any phone number or email id. So, difficult to trace by law enforcement agencies. Misuse in Narcotics, Illegal trade, Terror finance.* *</li> <li>⇒ Selling goods/services in exchange of Bitcoins= Govt deprived of GST, Custom duty, Income tax. सरकार को कर नहीं मिलेगा, क्योंकि आय/बिक्री लिपाना आसान</li> <li>⇒ If Scam: can't get justice under Consumer Protection Act. ग्राहक सुरक्षा कानून में न्याय नहीं मिलेगा। क्योंकि खरीद बिक्री वैधानिक निविदा से नहीं हुई।</li> </ul>
<b>3) Exchanging legal tender to buy cryptocurrency.</b>	<ul style="list-style-type: none"> <li>⇒ For traditional Rupee to Dollar exchange, Forex dealers have to register with RBI under FEMA Act. (Foreign Exchange Management Act, 📈 Pillar#3)</li> </ul>



<p>वैधानिक मुद्रा की मदद से क्रिएट मुद्रा को खरीदो</p>	<p>⇒ But, if ₹ or \$ exchanged with Bitcoin = terror finance, sending black money to tax havens. (आतंकी वित्तपोषण, काले धन को विदेशाभेजना)  More in Pillar2:</p> <p>⇒ Bitcoin exchange rate: speculation, volatility, Government deprived of Capital Gains Tax (CGT: पूँजीगत अभिलाभ कर को छिपाना,  Pillar#2)</p> <p>⇒ Ponzi investment frauds- so, Government came up with 'Banning of Unregulated Deposit Schemes Ordinance/bill, 2019'. (More in  Pillar1D: Financial Inclusion.)</p>
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⇒ 2021: Car with a Bomb parked outside Mukesh Ambani's home with a letter demanding ransom in Bitcoins. Which proves criminals prefer the anonymity of Bitcoins. मुकेश अंबानी के घर के सामने बम वाली गाड़ी रखके से क्रिएटमुद्रा में फिरौती माँगी गई। जो साबित करती है कि अपराधियों को भी बिटकॉइन की गोपनीयता पसंद है।

\*\* FAQ: How is Bitcoin not traceable, we can trace it using XYZ technology?

Ans. Using HTML, we can create Wikipedia website and also gmail website. While everyone can read Wikipedia, I can't read your gmail page, unless I know your username password. Blockchain is similar. It depends on designer to make database "open" or "private/encrypted".

Beyond that, we are not here for B.Tech (Computer Science) Semester exam/James Bond recruitment. We just have to memorize 3-4 negative points for Mains-Answer-writing-ki-pipudi .....so #

MCQ. Find correct statement(s) about Bitcoin? [UPSC-CDS-2017-I]

1. It is a decentralized virtual currency.
  2. It is generated through complex computer software systems.
  3. The Reserve Bank of India recognized it as a legal tender in January 2016.
- Answer Codes: (a) 1 only                    (b) 1 and 2 only                    (c) 2 and 3 only                    (d) 1, 2 and 3

MCQ. Find correct statement(s) about "Blockchain Technology" [UPSC-Prelims-2020,SetB-Q20]

1. It is a public ledger that everyone can inspect, but which no single user controls.
2. Structure and design of blockchain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody's permission.

Answer Codes: [a] 1 only                    [b] 1 and 2 only                    [c] 2 only                    [d] 1 and 3 only

### 10.19 CRYPTOCURRENCY LEGAL STATUS IN INDIA → RBI BAN/SC UNBAN

- ⇒ RBI's Institute for Development and Research in Banking Technology (IDRBT)- studying how to use blockchain technology for promoting digital economy. ब्लॉकचेन टेक्नोलॉजी की मदद से डिजिटल भुगतान को कैसे प्रोत्साहन दें इस पर रिजर्व बैंक की संस्था संशोधन कर रही है
- ⇒ However, RBI's attitude towards cryptocurrencies has been skeptical/negative <Refer to Next Section> (क्रिएट मुद्राएं के बारे में रिजर्व बैंक का रवैया/दृष्टिकोण संशयशील/ नकारात्मक है)
- ⇒ Since 2013: RBI warning Indians not to get involved in cryptocurrency due to frauds, tax evasion and terror finance. (रिजर्व बैंक चेतावनी देता है इसमें निवेश न करें क्योंकि धांधली, कररोगी, आतंक वित्तपोषण का खतरा)



⇒ **2018:** RBI directed all banks to stop relations with any Cryptocurrency company. (रिजर्व बैंक ने बैंको को आदेश दिया कि क्रिप्टोमुद्रा कंपनियों के साथ लेनदेन/व्यवहार बंद करें)

Then some cryptocurrency exchange companies like CoinDCX etc went to Supreme Court alleging that:

- ⇒ Parliament has not made any law declaring this illegal (unlike possession cocaine / narcotics.)
- ⇒ Even Japan, USA, Singapore etc not completely banned investment in cryptocurrency but imposed regulations to control its misuse/fraud. (इन देशों ने संपूर्णता प्रतिबंधित नहीं किया बास निगरानी के लिए सख्त कानून बनाए हैं)
- ⇒ **Anekantavada philosophy of Jainism:** 4 blind men try to describe an elephant but end up describing only one physical feature of the elephant. (आरबीआई और सरकार को पता ही नहीं है कि क्रिप्टोमुद्रा क्या चीज़ है- जीस तरह एक अंधे/नेतहीन आदमी को हाथी को छूकर पता नहीं चल सकता कि वह हाथी कैसा दिखता है)
- ⇒ Similarly, without fully studying the nature/impact of cryptocurrency, RBI placed a blanket ban which has harmed our fundamental right to business/profession. (हमारे व्यवसाय के हक को हानि)

