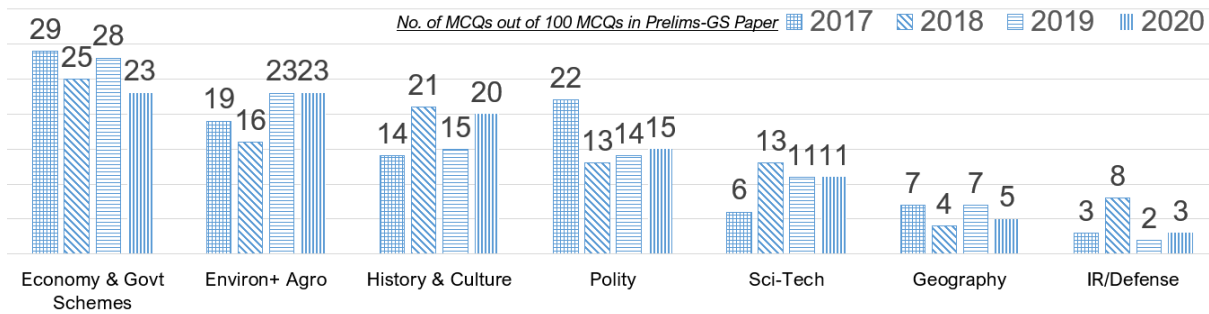




## Mrunal's Economy for UPSC & Other Competitive Exams 2021



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 जरूरी चीज समजते नहीं, और चिकनी-चुपड़ी बातें करनेवाले Baba-लोगों के 'अंधे-भक्त' बनके अपने age/attempt बर्बाद करते हैं।

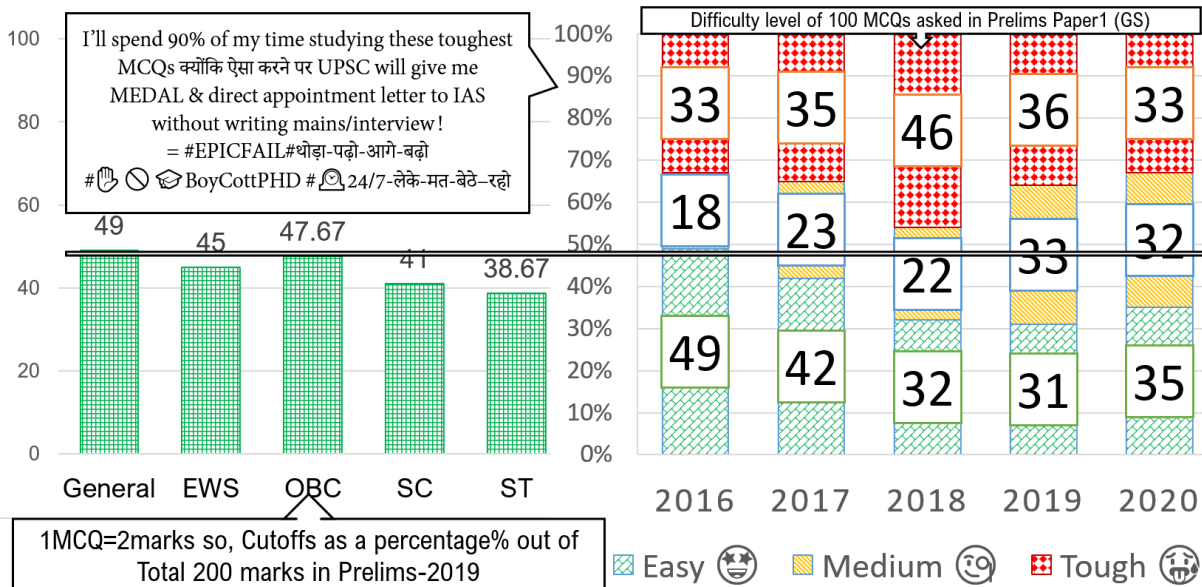


Figure 2: यानि की इधर Economy में हमको B.Com, M.Com, CA, BBA, MBA, PHD करना नहीं है! #थोड़ा-पढ़ो-आगे-बढ़ो #लेके-मत-बेठे-रहो

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

### 📢 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) Two pens of different colors 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 updates.
- 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-2021-63/BYTRF4K9> → click on 'updates' button → a sidebar will open → download from there.



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

(#) का मतलब है कि ये किताबें / PDF हिंदी में भी उपलब्ध हैं

### 🌐 Geography

- # NCERT: First class 11-12's four textbooks on physical, Indian & human geography. Then NCERT 7-10 Social Science- only those chapters not covered in Class 11-12.
- Geography Lecture in your [+] subscription
- Goh Cheng Leong: All ch EXCEPT 4 to 10.
- # Majid Hussain's Geography of India: All chapters EXCEPT 1, 4, 5, 6, 9, 14, 15, 16.
- # If time, IYB-2021\* ch. 1 and 30, else ignore.

### 🌾 Agriculture

- # NCERT Geography, Science Textbooks, Followed by Current Affairs (CA) related to Biotech
- Agri's Economy / Scheme / Budget angles → Mrunal's class & handout

### 🌿 Environment

- # NIOS PDF on Environment
- Shankar IAS's Book, # IYB21 Ch. 12
- # NCERT Chemistry Class 11: Ch. on Environ. Chemistry.
- # NCERT Biology 11-12: selective study of chapters related to flora-fauna, biotech

### 💰 Economy

- Theory, Contemporary, and Current issues from Mrunal's lecture series and its handouts.
- 🖱️ 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.

#### To improve vocabulary & expression skills for Mains:

- ☒ # NCERT Class 11 Indian Economic Dev.
- ☒ # After my course is over, read Introductions and conclusions of each chapter of vol1 of all economic surveys from 2015 onwards from <http://indiabudget.gov.in/>
- ☒ # Chief Editor's Desk (Preface page) of last 2 years' Yojana & Kurukshetra mags from [http://yojana.gov.in/Recent\\_archive\\_2019.asp](http://yojana.gov.in/Recent_archive_2019.asp) (URL mein change year number for previous Archives)

### 🏛️ Polity

- # Indian Polity by M.Laxmikanth
- # Governance in India by M.Kartikeyan for GSM2
- # IYB21: ch.2,3, 20, 28.
- Current Affairs: Notable judgements, Committees, Appointments.
- # PrsIndia.org: Passed Acts
- # (Selective) NCERT Socio and PolSci 11-12

### 🌐 International Relations (IR)

- Pavneet Singh's IR Book (selective study).
- Followed by CA from Newspaper/PDF/Mags.

### 📖 History-Culture

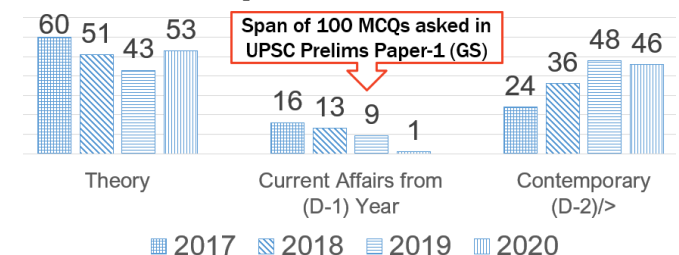
- 🖱️ No need for old NCERTs. Poor Cost:Benefit
- Refer to Tamilnadu (New Color Edition) Class 11-12, # New NCERT
- Freedom Struggle: i) (#)Spectrum for Prelims ii) (#)Plassey to Partition for Mains

### 🔬 Science Tech

- # Ravi Agrahari's Science-Tech book.
- (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.

### 🗞️ Current & Contemporary Affairs (CCA)

- Any one newspaper: Daily IndianExpress or theHindu. 🖱️ Not both! ☒ 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.
- Daily CA-Excel file at <https://Mrunal.org/current> [its primary utility is Mains & Ethics ke liye content points]
- Use any one FREE PDF/Mag compilation: Unacademy Articulate, VisionIAS, iasparliament, (#)DrishtiIAS, etc. from 1/1/2019 (Ref: Graph below)



- \* IYB-2021= India (yearbook) 2021 by Ministry of Info & Broadcasting to be published next year. Don't buy India 2020. Infact no need to buy even 2021's edition, just refer to free e-summaries on NET.