#### ⌚ 2020-March: SC revoked the RBI ban because (सुप्रीम कोर्ट ने रिजर्व बैंक के प्रतिबंध को हटा दिया क्योंकि):

- ⇒ Article: 19(1)(g): All citizens have the right to practise any profession including those companies dealing with cryptocurrency. (व्यवसाय का हक/मौलिक अधिकार सभी को है)
- ⇒ Same objective (financial fraud protection) could be achieved by imposing a less drastic ban.
- ⇒ So, RBI ban did not pass the **test of proportionality** (अनुपातिकता की परीक्षा)
  - Proportionality test is a legal method used by courts in matters where State's decision (for public safety/welfare e.g. Aadhar card or Bitcoin ban) interferes with fundamental rights of people (right to privacy, right to business) (सरकार जो जननित में निर्णय ले रही है, वह मूलभूत अधिकारों का किस अनुपात में हनन कर रहा है- अगर ज़रूरत से ज़्यादा हनन हो रहा हो तो कोर्ट रद्द करवाएगी।)

What next? ⚖️ RBI may release a calibrated regulation on cryptocurrency e.g. PAN card required, can't invest more than ₹"x" lakh per month etc. topic is still developing. 📊 💳 💴 💳

#### 10.20 ⚖️ 💳 💴 CRYPTOCURRENCY LEGAL STATUS IN INDIA → GOVT'S ATTITUDE

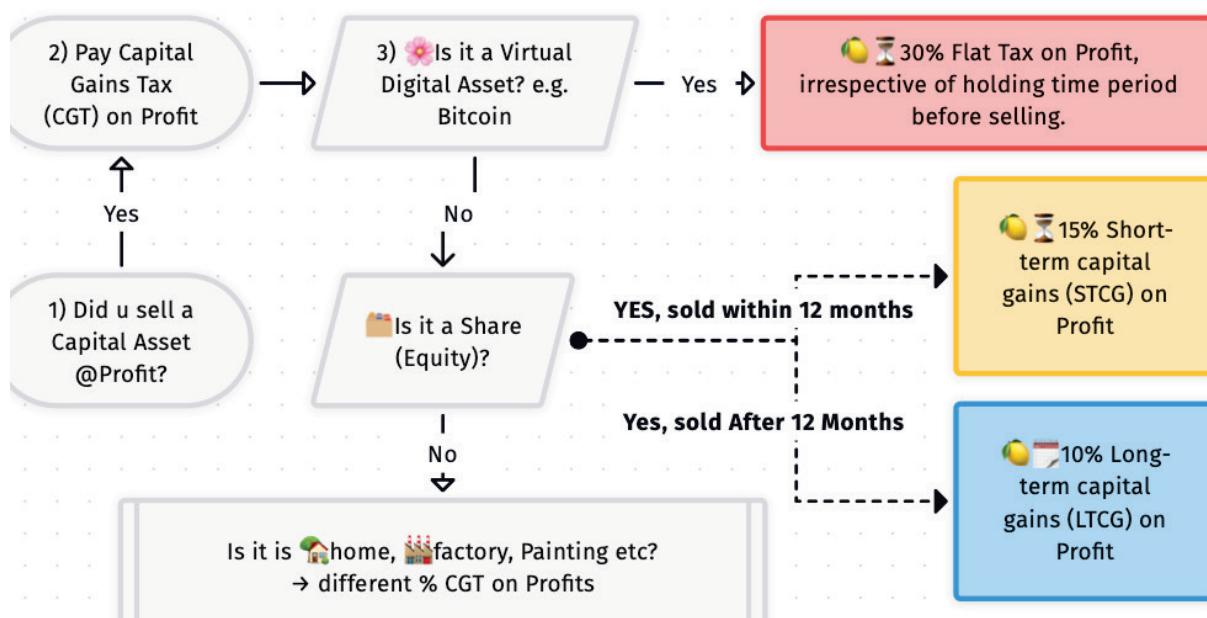
- ⇒ **2017-18:** Dinesh Sharma Committee to FinMin & Subhash Chandra Garg committee to FinMin suggested Government to ban it. (विविध सरकारी समितियों ने इस पर प्रतिबंध की सिफारिश की है)
- ⇒ **2018:** Budget says Crypto-currencies are not legal tenders. We'll eliminate use of these cryptocurrencies in financing illegitimate activities or as part of the payment systems. (बजट में वित्त मंत्री ने कहा कि अवैध/गैर कानूनी वित्तीय गतिविधियों में क्रिप्टो मुद्रा का उपयोग बंद करवाएंगे)
- ⇒ **2019:** Ministry of Finance → Department of Economic Affairs has proposed a draft bill called the 'Banning of Cryptocurrency & Regulation of Official Digital Currency Bill, 2019' (क्रिप्टोक्यूरेंसी पर प्रतिबंध और आधिकारिक डिजिटल मुद्रा का विनियमन विधेयक, 2019- वित्त मंत्रालय के आर्थिक मामलों के विभाग द्वारा बनाया गया है).
- ⇒ It aims to ban the use of all types of cryptocurrencies issued by private operators. Non-bailable offense, jail upto 10 years. (निजी निर्माताओं द्वारा बनाई गई डिजिटल मुद्रा रखना गैर-जमानती अपराध बनाने का प्रस्ताव है),
- ⇒ However, (if and when) RBI launches a blockchain-based digital currency, it'll be permitted. (जब रिजर्व बैंक खुद की डिजिटल मुद्रा बनाएगा तो वो गैरकानूनी नहीं होगा। उसके लिए गवर्नर शक्तिकांता दास को जेल में फिट नहीं करेंगे)



- ⇒ 🎯 2021: Ministry of electronics and IT (MEITY) published draft framework to use blockchain technology in database management of health record, property ownership, electricity distribution, supply chain management etc. 🎯 Challenge? Lack of skilled man-power, Cybersecurity/Hacking. स्वास्थ्य रिकॉर्ड, संपत्ति का स्वामित्व, बिजली वितरण, आपूर्ति शृंखला प्रबंधन आदि में ब्लॉकचेन प्रौद्योगिकी का उपयोग करने के लिए इलेक्ट्रॉनिक्स मंत्रालय ने एक का मसौदा प्रकाशित किया हालाँकि भारत में ब्लॉकचैन उपयोग के लिए प्रशिक्षित मानवबल की कमी, हेकिंग का खतरा
- ⇒ 🎯 Pradhan Mantri Rashtriya Bal Puraskar awards (Children bravery awards)- Its digital certificates given to through blockchain technology for the first time in India.

#### 10.20.1 🎯: Bitcoin Profit pe 30% Tax in ₹ Budget-2022

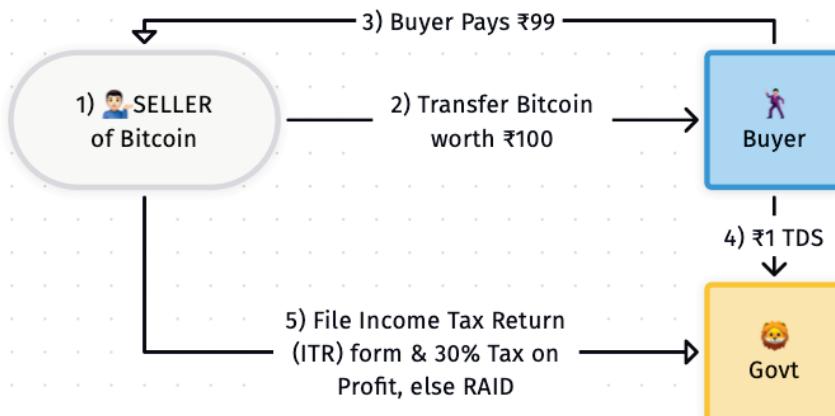
- ₹ Budget-2022 announced 30% capital gain tax (CGT) on income from virtual digital assets such as cryptocurrency, bitcoin, Non-Fungible tokens (NFT) etc. (वर्चुअल डिजिटल परिसंपत्तियों से हुई आमदनी पर 30% पूँजीगत लाभ कर/टेक्स लगेगा.) (More in 📄 Pillar#2A: Budget Taxation)
- Thus, while crypto trading is not illegal at present, but, the Indian govt does not want to encourage it- that's why such a high level of taxation- similar to 30% tax on winnings casino-gambling, lottery or horse-race-betting. (सरकार इतना ज्यादा टैक्स लगा रही है क्योंकि वह निवेशकों को क्रिएटमुद्रा में निवेश करने के लिए प्रोत्साहन नहीं देना चाहती.)



▶ 🎯 FAQ: I've 500 types of doubts about "loss-offsetting" provision in ₹ Budget-2022.  
Ans. Not important for exam. Plz consult your Chartered Account if facing real-life tax problems.



### 10.20.2 📈 💰: Bitcoin Purchase pe 1% TDS in ₹₹₹ Budget-2022



- ₹₹₹ Budget-2022: 1% Tax Deducted at Source (TDS) on buying of Virtual Digital Asset (VDA – such as bitcoin, NFT etc)- to trace the money trail / tax evasion. (More in 📄 Pillar#2A)
- 🚫 Challenge/Criticism? Difficult to trace if buyer/seller doing transactions using crypto-wallets that are not linked with PAN-Bank Accounts. (पैसों के लेन देन पर निगरानी रखने के लिए TDS भी काटा जाएगा। हालाँकि वास्तविक ज़िंदगी में इसमें TDS काटना काफ़ी मुश्किल होगा ऐसा विशेषज्ञों को डर है।)

### 10.21 📈 💰: CRYPTOCURRENCY BANNED IN OTHER NATIONS?

- ⇒ Nepal, Algeria, Egypt, Morocco, Turkey etc: Bitcoin is illegal. (कुछ देशों में क्रिप्टो मुद्रा रखना गैरकानूनी है)
- ⇒ Iran banned Bitcoins for causing electricity outages & pollution (due to diesel generator use in digital/computer mining of cryptocurrency)
- ⇒ Chinese prohibited the financial institutions (= Banks and Non-Banking Financial Companies/NBFCs) from providing buying/selling/investment services for bitcoin etc cryptocurrencies. After this crackdown, Bitcoin prices ↓↓ by 30% [चीनी प्रशासन ने देश की सभी वित्तीय संस्था को आदेश दिया है कि बिटकॉइन जैसी क्रिप्टोमुद्रा की खरीद/बिक्री/निवेश से जुड़े हुए कोई भी काम भी ना करें। इसके बाद विश्व बाजार में बिटकॉइन का दाम पहले से करीब करीब 30% गिर गया.]