- **CSAT-Paper2:** Use any Paper-II Manual by McGraw-Hill, Arihant, Pearson, Disha etc. solve few MCQs from each section and/or the classes on Unacademy / Youtube.

































Table 1: 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	2016	2017	2018	2019	2020*	
1_Money Banking, Finance & Insurance	6	6	7	7	9	25	0	0	0	15	Most useful in Prelims but less in Mains
2_Budget, FC, GST	3	3	4	1	1	12.5	30	25	25	15	Second lowest utility after 5_Infra
3_Intl_Trade, BoP	11	4	4	7	7	25	0	30	0	15	Third lowest utility after 2_Budget.
4_Sectors, GDP, Inflation, Microeconomics	4	8	3	8	5	25	60	50	65	55	Useful for both prelims and Mains.
5_Infrastucture	2	4	1	3	1	37.5	10	15	15	15	Lowest utility among 6 pillars.
6_HRD	3	4	6	2	0	50	40	60	75	85	Useful for both prelims and Mains.
Total	29Qs	29Qs	25Qs	28Qs	23Qs	175m	140m	180m	180m	200m	

## 10 ECONOMY PILLAR #1-A1) MONEY: BARTER TO BITCOIN

10	Economy Pillar #1-A1) Money: Barter to BitCoin.....	3
10.2	Barter system & its disadvantages: (वस्तु विनिमय प्रणाली).....	5
10.3	Money: Functions of (पैसे के कार्य).....	5
10.4	Money: Evolution & Types (मुद्रा की उत्क्रांति व प्रकार).....	6
10.4.1	Commodity Money / वस्तु मुद्रा (Intrinsic value: अंतर्भूत मूल्य? Yes).....	6
10.4.2	Metallic Money / धातु मुद्रा (Intrinsic value? Yes).....	6
10.4.3	Paper Money / कागजी मुद्रा (Intrinsic Value? No).....	6
10.4.4	Legal Tender (वैधानिक निविदा).....	7
10.4.5	(New) Visually Handicapped (VH) friendly Coins, 2019-March.....	8
10.4.6	RBI's App to help the blind identify currency notes.....	8
10.4.7	(NEW) Mahatma Series Currency Notes in India.....	9
10.4.8	"I promise to pay the bearer...": Meaning of this promise?.....	9
10.5	Redenomination: drop zeros, change name.....	10
10.5.1	Iran = Toman to replace Iranian Riyal (2020).....	10
10.6	Bank Money / Deposit Money.....	10
10.6.1	Paper orders: Cheque, Demand Draft (DD).....	10
10.6.2	Cheque → NPCi's Cheque Truncation System (CTS-2010).....	11



10.6.3	  Cheque → Positive Pay Mechanism for Cheques .....	11
10.7	  Electronic Orders / Digital payment .....	12
10.7.1	 CBS ( full form: Core Banking Solution / हिन्दी अनावश्यक) .....	12
10.7.2	 Next Generation Treasury Application (NGTA), 2020-Oct .....	12
10.7.3	  Interoperability Problem (इंटरोऑपरेबिलिटी) .....	13
10.8	 What is NPCi? .....	14
10.8.1	QR Codes: compulsory to implement UPI/Bharat QR from 2022 .....	15
10.8.2	 Perpetual Licence for Payment System Operators? .....	15
10.8.3	 New Umbrella Entity (NUE) for Retail Payments System (2019) .....	16
10.8.4	 Google Gpay / Tez App .....	16
10.8.5	 Digital Payment- Misc: → Semi-closed PPI (2019) .....	16
10.9	 Credit & Debit Cards (also called 'Plastic Money') .....	17
10.9.1	 Card Types based on Security Features: (सुरक्षा प्रणाली के हिसाब से कार्ड के प्रकार) .....	18
10.9.2	 Card Tokenization (RBI allowed it, 2019) .....	18
10.9.3	 National Common Mobility Card (NCMC, 2019) .....	18
10.9.4	 FASTag for paying toll fees at highways (2017) .....	18
10.9.5	 ATM and its Types .....	19
10.10	 MDR: Full form: Merchant Discount Rate (व्यापारिक छूट दर) .....	19
10.11	 Measures to promote Less-Cash Economy .....	20
10.11.1	 RBI's Nandan Nilekani Panel (2019: Jan to May) .....	21
10.11.2	 Payments Infrastructure Development Fund (PIDF) 2020-Jun .....	22
10.11.3	 Scheme of Offline Retail Payments Using Cards and Mobile Devices .....	22
10.11.4	 Payment and Settlement Systems in India: Vision 2019 – 2021 .....	22
10.11.5	 RBI Digital Payments Index (DPI: डिजिटल भुगतान सूचकांक) .....	22
10.12	 Digital Payment Regulatory bodies .....	22
10.12.1	 Digital Transactions Ombudsman (2019) .....	22
10.12.2	 (Proposed) Payment Regulatory Board (PRB) .....	22
10.13	 Crypto-Currency & Blockchain Technology .....	23
10.14	 Cryptocurrency legal status: → India .....	24
10.14.1	 Cryptocurrency & India → RBI ban revoked by SC .....	24



10.14.2	India → 🇮🇳 🌐 🌱 Banning of Cryptocurrency Bill, 2019.....	25
10.14.3	🌐 🌱 Cryptocurrency usage outside India (विदेशों में क्रिप्टो मुद्रा का प्रयोग) .....	25
10.14.4	🌐 🌱 🏆 Cryptocurrency → Stable-coins.....	26
10.14.5	🌐 🌱 🏆 Cryptocurrency → Stable-coins → Facebook's Libra .....	26
10.15	🏆 🌐 🌱 Central Bank Digital Currency (CBDC) .....	26
10.15.1	🏆 🌐 🌱 = 🌱 🌱 Benefits of CBDC (फायदे) .....	27
10.15.2	🏆 🌐 🌱 = 🌱 🌱 Challenges of CBDC (चुनौतियाँ) .....	27
10.15.3	🏆 🌐 🌱 📝 CBDC: Conclusion (निष्कर्ष) .....	27
10.16	📝 Essay: Cashless Economy- Charms and Challenges.....	28
10.16.1	📝 Conclusion: Cashless Economy (निष्कर्ष) .....	29
10.16.2	📝 🌱 🌱 🌱 🌱 Mock question for Mains/ESSAY .....	29

## 10.2 🏠 🌱 BARTER SYSTEM & ITS DISADVANTAGES: (वस्तु विनिमय प्रणाली)



Barter system was introduced by **Mesopotamian** tribes. Barter system has following disadvantages:

- 🏠 Double co-incidence of Wants (आवश्यकताओं का दोहरा संयोग).
- 🏠 Search Cost & Transaction cost is high. (सही दाम पर चीज ढूँढने 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).
- 🏠 Fungibility problems:
  - **Fungible item**= Division & Mutual substitution possible e.g. 1kg gold bar = 100gm x 10 smaller bars, Currency Notes.
  - **Non-fungible items** example: Diamonds, Shares-Bonds of different companies.

## 10.3 📏 MONEY: FUNCTIONS OF (पैसे के कार्य)

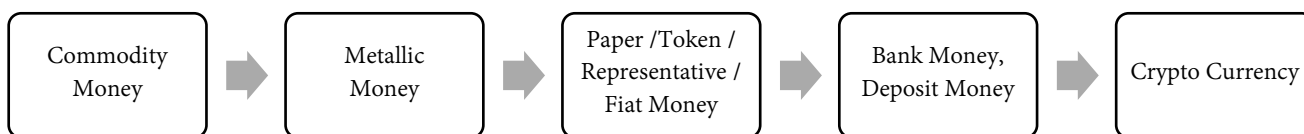
Primary [प्राथमिक] 2functions	Secondary (S-T-D) [सहायक] 3functions	Contingent [प्रासंगिक] 3
1. 📏 <b>Measure of Value</b> (मूल्य का मापक). gm=wt, ml=vol, ₹=value 2. 🔄 <b>Medium of Exchange</b> (विनिमय का माध्यम). Buy & Sell goods and services using money as the 'medium'.	1. 🏠 📏 <b>Store of Value</b> (मूल्य का संचय) 2. 🚚 <b>Transfer of Value</b> (मूल्य का स्थानांतरण). Soldier in Kashmir to parents in Kanyakumari 3. 🏠 📏 <b>Deferred Payments</b> (स्थगित भुगतानों का मानक). E.g. Buy iphone12 @₹3177 only per month x 36 months' Equated Monthly Installments (EMIs) = ₹1,14,372.	1. Basis of <b>credit</b> system, Financial markets (share, bond etc.: More in 📖 <b>Pillar#1C-sharemarket</b> ) वित्तीय बाजार का आधार है पैसा 2. Employing <b>factor of production</b> i.e. Land, Labour, Capital ( <i>More in 📖 <b>Pillar#4C</b></i> ) उत्पादन के कारक 3. Creation & Redistribution of <b>National Income</b> via <b>taxation</b> .