### 10.22 📈 💰: CRYPTOCURRENCY PERMITTED IN OTHER NATIONS

 UNICEF 	<ul style="list-style-type: none"> <li>⇒ United Nations International Children's Emergency Fund (UNICEF, HQ- New York, USA; 1946, later renamed to UN Children's Fund)</li> <li>⇒ 2019-Oct: UNICEF setup a Cryptocurrency Fund to accept donations in cryptocurrencies. It has become the <b>first</b> UN organization to accept cryptocurrency. (यूनिसेफ संस्था दान में क्रिप्टो मुद्रा का भी स्वीकार करती है)</li> </ul>
 World Bank (More about this org in 📄 Pillar#3B)	<ul style="list-style-type: none"> <li>⇒ 2018-Aug: World Bank launched World's <b>first</b> blockchain bond called "Bond-i" in Australia, <b>denomination: Australian Dollars</b> → public invests, gets ~2% interest after 2 years.</li> </ul>



	<p>⇒ Blockchain bond requires less cost in server / database /paperwork maintenance unlike traditional bonds.  <i>More in Pillar#1C: SEBI/Sharemarket</i></p> <p>⇒ World Bank's report "Remittance Prices Worldwide 2020" says it costs an average 6-7%, to transfer money from one country to another, blockchain based money transfer technologies can help  ब्लॉकचेन तकनीक द्वारा पैसा भेजने पर लागत खर्च में कमी</p>
<b>Bill of Rights</b>	<p>⇒ World Economic Forum (WEF) is a non-government organization in Cologny-Geneva, Switzerland. (विश्व आर्थिक मंच. गैर सरकारी संगठन)</p> <p>⇒ 2020-May: Published a document, 'Blockchain Bill of Rights'. Document talks about rights to accountability, transparency, data privacy, data protection etc. (ब्लॉकचेन अधिकार पत्र/विधेयक: जवाबदेही, पारदर्शिता, डेटा गोपनीयता, डेटा सुरक्षा आदि के अधिकार)</p> <p>⇒ Aims to set global standards for web-developers, corporates and governments who're building/using blockchain technology. (वैश्विक मानदंड बनाएगा)</p> <p>But, WEF is not as big body as United Nation, and this report is not as great as the United Nations' Universal Declaration of Human Rights. So,  DON'T LOSE SLEEP not matter how much coverage done by CA-PDF wallas.</p>
Chess	2021: FTX Crypto Chess Cup: Online tournament. Prize \$320,000 will be paid in cryptocurrency to  popularity and acceptance of Cryptocurrency. (क्रिएटो मुद्रा की लोकप्रियता व स्वीकृति बढ़ाने के लिए, ऑनलाइन शतरंज प्रतियोगिता जहां इनाम की रकम क्रिएटो मुद्रा के स्वरूप में)
Elon Musk	<p>⇒ Tesla Electric car company owner. Regularly tweets about Bitcoins, Dogecoins. → investors become crazy/panicked → cryptocurrency prices /.</p> <p>⇒ Thus, price of cryptocurrency = very volatile / unstable / sensitive to social media news/rumors/influencers. If common man invests, his lifetime savings may be ruined. Therefore, Government regulation necessary. (एलोन मस्क के ट्रीट से क्रिएटोमुद्राओं के दाम में भारी उथलपुथल आती है। आम आदमी क्रिएटोमुद्रा में पैसा निवेश करें, तो ज़िंदगी भर की कमाई भी बर्बाद हो जाने का डर. इसलिए सरकारी नियंत्रण ज़रूरी है।)</p>
<b>Bitcoin Mining Council (2021)</b>	Voluntary Global Forum of bitcoin miners, to promote sustainability of Bitcoin system. E.g. using Solar cells instead of diesel generators for electricity (बिटकॉइन का डिजिटल खनन करने वाले वालों का वैश्विक स्वैच्छिक मंच. सौर विजली से डिजिटल खनन करें इत्यादि)
Venezuela	<ul style="list-style-type: none"> <li>- Bolivar currency =little value in Venezuela country due to hyperinflation, and failed economy. (अत्याधिक महंगाई के चलते बोलिवर मुद्रा का मूल्य/खरीद-शक्ति न के बराबर है)</li> <li>- So, 2018: President Nicholas Maduro launched "Petro"- a cryptocurrency whose price is linked with market price of 1 oil barrel. Their Supreme Court recognized it as "Fiat money – Legal Tender".</li> <li>- Can be bought using Dollar, Euro, even other cryptocurrencies.</li> </ul>



<b>Marshall Islands</b>	<p><b>Capital:</b> Majuro, Sovereign state having free association with USA (for defense, social security, budget). Legal Tender was U\$D. But,</p> <p>⇒ 2018-Feb: became <b>first country</b> to launch sovereign cryptocurrency named “Sovereign” [SOV]. So, now two legal tenders: US Dollars and SOV.</p> <p>⇒ No anonymity unlike Bitcoins. (गुमनामी की सुविधा नहीं.)</p>
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### 10.22.1 ⚙️ 💰 🎵 El-Salvador: Bitcoin becomes a legal tender (2021)

- ⇒ El-Salvador: Two Legal tenders [1] US Dollars (from 2001). [2] Bitcoin (from 2021).
- ⇒ Thus, El-Salvador became 1st nation in the world to allow Bitcoin as legal tender. अल-साल्वाडोर देश में दो वैधानिक निविदा: अमेरिकी डॉलर, बिटकॉइन। बिटकॉइन को ऐसी अनुमति देने वाला यह दुनिया का पहला देश है।
- ⇒ Shopping, Salaries, tax payment may be done using Bitcoins or US Dollars. (खरीदारी, वेतन भुगतान, कर भुगतान में दोनों ही मुद्राओं का इस्तेमाल कर सकते हैं)
- ⇒ Exchange rate between Bitcoin and US dollar (e.g. 1BTC=50,000 US Dollars) will be decided by market forces of supply and demand. बिटकॉइन तथा अमेरिकी डॉलर के बीच मुद्रा विनिमय दर बाज़ार शक्तियाँ तय करेगी।
- ⇒ If foreign investors bringing bitcoins to El-Salvador, then they will be given certain tax benefits. (विदेशी निवेशक यदि बिटकॉइन के स्वरूप में अल-साल्वाडोर में पैसा निवेश करेंगे तो सरकार उन्हें करों में कुछ रियायतें/छूट/माफी देगी)

FAQ: Why El-Salvador allowed Bitcoin? Ans. ⚙️ not important after looking at previous prelims and mains papers. We're not preparing for El-Salvador-ElAS exam

### 10.22.2 ⚙️ 💰 🎵 Cryptocurrency → Stable-coins



- ⇒ Stablecoin is a type of cryptocurrency whose price is backed by a reserve asset like gold / dollar / fiat currency e.g. Facebook's proposed 'Libra', Tether, Basecoin, and TrueUSD.
- ⇒ 💸 But, stablecoins challenges: 1) money laundering (धनशोधन / काले धन को वैध बनाना) 2) terror financing (आतंकी वित्तपोषण) 3) lack of consumer protection (उपभोक्ता संरक्षण की कमी) 4) financial frauds (वित्तीय धोखाधड़ी).
- ⇒ 2019: France, EU, G20 group opposed / apprehensive. (इन सबको आशंका/डर है)

### 10.22.3 ⚙️ 💰 🎵 Cryptocurrency → Stable-coins → Facebook's Libra/Diem #Epicfail

- 2019: Meta Company (Facebook) announced the Libra stable coin. But France opposed → 2020: Facebook renamed it to "Project Diem" (means "day" in Latin) → still opposition continued by American and European authorities → Facebook sold Project DIEM to another company.

इसका संपूर्ण हिंदी अनुवाद नहीं करेंगे. कुल मिलाकर बात यह है कि फेसबुक जैसी निजी कंपनियाँ भी अपनी मुद्रा निकालना चाहती है किंतु फ्रांस जैसे देशों की सरकार उसकी अनुमति देने के लिए राजी नहीं।



## 10.23 ₹ ⚡ 💸 CENTRAL BANK DIGITAL CURRENCY (CBDC)



केंद्रीय बैंक डिजिटल मुद्रा / संप्रभु डिजिटल मुद्रा

2020-May: People's Bank of China (PBC) started trials to issue its paper fiat money Yuan/Renminbi in digital format. (कागजी रूप में मुद्रा छापने की जगह, डिजिटल रूप में जारी करना → और उसे लाभार्थी को ई-बैंकिंग के जरिए मुहैया/उपलब्ध कराना)

- ⇒ PBC will use supercomputer to create its fiat currency 'Yuan' (also known as 'Renminbi') in digital format → transfer to recipient via e-banking e.g. loan to govt, salary to employee etc.
- ⇒ 2020-21: Bahamas, Nigeria started such CBDC currencies. Britain, Japan, Singapore, Sweden, are also engaged in such experiments.
- ⇒ 2020: USA's stand: " we don't want to be the 1<sup>st</sup> to launch the digital currency, rather, we want to do it error-free. Because there are many risks associated" ("इसमें जोखिम बहुत है इसलिए हमें जल्दबाजी में अन्य देशों से पहले इसे शुरू नहीं करना है!" - ऐसा अमेरिका का रवैया है)
- ⇒ 📋₹ Budget-2022 announced issuance of Digital Rupee using blockchain technology).

### 10.23.1 ₹ ⚡ 💸 = ₹ Benefits of CBDC (केंद्रीय बैंक डिजिटल मुद्रा के फायदे)

CBDC/ Sovereign Digital Fiat Money / Digital Base Money will provide following benefit

1.  Cost **printing and transporting** physical currency. लागत और परिवहन खर्च में कमी
2.  Scope for **counterfeiting**. जाती नोट बनाना मुश्किल
3.  **Traceability, Anonymity:** ढूँढ़ना आसान, गुमनाम/अज्ञात रहना मुश्किल
  - a. Whether money is reaching the intended beneficiary or not? (लाभार्थी को योजना का पैसा मिला कि नहीं)
  - b. From where did the businessman accumulate this money, did he pay an appropriate amount of tax or not? Else auto-alert to the Income tax department for tax evasion. (करचोरी पर निगरानी आसान)
4.  **Mass hysteria of Bitcoin & other Cryptocurrencies**, which are issued by private actors & pose danger of Terror Finance, Narcotics etc. (निजी क्षेत्र द्वारा जारी क्रिएटमुद्रा के प्रति लोगों का आकर्षण/ सामूहिक पागलपन कम होगा.)
5.  **Homogeneity and promptness of disbursal:** (त्वरित और एक रूप तरीके से पैसा हर जगह/ हर व्यक्ति को भेजना)
  - a. With the click of a button, Money could be sent to beneficiaries' account whether he is located in Kashmir or Kanyakumari. Irrespective of Curfew/Lockdown/Floods/Bank Hartals- Students will receive scholarship, farmers will receive subsidy, and senior citizens will receive pension.
6. Can be evolved into a **Programmable Digital Currency** to control the allocation of new money for development of various sectors. (अलग-अलग क्षेत्रों के विकास के लिए पैसे को "प्रोग्राम" करके भेजना)



- a. E.g. if RBI issues Programmable-Digital-Rupee → SBI → Student Loan → its Interest rate will be automatically “X%”, (यदि डिजिटल मुद्रा विद्यार्थी को शिक्षा लोन के लिए दी जा रही है तो अपनेआप कम ब्याज दर लगे)
  - b. but if SBI manager tries to circulate this money as loan-4-buying-luxury-iphone then A) either computer system will reject it or B) increase interest rate to Y%
  - c. [How will that work? Ans. #Boycott-PHD #थोड़ा-पढ़ो-आगे-बढ़ो.]
7. Spread of virus/bacteria through physical currency notes. [Mains Logical Structure: this type of low level benefits should be written at the bottom part of the answer.] (रोग/विषाणु प्रसार में कमी)

### 10.23.2 = Challenges of CBDC (चुनौतियां)

- 1. Digital Divide, Financial Literacy, Access Points: (डिजिटल उपकरणों की उपलब्धता की खाई, वित्तीय साक्षरता का भाव, डिजिटल भुगतान इस्तेमाल करने के पहुंच बिंदुओं की कमी)
  - a. Not everyone has electronic gadgets or internet connectivity,
  - b. Not everyone knows how to operate bank account digitally,
  - c. Not every village shopkeeper accepts payments in the digital form.
- 2. Cyber Terrorism/Nuclear Attack/Natural Disaster. If electricity stops → economy will stop functioning. (साइबर आतंकवाद / परमाणु हमला / प्राकृतिक आपदा: विद्युत उपकरण बंद तो अर्थव्यवस्था बंद)
- 3. Maintaining the blockchain → 24/7 use of server/electricity → e-waste, pollution.