Primary [प्राथमिक] 2functions	Secondary (S-T-D) [सहायक] 3functions	Contingent [प्रासंगिक] 3
	Actual price is ₹79,900, but ₹34,472 extra Interest.	(Pillar#2) राष्ट्रीय आय का पुनःवितरण करने में मदद

## 10.4 MONEY: EVOLUTION & TYPES (मुद्रा की उत्क्रांति व प्रकार)



### 10.4.1 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।

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

- ⇒ Traders & Kings stamped their marks on gold nuggets for uniformity & trust.
- ⇒ Indo Greek kings & Kushana kings issued gold coins, but Gupta Gold coins most spectacular- king is playing Veena, shooting animals, standing with wife, taking selfies.
- ⇒ 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 चीजे 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 Indian Art & Culture (2<sup>nd</sup> Ed.) Ch.23 OR (3<sup>rd</sup> Ed.) Ch.24. IF you don't have the book, then ref: NCERT & TN History Textbooks.


Table 2: Types of Coins



Gupta Coin: ~8 gm GOLD



50 paisa modern coin: ~4 gm steel



Full Bodied Coins	Token Coins (प्रतीककात्मक)
Intrinsic Value (अंतर्भूत मूल्य) is Equal to or MORE than its Face Value (अंकित मूल्य)	LESS. (धातु एकदम सस्ती वाली इस्तेमाल करते हैं या बहुत ही कम वजन की धातु इस्तेमाल करते हैं)
Challenge? ⇒ <b>Debasement:</b>  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	⇒ <b>1330s:</b> Tughlaq's Token coin experimentation = #EPICFAIL (Why? Prepare in History subject). ⇒ Modern Indian coins are token coins. Cupronickel metal used to discourage melting. <b>Coinage Act 2011</b> prohibits melting of coins.

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

**Fiat money (वैधानिक मुद्रा):** It **MUST** fulfil two conditions **SIMULTANEOUSLY**: दो शर्तों का एकसाथ पालन होना चाहिए।



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

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

☞ **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 में दिया है उतना परीक्षा के लिए # 🙏 थोड़ा-पढ़ो-आगे-बढ़ो

#### 10.4.4 📌 Legal Tender (वैधानिक निविदा)

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

1. It must be a FIAT MONEY (जो हमने ऊपर के सेक्शन में पढ़ा). **AND SIMULTANEOUSLY**
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 3: fiat money and legal tender in India



ITEM	A) Is it in form of a physical coin OR physical Note OR Digital Coin	B) Is it issued by Central Bank / Govt / King / Queen	C) Result: Is it Fiat money? (YES If Both Cell A+B give <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> )	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 <input checked="" type="checkbox"/> + <input checked="" type="checkbox"/> )
₹ Indian Rupee: Coins & Notes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Demonetized</b> (विमुद्रीकृत) ₹500, ₹1000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	🚫	🚫
Dollar\$, Yuan, Yen, Euro etc	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	🚫	🚫
G-Sec, T-Bill	🚫	<input checked="" type="checkbox"/>	🚫	🚫	🚫
Shares, Bonds, DD, Cheque, ATM, Cards, Kirana coin, Casino coin, Filmstar-Notes	🚫	🚫	🚫	🚫	🚫
Bitcoins	<input checked="" type="checkbox"/>	🚫	🚫	🚫	🚫
Marshall Island: SOV Venezuela: Petro	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	🚫	🚫

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



Table 4: Fiat Money: Two types of legal tenders

A) 🚫 Limited legal tenders (सीमित वैधानिक निविदा)	B) ∞ Unlimited legal tenders: (असीमित वैधानिक निविदा)
	
Payment beyond a limit can be refused.	No such restriction.
<ul style="list-style-type: none"> <li>- Coinage Act 2011</li> <li>- Rs. 1 / above → upto Rs.1000</li> <li>- 50 paisa x 20 coins → upto Rs.10</li> <li>- Below 50 paisa withdrawn (2011)</li> </ul>	<ul style="list-style-type: none"> <li>- RBI Act 1934 - Section 26: Every bank note is legal tender in India.</li> <li>- They can be used for settling any amount of debt in India**, lender can't refuse to accept it.</li> </ul>

\*\*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**.

🧩 ? MCQ: Which one of the following correctly describes the meaning of legal tender money? (Pre-2018)

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

🧩 ? MCQ: Consider the following statements (Asked in UPSC-CDS-2011-II)

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

Which of the statements given above is/are correct?

- Only 1
- Only 2
- Both 1 and 2
- Neither 1 nor 2

#### 10.4.5 🧑🦯 (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), grains/agro motifs, no serration on edges.
- ✓ Remaining coins are round shaped. (गोलाकार सिक्के)

#### 10.4.6 🧑🦯 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,
- IIT Ropar developed Roshni App.

**Separately, 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),
- Developed by **Daffodil Software company** has developed it for RBI. If a user is both blind and deaf, the app will identify note by giving different set of vibrations.





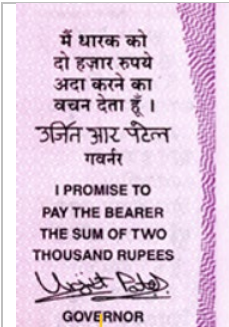

#### 10.4.7 (NEW) Mahatma Series Currency Notes in India

Note	What image is given in this currency note? (इस नोट में 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, 2013
New rupee symbol	₹: through competition by Dept of Eco.Affairs in 2010. Designed by D.Udaya Kumar, an Associate Professor @IIT Guwahati.
Nation Symbol	- Lion Emblem: Sarnath Pillar, Uttar Pradesh से लिया गया है - “Satyamev Jayate”: 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)
Museum	Budget-2020: a museum on numismatics and trade (सिक्काशास्त्र 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://paisaboltahai.rbi.org.in>


#### 10.4.8 “I promise to pay the bearer...”: Meaning of this promise?

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

	<b>Colonia 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.

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

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

- ⇒ 8/Nov/2016: FinMin → Dept of Economic Affairs gazette 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.



## 10.5 🧐💰🏠👤 REDENOMINATION: DROP ZEROS, CHANGE NAME



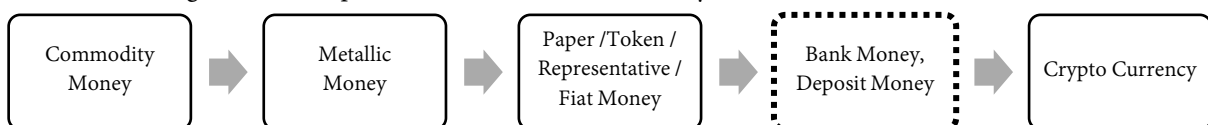
Figure 3: expression when you need 2.5 lakh riyal for a box of eggs 🧐

- ⇒ Inflation (मुद्रास्फीति/मंहगाई) 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]
- ⇒ **REDENOMINATION** involves removing zeros from currency's face value, to facilitate transactions during high inflation. (मुद्रा नोट 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.
- ⇒ But 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
  - 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.