### 10.23.3 CBDC Challenges: interest rate (ब्याज की मगजमारी/दुविधा)

- Paper currency is a non-interest bearing Promissory Note. So Govt/RBI doesn't have legal obligation to pay interest on it. (सरकार/ केंद्रीय बैंक ने काग़जी मुद्रा पे ब्याज देने का कोई कानून वचन नहि दिया)
- BEFORE: Suppose if a worker received ₹10,000 salary in paper-currency. He deposited ₹8000 in Axis bank savings account, and kept ₹2000 in cash (for milk, rent, electricity bill, school fees, VIMAL etc.) So Axis bank required to pay him interest for ₹8,000 savings only. (Neither RBI nor Axis required to pay him interest on ₹2000 which he kept in CASH.)
- AFTER CBDC: if a worker received ₹10,000 salary in digital-currency → it may automatically go in his Axis bank savings account & stay there only. He'll use it digitally via UPI/BHIM/NEFT/IMPS etc. He can't take out 'paper currency' from his savings account. So, Axis shall be required to pay him interest on entire ₹10,000. (यदि डिजिटल मुद्रा सीधे ही बैंक में जमा हो रही है, और जमाकर्ता ग्राहक कभी भी उसे डिजिटल स्वरूप के कारण बैंक खाते से बाहर नहीं निकल पाएगा, तो बैंक ने तो सदैव उसे ब्याज देते रहेना पड़े। तो बैंकरो मज़ा नहि आएगा)
- Thus, CBDC increase deposit quantity/size/amount. If banker not finding loan takers immediately → banker will suffer in losses, because banker still need to pay savings interest to depositors. (क्योंकि अगर बैंकर डिपॉज़िट का पैसा कर्ज के रूप में नहीं घूमा पाएगा तो उसका नुकसान हो जाएगा)
- Banker may react by increasing loan interest rate to cover losses → expensive loans will shopping & business activities.
- To prevent such complexities Bahama, and Nigeria issued 'non-interest bearing' CBDC (इसलिए बहामा और नाइजीरिया में सीबीडीसी को "ब्याज-हीन मुद्रा" के स्वरूप में जारी किया गया)



► 📚 FAQ/Moral Outrage: Then why would Nigerian person accept CBDC, if he's not going to earn interest rate? (अगर व्यक्ति को ब्याज नहीं मिलने वाला क्यों स्वीकार करेगा?)

Ans. Perhaps he may need to separately fill up forms to transfer the money to a special type of savings account / fixed deposit account. We are not here for NiAS (Nigerian IAS exam) When RBI notifies the system for India, we'll study. (ब्याज कमाने के लिए, शायद उसने अलग से फॉर्म भर के अलग क्रिस्म के बचत खाते में सीबीडीसी को स्थानांतरित करना हो ऐसी व्यवस्था होगी.) #थोड़ा-पढ़ो-आगे-बढ़ो

#### 10.23.4 🌐 CBDC: Conclusion (निष्कर्ष)

- ⇒ Considering above charms and challenges, CBDC
- ⇒ can 'supplement' physical currency BUT cannot substitute/replace it completely, for India.  
(डिजिटल मुद्रा, कागजी मुद्रा की 'पूरक' तो हो सकती है, लेकिन 'सम्पूर्ण विकल्प/एवज' नहीं)

#### 10.24 ♦ ≠ \* Non-FUNGIBLE TOKEN (NFT: गैर-फंजीबल टोकन)



##### 10.24.1 (□=□+□+□+□) Fungibility: Meaning?

Item	Can it be subdivided in smaller units?	Is mutual substitution possible in terms of value?	Is it fungible?
₹2,000 Note	Yes ₹500 x 4 Notes = 2000	Yes ₹500 x 4 Notes can buy same quantity of goods as a single ₹2000 Note	✓ Yes
1kg gold bar	Yes 100gm x 10 biscuits = 1kg gold bar	Yes 100gm x 10 biscuits can buy same quantity of goods as a single 1kg gold bar	✓ Yes
1Bitcoin	1BTC = $10^8$ Satoshi coins	Yes 1BTC's value = $10^8$ Satoshi coins. So, theoretically, they buy same quantity of goods	
100 gm single Diamond	Bigger single piece diamond considered to be more precious/valuable than small-small pieces diamond. So, 100gm Single_Big_Diamond = NOT equal 1gm x 100 small_Diamonds, in terms of value		🚫 No
Shares, Bonds	NOT possible (How Ref: Pillar#1C: SEBI sharemarket)		🚫 No
NFT	NOT possible. Explained below.		🚫 No

##### 10.24.2 ♦ Non-fungible token (NFT: गैर-फंजीबल टोकन)

- ⇒ (Definition) NFT is a Digital file photo file (JPEG), Animated image (GIF), music file (MP3) etc Stored using blockchain Technology. ब्लॉकचेन प्रौद्योगिकी द्वारा संग्रहित फोटो, संगीत इत्यादि क्रिस्म की डिजिटल फाइल है।
- ⇒ They cannot be subdivided. Their individual sub-units exchanged with one another. Because their values are different based on buyer's preference. So NFTs are non-fungible. अलग अलग



चित्र/संगीत कृतियों का मूल्य, ग्राहक की पसंद से हिसाब से अलग अलग हो सकता है इसलिए उन्हें छोटे टुकड़ों में विभाजित करना / आपस में उनकी अदला-बदली नहीं हो सकती.