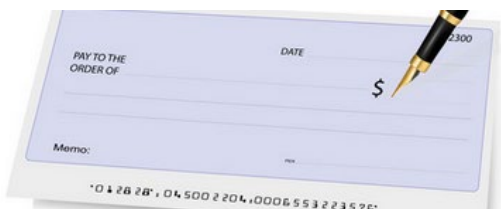
### 10.5.1 🧐💰🏠👤 Iran = Toman to replace Iranian Riyal (2020)

Iran suffering from

- ⇒ 1) High levels of inflation. 1 box of eggs cost ~250,000 Iranian rials.
- ⇒ 2) Weak exchange rate (कमजोर विनिमय दर). \$1 costs ~42,000 Iranian rials. [More in 📖 Pillar3A lecture]
- ⇒ 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 Riyal. It will be replaced with TOMAN gradually in the next 2-5 years. 😊 **Benefit?** Ease of carrying currency and making transactions.
- ⇒ Similar thing was done in past in Zimbabwe (2006) but very old GK NOT.IMP.# 🧐 थोड़ा-पढ़ो-आगे-बढ़ो



## 10.6 🧐💰🏠👤 BANK MONEY / DEPOSIT MONEY



### 10.6.1 🧐💰🏠👤 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).
- 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, 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 पिन कोड किसी इलाके को चिन्हित करता है)
- **MICR code:** Magnetic Ink Character Recognition. 9 digits code written in Iron Oxide ink for automated clearance.
- **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 Pillar1D: Financial Inclusion*).
  - o **Overdraft** is mainly for short-term operating expenses. (अस्थायी रूप से लघु अवधि के लिए कर्ज में पैसा उठाना)
  - o **Loans** is mainly for longer term higher value expenses. (दीर्घ अवधि के लिए मोटी रकम का कर्ज लेना)

#### 10.6.2 🐱👉 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. MICR readers NOT required.

#### 10.6.3 🐱👉👉 Cheque → Positive Pay Mechanism for Cheques

Suppose Roman (Axis Bank, Bengaluru) sends ₹50,000 cheque to Mrunal (SBI, A'bad)

	Cheque clearance B4 2021	😊 Positive Pay Mechanism (Extra-steps)
<b>Sender (Roman)</b>	Roman writes check, gives to recipient Mrunal	Roman (issuer) clicks cheque's photo (📷IMAGE#A) & uploads on Axis Bank's App / Bank's Webportal or send details via SMS2Axis ke "I've given this cheque number-X with Amount-Y to Mrunal on Date-Z"
<b>Recieipient (Mrunal)</b>	Deposits cheque in SBI, A'bad	Same
<b>Recipient's Bank (SBI)</b>	SBI staff sends scans cheque → sends (📷IMAGE#B) to Axis via NPCi's CTS	Same
<b>Sender's Bank (Axis)</b>	Receives msg via CTS, → verifies (📷IMAGE#B) → releases ₹₹	Axis crosschecks whether 📷IMAGE#B = 📷IMAGE#A? If, no mismatch/discrepancy → releases ₹₹
<b>Benefit?</b>	🤖 What if Mrunal (recieipient) manipulated/tempered cheque to encash more amount?	😊 Positive Pay Mechanism prevents such tempering / fraud. चेक में लिखी रकम में छेड़खानी करके मृणाल, रोमन के बैंक खाते से पैसा गबन नहीं कर सकता

⇒ 2016: ICICI Bank introduced Positive Pay for its customers.

⇒ 2020: RBI has ordered all banks to implement it from 1/1/2021 onwards. (🕒 Exact DATE NOT IMP)

- o (Optionally available to customers) for amounts above ₹50,000/- (🕒 Exact AMT NOT IMP)
- o (Compulsory required) IF amount = ₹5 lakh and above. (🕒 Exact AMT NOT IMP)



## 10.7 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)



### 10.7.1 CBS ( full form: Core Banking Solution / हिन्दी अनावश्यक)

It is a banking software with web-platform for centralized data management & branch-less banking. E.g. Finacle (by Infosys, used in PNB); BanCS (TCS); E-Kuber (RBI)

### 10.7.2 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. #  थोड़ा-पढ़ो-आगे-बढ़ो

### ? 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

 Type	RBI’s RTGS: Real Time Gross Settlement	 RBI’s NEFT: National Electronic Funds Transfer	NPCI’s IMPS: Immediate Payment Service
 Transfer Amount	Min ₹2 lakh to ₹2000 crores (SBI).	upto ₹10 lakhs (SBI).	₹ 1 to maximum ₹2 lakhs (SBI)
 Target customers	Bizmen wanting high value transactions instantly	Ordinary retail customers	
 Settlement mechanism	 Instant settlement (इंस्टेंट/तुरंत निपटारा)	- Settles net amount between banks at interval of 30 min.	 Instant settlement
 Timing	<b>BEFORE:</b> Only working days 8AM to 5:30PM(SBI)  <b>From 2020-Dec:</b> 24/7	- <b>BEFORE:</b> from 8 am to 7 pm on working days. - <b>From 2019-Dec:</b> NEFT operates on 24/7 basis.	24/7 on all days (दिन रात अविरल रूप से)
 Fees	fee + GST**		fee + GST#





Type	RBI's RTGS: Real Time Gross Settlement	RBI's NEFT: National Electronic Funds Transfer	NPCI's IMPS: Immediate Payment Service
Who can provide this facility?	Only Banks can provide this facility as it requires IFSC branch code.		Banks + (PPI) / mobile-wallet cos like Phonepe, Mobikwik

⇒ \*\* 2019-Jul, RBI fees & asked banks to pass benefit to customers. → 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)

**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. "सर आपने बोल phonePe App में 'x' चीज नहीं हो सकती, लेकिन मेने try किया तो अब हो सकती है, तो आपने ऐसा क्यों बोला की वो नहीं हो सकती?" जवाब: भाई वो सिर्फ आपको concept को उदाहरण से समझाने के लिए है। UPSC asking only general broad MCQs from this. If they ask technical, then goto page1, Fig#2. # थोड़ा-पढ़ो-आगे-बढ़ो

### 10.7.3 Interoperability Problem (इंटरोऑपरेबिलिटी)

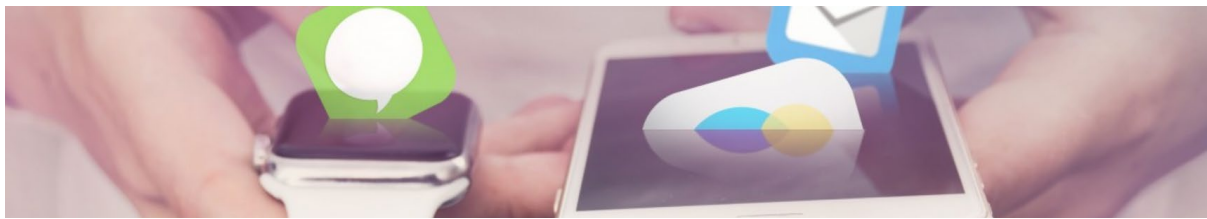


Figure 4: can't connect Apple Watch to Android Phone

- ⇒ (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 इंट्रोऑपरेबिलिटी नहीं थी
- ⇒ This is an obstacle to 'cashless-economy'. So, 2018-October, RBI issued guidelines for interoperability in a gradual / phase wise manner. चरणबद्ध तरीके से इस सुविधा को लागू करने के लिए दिशा निर्देश दिए,

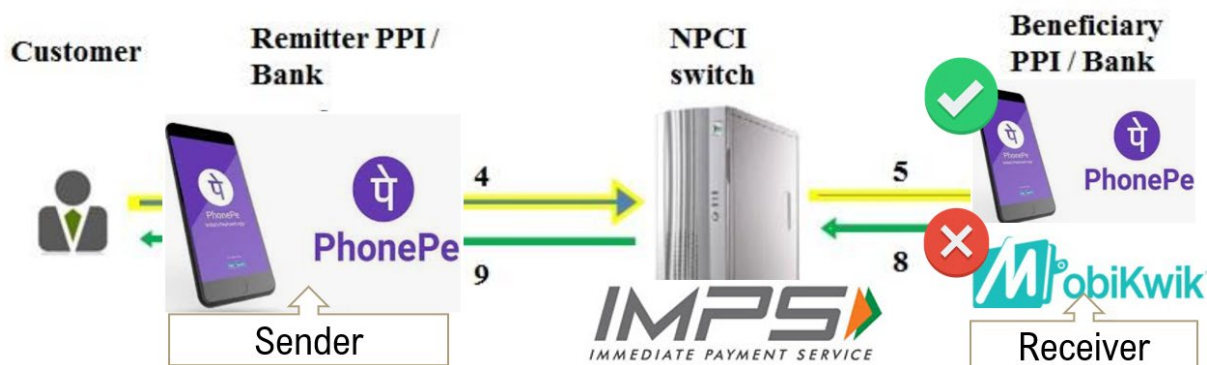


Figure 5: in above diagram, interoperability is absent







## 10.8 WHAT IS NPCi?

- ⇒ 2008: National Payment Corporation of India is a “Not for Profit Company” registered under Company Act. Originally it was founded by 10 banks with ₹ 100cr capital. 2020-Dec: Paytm, PhonePe, Amazon Pay etc also became shareholders of NPCi
- ⇒ Objective? Provide 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)

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

<b>BBPS</b>	Bharat Bill Payment system for automated monthly payments of utility bills (gas, electricity etc.)
<b>NACH</b>	National Automated Clearing House for bulk monthly payments of utility bills, dividends, salaries, pension / insurance premiums etc.
<b>NFS</b>	National Financial switch runs the ATM network, IMPS, UPI and BHIM
<b>CTS</b>	Cheque Truncation System (2010) learned in previous section
 <b>UPI 1.0</b> (2016)	<b>Full Form: Unified Payment Interface</b> It's a technology for building digital payment apps based on IMPS with following features: ⇒ QR Scan & Pay to merchants. ⇒ You can link Current Account (CA) Savings Account (SA) for direct transfer of money without storing in 'wallet' first. (unlike AmazonPay / Mobikwick etc) ⇒ 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. ⇒ <b>Examples of UPI based app:</b> SBI's SBIBuddy, Axis Bank's AxisPay and NPCi's own BHIM. ⇒ <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. # थोड़ा-पढ़ो-आगे-बढ़ो
 <b>BHIM</b> (2016)	<b>Full form: Bharat Interface for Money (remember this Fullform for exam!)</b> ⇒ It works on Android, iOS/Apple mobiles as an APP, ⇒ Works even on non-smart (=basic feature) phones using *99# USSD-Unstructured Supplementary Service Data. ⇒ 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. ⇒ Your money stays in bank account and earns interest. It's not stored in 'wallet' outside your bank account' as it happens in Mobikwick, 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.) ⇒ No cards involved so no MDR or such hidden charges. ⇒ <b>Sweden:</b> “Swish” app to make their country 100% cashless by 2020.
<b>RuPay</b> (2016)	⇒ Rupee + Payment = RuPay card is world's 7th payment gateway similar to Mastercard, Visa card, China's Union Pay- but at less service charges. ⇒ Works in <b>3 channels:</b> ATM, Point of Sale Device (PoS/card reader machine), Online portals.



	⇒ Used by banks, railway and even Dairies (to pay ₹ to milk depositor farmers). ⇒ Rupay debit card given free with PMJDY (Jan Dhan) Bank account. ⇒ 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.
<b>AEPS</b>	⇒ Useful for Direct Benefit Transfer (DBT: प्रत्यक्ष हस्तांतरित लाभ) into beneficiary's account for MNREGA wages, LPG subsidy, scholarship etc. 📄 More in Pill#6 ⇒ It's also required for Bankmitra-MicroATM system.
<b>NETC</b>	⇒ National Electronic Toll Collection provides backend technological support to the FASTag toll collection.
<b>PAI chatbot</b>	Artificial Intelligence (AI) based chatbot to reply to people's online queries about NPCI's products like FASTag, RuPay, UPI, AePS etc.
<b>BharatQR(2016)</b>	Developed by NPCi with help of Visa and Mastercard.
<b>DakPay (2020)</b>	Payment App by Department of Post and its India Post Payments Bank (IPPB)

#### 10.8.1 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-पढ़ो-आगे-बढ़ो

<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.
<b>UPI QR code</b>	Generated by UPI app of NPCi
<b>Bharat QR code</b>	Developed by NPCi with help of Visa and Mastercard.

⇒ 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. RBI has prohibited them from launching any new proprietary QR code.

⇒ 😊 Benefit? All Payment apps will be able to scan these QR codes → 'interoperability'.

#### 10.8.2 🏠📄📅 Perpetual Licence for 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 backend digital infrastructure for share/bond/foreign currency deals etc. (📄 Ref: HDT-Pillar#1C)

#### 2020-Oct: RBI introduced following reforms in PSO-licence validity

🤖 Before	😊 After (2020-Oct)
📄📅 License validity= 5 years.	📄🔄 Perpetual License = valid for infinite time period. (सदा के लिए/ सतत अवधि के लिए मान्य लाइसेंस)



Afterwards, RBI may renew again. हर 5 साल पर लाइसेंस का पुनः नवीनीकरण कराना पड़ता था 🤖	
⇒ Company owner's uncertainty: whether my licence will be renewed or not? 🤖	⇒ Ease of Doing Biz. Now company owner can focus on his business peacefully. 😊 (व्यापार में सुगमता/ आसानी/ निश्चिता)
⇒ RBI officers' time also wasted in processing the files / docs every 5yrs.	⇒ RBI officers' time saved. (रिजर्व बैंक ऑफ इंडिया के अफसरों के समय की बचत)

### 10.8.3 🛂 New Umbrella Entity (NUE) for Retail Payments System (2019)

- ⇒ Presently, Paytm has rival companies like Mobikwick, Phonepe; Mastercard vs Visa; SBI vs Axis Bank; but there is no rival company against NPCi. उसका 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-2018]

1. National Payments Corporation of India (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

### 🛂 ? 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

### 10.8.4 🛂 Google Gpay / Tez App

- ⇒ Google Pay (GPay, formerly called 'Tez') is an App by Google for online payments.
- ⇒ As such, Payment Service Operators need to register with RBI under Payment and Settlement Systems Act, 2007. But google functioned without such authorization. बिना आरबीआई के लाइसेंस/ 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....

### 10.8.5 🛂 Digital Payment- Misc: → Semi-closed PPI (2019)

Prepaid Payment Instrument (PPI: प्रीपेड भुगतान साधन) is a money storage and transfer tool. It can be used to buy goods and services; & sending ₹ to friends, family, etc.

- ⇒ Eg. Paytm Wallet, Airtel Money, PhonePe, Mobikwik, Amazon Gift card, Railway prepaid cards etc.
- ⇒ RBI regulates them under Payment and Settlement Systems Act 2007



⇒ **2019-Dec:** RBI introduced a new type of semi-closed prepaid payment instrument (PPI) : how its features are different than regular PPI? ANS. NOT IMP. # 🕒 थोड़ा-पढ़ो-आगे-बढ़ो

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

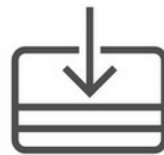


Table 8: 📠 Card Types based on Payment modality



1) Credit Card (एक प्रकार से कर्ज पे शॉपिंग)	2) Debit Card (अपने बैंक बचत का पैसा इस्तेमाल करो)
<p>⇒ 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</p> <p>⇒ Customer does shopping using credit card → bank transfers ₹ ₹ to merchant from bank's own funds and later bank recovers ₹ ₹ from customer.</p> <p>⇒ Customer can pay entire due amount at once or convert it into Equated Monthly Installments (EMI). बकाया रकम किश्तों में भुगतान कर सकता है</p> <p>⇒ Interest rate may be charged depending on billing cycle, grace period and other terms and conditions 🎓 PhD करने की हमको जरूरत नहीं है.</p>	<p>- 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</p> <p>- 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</p> <p>🎓 PhD/Hairsplittery unnecessary for IAS 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>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>- 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 स्पून फीडिंग करेगा वह विद्यार्थी के मानसिक विकास के लिए अच्छी बात नहीं</p>

⇒ **3) Hybrid Card / Duo Card:** Single card containing 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. While debit card is linked to a given bank account, a person can buy pre-paid card 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। लेकिन बैंक खाता होना जरूरी नहीं । )



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

1. **Magnetic Card:** 60s 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.