- ⇒ Mass Hysteria going on to purchase such digital assets from new-age artists using (mostly) Ethereum cryptocurrency. नए ज़माने के डिजिटल चित्र/धन बनाने वाले कलाकारों से नीलामी में एनएफटी खरीदने का सामूहिक पागलपन चल रहा है।
- ⇒ e.g. American digital artist Beeple's Non-fungible token JPEG File (Title "Everydays: the First 5000 Days") → auctioned for \$70 million in Ether Cryptocurrency.
- ⇒ Robot Sophia created a digital painting/art "Sophia Instantiation" (NFT) → Auctioned for more than 6 lakh dollar\$.
- ⇒ Many sportsmen, filmstars also creating NFT out of their posters/autographs but we'll not waste preparing all that General Knowledge (GK). (मशहूर खिलाड़ी और फ़िल्म अभिनेता भी इसे जारी कर रहे हैं)

#### 10.24.3 ♦️ 😊 NFT-Charms? (आकर्षण)

- ⇒ 1) Multimedia Creators: Easier to trade digital assets (डिजिटल चित्रकार, डिजिटल धुनकार इत्यादि के लिए अपनी कृतियों की बिक्री करना आसान.)
- ⇒ 2) Easier to verify ownership records. Prevent plagiarism. (डिजिटल कृतियों के स्वामित्व की जाँच करना आसान। नकलचियों के लिए जालसाजी करना मुश्किल।)
- ⇒ 3) Cinema / Sports tournament / Travel tickets etc can be stored with ownership records. Helps in Paperless administration. (सिनेमा / खेल / परिवहन की टिकट की बिक्री डिजिटल स्वरूप से करना आसान, कागज़ मुक्त प्रशासन।)

#### 10.24.4 ♦️ 🤔 NFT-Challenges: (चुनौतियां)

- ⇒ 1) Started in 2017 → steep price rise in 2021. Single GIF /meme file selling for millions dollar\$ worth of cryptocurrencies. This mass-hysteria / investment-bubble will collapse. Investors will lose money. ये सामूहिक पागलपन /निवेश का गुब्बारा फट जाएगा तब निवेशकों का पैसा ढूब जाएगा।
- ⇒ 2) Money laundering & terror Finance. धनशोधन और आतंकी वित्तपोषण में दुरुपयोग सम्बन्धित।
- ⇒ 3) Football selling NFT fan tokens. Sports-fans can purchase said crypto tokens with real-world money to gain access to digital content & sport-team related voting rights e.g. t-shirt color or mascot for the football team. British authorities have forbidden the advertisements of fan tokens because public not fully aware of the risks associated with the investment. यूरोप में फुटबॉल स्पोर्ट्स क्लब अपने गैर-फ़ैन फ़ैन-टोकन जारी कर रहे हैं लेकिन इनके विज्ञापनों पर ब्रिटिश सरकार ने पांबंदी लगाइ है क्योंकि आम लोगों को ऐसे निवेश के साथ जुड़े हुए जोखिमों की जानकारी नहीं है उनका पैसा ढूब सकता है।
- ⇒ 4) Maintaining such computer blockchain record → Electricity consumption ▲ → CO<sub>2</sub> Emission. (इस डेटाबेस का संचालन/वहन करने में बहुत ज्यादा बिजली खपत होती है, जिससे कार्बन डाइऑक्साइड उत्सर्जन में बढ़ातरी।)

### 10.25 💾 ESSAY: CASHLESS ECONOMY- CHARMS AND CHALLENGES

नगदी-रहित अर्थतंत्र के आकर्षण और चुनौतियां

- (Origin) In ancient times, people used to trade with each other using barter system. But its limitations \_\_\_\_\_ <give evolution story>. उद्धवः प्राचीन काल में, लोग वस्तु विनिमय प्रणाली का उपयोग करके एक दूसरे के साथ व्यापार करते थे। लेकिन इसकी मर्यादाओंने पैसों को जन्म दिया..... बोल के शब्दमर्यादा के हिसाब से थोड़ा-बहोत इतिहास छाप दो।
- (Definition) A cashless economy is an economy where financial transactions are not conducted with money in the form of physical banknotes or coins, but rather through electronic methods



such as \_ \_ \_ <insert examples>. व्याख्या: नगदी-रहित अर्थतंत्र का मतलब है की वित्तीय लेनदेन को भौतिक/नगदी स्वरूप के सिक्कों या बैंकनोट में नहीं किया जाता है, बल्कि इलेक्ट्रॉनिक तरीकों से वित्तीय लेनदेन किए जाते हैं।

Stakeholder	😊: Charms आकर्षण	😔: Challenges चुनौतियां
RBI 	<ul style="list-style-type: none"> <li>⇒ Saves cost of printing new currency (Rs.27 billion a year) – environment, (मुद्रा छपाई का खर्च)</li> <li>⇒ Better efficacy of monetary policy updates, NPA/fraud surveillance.(More in  Pill1A2)</li> </ul>	<ul style="list-style-type: none"> <li>- MDR, Interoperability, Financial Scams.</li> <li>- Know your customer (KYC): Aadhar vs privacy debate (Ref: Polity, SC Judgement) डिजिटल भुगतान में वित्तीय धांधलीया रुकवाने के लिए रिजर्व बैंक यदि कहे कि हर चीज में आधार कार्ड अनिवार्य होगा तो और सुप्रीम कोर्ट/नागरिक की निजता का संघर्ष</li> </ul>
Govt. 	<ul style="list-style-type: none"> <li>- Better tax surveillance, checks on fake counterfeit currency terror finance (कर चोरी, जाती नॉट)</li> <li>- targeted delivery of agri-loans and subsidies/ Direct Benefit Transfer (DBT): Annually ₹ 1 lakh crore can be saved in corruption/leakage. (प्रत्यक्ष लाभ अंतरण, भ्रष्टाचार में कटौती)</li> <li>- Can save farmers from moneylenders, and poor families from Ponzi schemes. (More in  Pill1D)</li> </ul>	<ul style="list-style-type: none"> <li>- Power, telecom infra not available everywhere. बिजली, संचार सुविधा की कमी</li> <li>- Government itself must become a role model first in handling tax, tender, tolls, procurements through digital payment. सरकारी विभाग खुद नगदी में काम पसंद करते हैं</li> <li>- To encourage digital payment if subsidy, tax breaks, lotteries given for perpetual time → fiscal deficit. लॉटरी देकर लोगों को लुभाते रहे तो सरकार का वित्तीय घाटा बढ़ जाएगा</li> <li>- Post-Demonetization, digital transactions ↑ but then again ↓ so, punitive measures = :-( सजा देने से लोग सुधरते नहीं</li> </ul>
Household 	Secure, difficult to steal, time, convenience, financial inclusion. सुरक्षित, चोरी करना मुश्किल, समय, सुविधा, वित्तीय समावेशन	<ul style="list-style-type: none"> <li>- Digital divide, Low financial literacy-notion of security with holding physical currency. सब के पास डिजिटल उपकरण और डिजिटल भुगतान की जागृति/साक्षरता नहीं है</li> <li>- Cyberfrauds, Card cloning, service fees on card payments. जालसाजी/धोखाधड़ी</li> </ul>
Businessman 	<i>Homework</i>	<i>homework</i>

#### 10.25.1 Conclusion: Cashless Economy (निष्कर्ष)

- Digital payment is not a panacea, nor is cash all bad. For a developing country like India, “Less cash” economy better than “Cashless” economy. डिजिटल भुगतान को राम-बाण / सर्वरोगहर औषधि मानना गलत। नगदी रूपया हमेशा ही खराब चीज है, ऐसा सोचना भी गलत। भारत जैसे विकासशील देश के लिए 'नगदी-रहित' बनना उपयुक्त नहीं। किंतु, नगदी का प्रयोग 'कम' करने की जरूरत अवश्य है।)



### 10.25.2 Mock question for Mains/ESSAY

- 1) (GSM1-2021) What is Cryptocurrency? How does it affect global society? Has it been affecting Indian society also? (Answer in 250 words) क्रिप्टोकरेसी क्या है ? वैश्विक समाज को यह कैसे प्रभावित करती है ? क्या यह भारतीय समाज को भी प्रभावित कर रही है ?
- 2) (GSM3) Examine critically, the charms and challenges of Central Bank Digital Currency (CBDC) initiatives for Indian monetary system. भारतीय मौद्रिक प्रणाली के लिए, 'केंद्रीय बैंक डिजिटल मुद्रा' की पहल के आकर्षण और चुनौतियों की समीक्षा कीजिए (250 words)
- 3) (GSM3) "While regulatory clearance to cryptocurrencies can open Pandora's box, the underlying blockchain technology holds panacea for various areas of governance and economy". Explain in context of India. क्रिप्टो मुद्रा को अनुमति देने से विनाश की परिस्थिति का निर्माण, किन्तु अंतनिहित ब्लॉकचेन टेक्नोलॉजी प्रशासन और अर्थतंत्र के लिए रामबाण इलाज बन सकती है. (250 words)
- 4) (GSM3) Explain these two terms with respect to 'less cash economy' ('कम नगदी वाले अर्थतंत्र' के परिपेक्ष्य में): (1) MDR (2) Interoperability. (150 words)
- 5) (GSM3) "E-rupi increases the efficacy of Direct-Benefit Transfer by making the entitlement more targeted and leak-proof." Substantiate/Elucidate. (ई-रूपी पान्ता को अधिक लक्षित और रिसाव-मुक्त बनाकर प्रत्यक्ष-लाभ अंतरण की प्रभावकारिता को बढ़ाता है. उदाहरण द्वारा साबित कीजिए)
- 6) (GSM3: Science-Tech) Write Short Notes on 1) Non-Fungible Tokens 2) Fastag (150 words)
- 7) (GSM4: CASE Study) Phulmati Devi visited Ujjwal Bank to withdraw money from her mother Lajmati Devi's bank account. She claimed, "*my mother is 100 years old, and unable to come in person, due to severe illness. So, she has sent me on her behalf.*" But, Cashier refused to give money. He insisted for physical verification that mother Lajmati Devi is indeed alive & wishes to withdraw money. Next day, Daughter Phulmati placed her mother on a cot and dragged cot to the bank (बूढ़ी माँ को चारपाई पे लिटाकर, बेटी चारपाई घसीटते हुए बेंक तक आई). A bystander shot the video, which became viral on social media, drawing much criticism of the public against the bank's apathy towards poor people. (गरीबों के प्रति उदासीनता). As the chairman of Ujjwal Bank, how will you tackle this crisis and prevent its recurrence in future? (इस बेंक के चेयरमेन की भूमिका में आप इस संकट से कैसे निपटेंगे और भविष्य में इसकी पुनरावृत्ति को कैसे रोकेंगे?) (250 words)



Next Handout: Pillar1A2: Monetary Policy: CRR, SLR, Repo etc.