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

### 10.9.2 Card Tokenization (RBI allowed it, 2019)

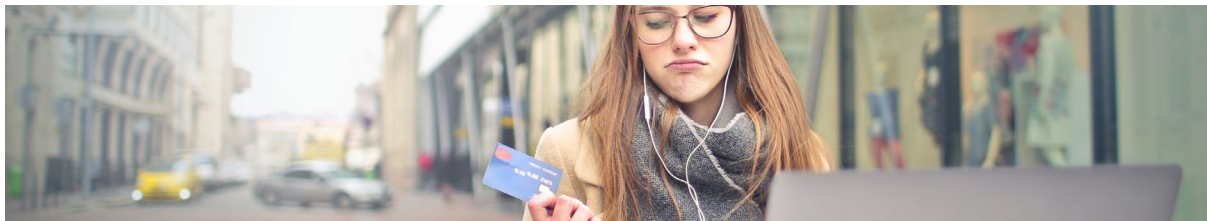


Figure 6: Thappad se darr nhi lagtaa, Identity theft se lagtaa hai!

- ⇒ Amazon, Paytm & other sites / app allow users to store their card information (owner's name, card number, expiry date) so next transaction can be finished faster without having to re-type those details.
- ⇒ But such facility also exposes customer to hacking, privacy, identity theft, misuse so, Tokenization = Token number is generated for a given credit/debit card.
- ⇒ Card customer gives the token number during any type of online / physical shop transaction → so his original card number, its expiry date etc. are masked/hidden from the third party seller / wallet / app / portal = more security and privacy.

### 10.9.3 National Common Mobility Card (NCMC, 2019)



Figure 7: NCMC card unboxing ka video bhi youtube & Instagram pe daalte hai!

Ministry of Housing & Urban Affairs (MoHUA) got India's 1st indigenously developed 'One Nation One Card Model' with the help of NPCi, Bharat Electronics Limited (BEL), CDAC and some banks. It has 3 components:

- ⇒ 1) **NCMC Card:** To be issued by banks. Nature can be Debit/Credit/Prepaid. Can be used for metro, bus, suburban railways, toll, parking, smart city payments and retail shopping.
- ⇒ 2) **SWEEKAR:** Automatic Fare Collection System. (यात्री किराया वसूलने की स्वचालित प्रणाली)
- ⇒ 3) **SWAGAT:** Swachalit / Automated Gate at railway/bus station.

### 10.9.4 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 vehicle manufactures to install RFID tags on windcreens.





- 2017: National Highways Authority of India (NHAI, a statutory body under Highways ministry) launched 2 mobile apps **MyFASTag** and **FASTag Partner** to facilitate Electronic Toll Collection (इलेक्ट्रॉनिक पथकर/टोल वसूली).
- 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 = faster traffic movement. (and **hidden benefit**: tracking of vehicle theft, criminal's movement etc.)
- FASTag is vehicle specific and once it is affixed to a vehicle, it cannot be transferred to another vehicle. It has validity of 5 years.
- NPCi's has **National Electronic Toll Collection (NETC)** provides technological support.
- Highways Ministry is also trying to bring **inter-operability** (आंतरसंचालनीयता) of the FASTags i.e. single FASTag can be used for paying ₹
  - at State Highways Toll Plaza (under State Governments' purview) as well as
  - at National Highways Toll Plaza (under Union Government's purview).
- From middle of 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.

### 10.9.5 ATM and its Types



- ⇒ Automated Teller Machine (ATM) allow bank customer to withdraw money or check balance without visiting any branch of a bank.
- ⇒ ATM network works on NPCi's NFS (National Financial Switch).

<b>Bank label</b>	Bank itself owns and operates the ATM network.
<b>Brown label</b>	Bank owns but operations outsourced (cash refilling truck, guard) <ul style="list-style-type: none"> <li>- <b>Note:</b> Some books offer different definition, but I've taken above from <i>Economic Times Article 2015</i>.</li> </ul>
<b>White label</b>	Non-Bank owns and operates. E.g. Muthoot Finance, Tata Communication, Prism <ul style="list-style-type: none"> <li>⇒ In 2012: RBI invited application, 4 companies given license.</li> <li>⇒ From 2013-19 no new applications invited.</li> <li>⇒ <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 doesn't have to wait for applying (unlike IAS exam notification).</li> </ul>
<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 to examine ATM charges by banks-such BankingGK #notIMP4IAS.

### 10.10 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.



⇒ 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

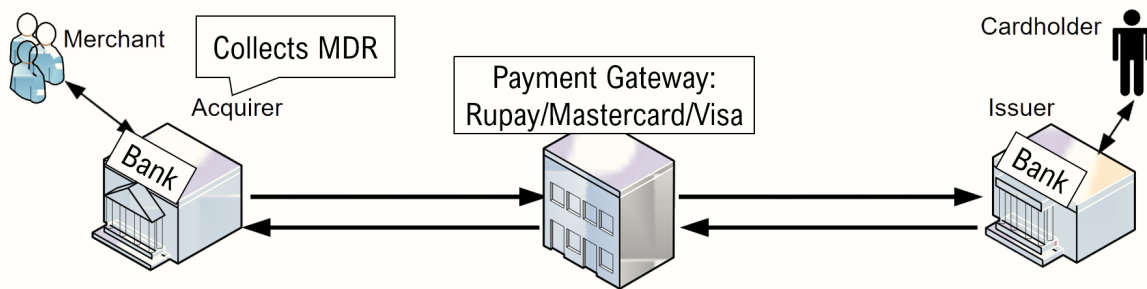


Table 9: Steps taken to address MDR issue

<b>RBI</b>	⇒ 2017: Imposed ceilings on MDR fees i.e. MDR can't be more than "x%" of the transaction amount.
<b>MEITY</b>	⇒ WEF 1/1/18: <b>Ministry of Electronics &amp; Information Technology (MEITY)</b> started MDR-subsidy to acquirer bank on bills upto ₹ 2,000, if payment made via Debit Card ⇒ Scheme valid for 2 years. ⇒ 😊 <b>Direct benefit:</b> Encourage digital payments ecosystem. ⇒ <b>Indirect Hidden benefit:</b> Datamining of tax evading merchants
<b>Budget</b>	⇒ <b>Nirmala.S's Budget-2019:</b> If biz.firm turnover > ₹ 50 crore → It must provide facility to accept Rupay debit card and UPI QR code. (Else penalty under Income Tax Act) ⇒ NO MDR on such transaction. ⇒ RBI and Banks will absorb this 'burden' as a benefit of not handling so much cash. (Payments and Settlement Systems Act, 2007 rules amended for this part).

^ऐसी सब तकनीकी चीजों का हिंदी तैयार करने की कोई जरूरत नहीं. Mains में आसान भाषा में लिख दो, "डिजिटल भुगतान को प्रोत्साहन देने के लिए सरकार ने एमडीआर फीस का बोझ कम करने के लिए सब्सिडी और अन्य कदम उठाए हैं।"

## 10.11 🏠 🏢 🏠 📈 MEASURES TO PROMOTE LESS-CASH ECONOMY

⇒ During 2016-17 in the aftermath of Demonetization (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 referral bonus, 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 by Nirmala.S:** 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 लगेगा)



Table 10: Awareness campaigns for Digital Payments- *DONOT lose Sleep. बहोत ज्यादा उपयोगी नहीं है।*

<b>Digidhan Mission (2017)</b>	<p>⇒ Ministry of Electronics and Information Technology (MeitY), to create awareness about digital payments. It'll expire on 31/3/2020, unless renewed further.</p> <p>⇒ MEITY also launched a <b>DIGIDHAN DASHBOARD</b> web portal to monitor the digital transactions in India.</p>
<b>Digital Payment Abhiyan (2019-Sept)</b>	<p>⇒ MEITY + Google India + Data Security Council of India (DSCI, a not-for-profit organization by NASSCOM)</p> <p>⇒ They launched this nationwide awareness campaign for digital payment- how to use UPI, wallets, cards, online banking etc</p>

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



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

##### Suggested Reforms @Government

- ⇒ Under Direct Benefit Transfer (DBT: प्रत्यक्ष लाभ अंतरण) mechanism, Government transfers subsidies and payments directly to bank accounts of poor people.
- ⇒ 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.
- ⇒ Give companies tax incentives (कर प्रोत्साहन) for using digital payments.
- ⇒ reduce taxes on the devices required for digital payments.
- ⇒ 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

- ⇒ 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 an **Acceptance Development Fund** (डिजिटल भुगतान स्वीकृति विकास निधि) to develop digital payment infrastructure in poorly served areas e.g. subsidy on PoS devices. RBI and Banks should co-contribute ₹ in this fund.
- ⇒ Reduce the MDR / card payment fees. Allow customer to do "x" no. of digital payment transactions per month with zero charges.
- ⇒ RBI should make NEFT available 24/7 and remove its fees. (2019-20: RBI removed charges on both NEFT and RTGS and asked the banks to pass on the benefits to customers.)

##### 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.

Nilekani also suggested many other technical reforms but notimp4exam

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)

- (a) H.R.Khan                      (b) Nandan Nilekani                      (c) N.R.Narayana Murthy                      (d) Sanjay Jain









### 10.11.2 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.


भुगतान इंफ्रास्ट्रक्चर के लिए निधि/कोष: गांव, छोटे शहरों और उत्तर-पूर्वी इलाकों में व्यापारियों को कार्ड मशीन अपनाने के लिए मदद

### 10.11.3 Scheme of Offline Retail Payments Using Cards and Mobile Devices

- While mobile phones, cards, e-wallets, etc.  but, internet connectivity issues especially in remote areas= obstacle to digital economy  
- So, 2020-Aug: RBI announced trials /pilot-testing for Off-line payments through cards, wallets and mobile devices for small value transactions. (इंटरनेट बंद हो तब भी छोटी रकम के भुगतान डिजिटली किए जा सके, इस प्रकार के परीक्षण आरबीआई करवा रहा है.)
- How this thing really works is not important for the scope of the exam. #   

### 10.11.4 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, then

[rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921](http://rbi.org.in/Scripts/PublicationVisionDocuments.aspx?Id=921)

### 10.11.5 RBI Digital Payments Index (DPI: डिजिटल भुगतान सूचकांक)

- ⇒ With 5 component: (i) Payment Enablers (weight: भारांक 25%), (ii) Payment Infrastructure – Demand-side factors (10%), (iii) Payment Infrastructure – Supply-side factors (15%), (iv) Payment Performance (45%) and (v) Consumer Centricity (5%).
- ⇒ Base Year 2018@100, then annual growth measured in Digitisation of payments. (आधार वर्ष के सामने डिजिटल भुगतान के विभिन्न मानकों में कितनी बढ़ोतरी हुई)
- ⇒ Report will be published 4-4 months.

## 10.12 DIGITAL PAYMENT REGULATORY BODIES

### 10.12.1 Digital Transactions Ombudsman (2019)

- ⇒ RBI designates senior RBI officials at 21 places across India as DTO (डिजिटल लेनदेन शिकायत निवारण अधिकारी).
- ⇒ They hear customer complaints upto ₹ 20 lakh against prepaid payment instruments, Mobile wallets, Apps, NEFT/RTGS and other digital transactions.
- ⇒ 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 ordinary courts /consumer courts depending on the case matter.

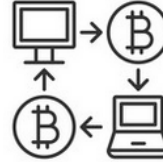
### 10.12.2 (Proposed) Payment Regulatory Board (PRB)

- ⇒ **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 payment system providers have to register with RBI's BPSS- whether bank, non-bank, wallet/Prepaid Payment Instrument (PPI) etc.
- ⇒ **2016:** **Ratan Watal Committee** on digital payment suggested replacing this BPSS with a Payments Regulatory Board (PRB: भुगतान नियामक बोर्ड) in RBI. This PRB to look after Interoperability, Consumer protection, Innovation, R&D in digital payments.







- ⇒ **2018:** draft Payment and Settlement System Bill to implement PRB.
- ⇒ But, RBI vs Government difference of opinion about who should be chairman, how many members from Government side etc. रिजर्व बैंक और सरकार के बीच मतभेद के चलते अभी तक बनी नहीं है

### 10.13 CRYPTO-CURRENCY & BLOCKCHAIN TECHNOLOGY



- ⇒ **[Definition] Cryptocurrency:** is a digital / virtual currency created & stored using blockchain technology. क्रिप्टोमुद्रा एक डिजिटल मुद्रा है जिसे ब्लॉकचेन तकनीक का उपयोग करके बनाया और संग्रहीत किया जाता है।
- ⇒ **[Definition] Blockchain:** A secured decentralized database 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. एक डेटाबेस जो रिकॉर्ड की निरंतर बढ़ती सूची को विकेंद्रीकृत रूप से बनाए रखता है।
- ⇒ **[Origin]** Anarchist (अशासनवादी) groups lost faith in **FIAT MONEY** because USA's Subprime Crisis (2007) eroded the purchasing power of US Dollar. They also dislike **BANK MONEY / DEPOSIT MONEY** because of transaction charges on e-banking, card payments, MDR, interoperability issues.
- ⇒ **2009:** An anonymous user Satoshi Nakamoto launched a cryptocurrency 'Bitcoin', total 21 million coins, wherein 1 Bitcoin (BTC) =  $10^8$  Satoshi (the smallest unit).
- ⇒ Ethereum, Litecoin, Digicoin, Laxmicoin, Ripple etc. are also cryptocurrencies.

3 ways to obtain Cryptocurrency	  Negative Points / Challenges
<b>1) Mining of the blockchains using powerful computers</b> शक्तिशाली कंप्यूटर द्वारा खनन	<ul style="list-style-type: none"> <li>- Graphics cards demand &amp; price hike: 2x-4x times due to bitcoin mania. E-waste generation.</li> <li>- Thermal Electricity wastage worth 20 megaton CO<sub>2</sub></li> <li>- Iran: People deploying large number of computers for Bitcoin mining → Electricity outage in normal houses → Diesel generator →  Pollution / smog. So Iran is cracking down on such bitcoin mining centres.</li> <li>- If quantum computer invented it'll solve blockchains in seconds, thus crashing the value of Bitcoins.</li> </ul>
<b>2) Selling goods and services to a miner / owner of cryptocurrency</b> जिसके पास क्रिप्टो 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 = Government deprived of GST, Custom duty, Income tax. सरकार को कर नहीं मिलेगा</li> <li>- If Scam: can't get justice under Consumer Protection Act. ग्राहक सुरक्षा कानून में न्याय नहीं मिलेगा</li> </ul>
<b>3) Exchanging legal tender to buy cryptocurrency.</b> वैधानिक मुद्रा की मदद से क्रिप्टो मुद्रा को खरीदो	<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> <li>- But, if ₹ or \$ exchanged with Bitcoin = terror finance, sending black money to tax havens. (आतंकी वित्तपोषण, काले धन को बाहर भेजना)</li> </ul>





	<ul style="list-style-type: none"> <li>- Bitcoin exchange rate: speculation, volatility, Government deprived of Capital Gains Tax (CGT: पूँजीगत अभिलाभ कर, 📄 Pillar#2)</li> <li>- Ponzy investment frauds- so, Government came up with 'Banning of Unregulated Deposit Schemes Ordinance/bill, 2019'. (More in 📄 Pillar1D: Financial Inclusion.)</li> </ul>
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**\*\* Student Query:** How is Bitcoin not traceable, I've read at XYZ that we can trace it using XYZ thing ? Ans.

we are not here for B.Tech (Computer Science) Semester exam. #👉👈👉👈 #👉👈 थोड़ा-पढ़ो-आगे-बढ़ो

📄 ? 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. The 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

## 10.14 🌀🌀 CRYPTOCURRENCY LEGAL STATUS: → INDIA

India was neither the first nor the only country to ban cryptocurrencies. Nepal, Bangladesh, Morocco, Algeria, Equator, Bolivia et al already banned it. (कई देशों ने इसे प्रतिबंधित किया है गैरकानूनी घोषित किया है)

	<p>⇒ <b>2017-18: Dinesh Sharma</b> Committee to FinMin &amp; <b>Subhash Chandra Garg</b> committee to FinMin suggested Government to ban it.</p> <p>⇒ <b>2018:</b> Budget says Crypto-currencies are not legal tenders. We'll eliminate use of these crypto-currencies in financing illegitimate activities or as part of the payment systems. (अवैध वित्तीय गतिविधियों में क्रिप्टो मुद्रा का उपयोग बंद करवाएंगे)</p>
	<p>⇒ RBI's Institute for Development and Research in Banking Technology (IDRBT)- studying how to use blockchain technology for promoting digital economy.</p> <p>⇒ Since 2013, RBI had been warning people. 2018: RBI directed all banks/PPI/mobile-wallet cos. to stop relations with any Cryptocurrency company.</p>

### 10.14.1 🌀🌀🌀 Cryptocurrency & India → RBI ban revoked by SC

Since 2013: RBI had been warning Indians not to get involved in cryptocurrency due to frauds, tax evasion and terror finance. **2018:** RBI directed all banks/NBFCs/PPI/mobile-wallet companies to stop relations with any Cryptocurrency company. Then some cryptocurrency exchange website companies like CoinDCX etc went to Supreme Court alleging that:

- ⇒ Parliament has not made any law declaring this activity as illegal (unlike possession cocaine / narcotics.)
- ⇒ Even Japan, USA, Singapore etc has not completely banned investment in cryptocurrency but imposed regulations to control its misuse/fraud. (अन्य देशों ने संपूर्णता प्रतिबंधित नहीं किया बस 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 क्रिप्टो मुद्रा क्या चीज है)
- ⇒ Similarly, without fully studying the nature/impact of cryptocurrency, a blanket ban was placed, which has killed their business since no bank is opening their bank accounts. (हमारे व्यवसाय के हक को छीन लिया है)

👉 **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 (व्यवसाय का हक)- including those companies dealing with cryptocurrency.

⇒ Same objective (financial fraud protection) could be achieved by imposing a less drastic ban.

⇒ So, RBI ban did not pass the **test of proportionality**.

- 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)

- अनुपातिकता की परीक्षा: सरकार जो जनहित में निर्णय ले रही है, वह मूलभूत अधिकारों का किस अनुपात में हनन कर रहा है?

**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.




#### 10.14.2 India → 🏦🔗🚫 Banning of Cryptocurrency Bill, 2019

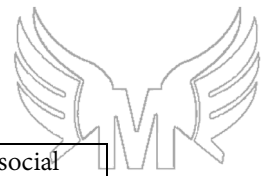
⇒ Ministry of Finance → Department of Economic Affairs has proposed a draft bill called the 'Banning of Cryptocurrency & Regulation of Official Digital Currency Bill, 2019' (क्रिप्टोक्यूरेंसी पर प्रतिबंध और आधिकारिक डिजिटल मुद्रा का विनियमन विधेयक, 2019).

⇒ It aims to ban the use of all types of cryptocurrencies issued by private operators. Non-bailable offense (गैर-जमानती अपराध), jail upto 10 years.

⇒ However, (if and when) RBI launches a blockchain-based digital currency, it'll be permitted.

#### 10.14.3 🌐🔗🚫 Cryptocurrency usage outside India (विदेशों में क्रिप्टो मुद्रा का प्रयोग)


 UNICEF  	<p>⇒ United Nations International Children's Emergency Fund (UNICEF, HQ- New York, USA; 1946, later renamed to UN Children's Fund)</p> <p>⇒ 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)</p>
 World Bank (More about this org in 📖 Pillar#3B)	<p>⇒ 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.</p> <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.</p>
<b>Elon Musk (2021)</b>	<p>Announced "🚗🔗 Tesla Electric car can be purchased using bitcoin, in future" → This is created crazy demand for bitcoins among investors → 1BTC selling for over \$50,000.</p>



<b>Marshall Islands</b>	<b>Capital:</b> Majuro, Sovereign state having free association with USA (for defense, social security, budget). Legal Tender was U\$D. But, ⇒ 2018-Feb: became <b>first country</b> to launch sovereign cryptocurrency named "Sovereign" [SOV]. So, now two legal tenders: U\$D and SOV. ⇒ No anonymity unlike Bitcoins. (गुमनामी की सुविधा नहीं.)
	- Bolivar currency = little value in Venezuela country due to hyperinflation, and failed economy. (अत्यधिक महंगाई के चलते बोलिवर मुद्रा का मूल्य/खरीद-शक्ति न के बराबर है) - 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". - Can be bought using Dollar, Euro, even other cryptocurrencies.
 <b>China</b>	- 2020: started trials to for Central Bank Digital Currency (CBDC)

#### 10.14.4 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-Dec: European Union** announced, "No stable coins shall be allowed in EU until we frame law."
- ⇒ **2019-Jun: G20 summit at Osaka, Japan.** The leaders expressed similar apprehension. (आशंका/डर जताया)

#### 10.14.5 Cryptocurrency → Stable-coins → Facebook's Libra

'Libra' is a blockchain based cryptocurrency to be launched in 2020 by Facebook's subsidiary company 'Calibra', using programming language 'Move'.

- ⇒ Visa, Uber, Paypal, PayU etc. had also invested in project. But later some of these co-partners left
- ⇒ Unlike Bitcoin, this Libra coin's exchange rate will be stable because Libra's value backed with Financial assets like G-sec, fiat currencies.
- ⇒ You can buy Libra with Fiat Money → stored in Calibra wallet. Libra can be re-converted to fiat money.
- ⇒ Usage: Money transfer through Whatsapp, Online shopping.
- ⇒ All this may happen ONLY IF regulators permit. But France says, "we'll not allow it in Europe."

#### 10.15 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 कराना)

- ⇒ PBC will use supercomputer to create its fiat currency (Yuan also called 'Renminbi') in digital format → transfer it to the recipient via e-banking e.g. loan to govt, salary to employee etc.



- ⇒ European Central Bank (ECB) and RBI have also setup internal committees to study the feasibility of CBDC. (केंद्रीय बैंक डिजिटल मुद्रा की व्यवहार्यता के लिए समितियां बनाई गई है)
- ⇒ 2020-Jan to Oct: China's digital Yuan trial experiment # 🏠🏠🏠🏠🏠🏠 थोड़ा-पढ़ो-आगे-बढ़ो
- ⇒ 2020-Oct: USA's stand: " we don't want to be the 1st to launch the digital currency, rather, we want to do it error-free. Because there are many risks associated" (इसमें जोखिम बहुत है इसलिए हमको जल्दबाजी में अन्य देशों से पहले इसे लागू करना नहीं है!)

#### 10.15.1 🏠🏠🏠=👤👤 Benefits of CBDC (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**. जाली नोट बनाना मुश्किल
3. 📈 **Traceability**, 📉 **Anonymity**: सुराग लगाना आसान, गुमनाम/अज्ञात रहेना 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 क्रिप्टोमुद्रा के प्रति लोगों का आकर्षण/ सामूहिक पागलपन कम होगा.)
5. 📈 **Homogeneity and promptness** of disbursal: (त्वरित और एक रूप तरीके से पेसा 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%",
  - 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) change interest rate to Y%
  - c. [How will that work? Ans. 🏠🏠 #Boycott-PHD #थोड़ा-पढ़ो-आगे-बढ़ो.]
7. 📉🏠 Spread of virus through physical currency notes. [Mains Logical Structure: low level benefits should be written at the bottom part of the answer.]

#### 10.15.2 🏠🏠🏠=👤👤 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 electronic equipment stops functioning → economy will stop functioning. (साइबर आतंकवाद / परमाणु हमला / प्राकृतिक आपदा: विद्युत उपकरण बंद तो अर्थव्यवस्था बंद)

#### 10.15.3 🏠🏠🏠🏠 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)

👤 Mrunal Comments: We've accumulated sufficient points for 250 words. Beyond this further PHD/intellectualism is unnecessary e.g. USA has blocked Syrian/Iranian banks from accessing the








SWIFT system used in international money transfer. But, China will setup parallel digital messaging system to transfer digital yuan to fund Iran/Syria for its own subversive purposes against USA. If you start writing these side-points, you will miss the core points, while time & word limit will be over.

## 10.16 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>. प्राचीन काल में, लोग वस्तु विनिमय प्रणाली का उपयोग करके एक दूसरे के साथ व्यापार करते थे। लेकिन इसकी मर्यादाओं ने पैसों को जन्म दिया।
- **(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>. नगदी-रहित अर्थतंत्र वित्तीय लेनदेन भौतिक/नगदी स्वरूप के सिक्कों या बैंकनोट में नहीं, बल्कि इलेक्ट्रॉनिक तरीकों से वित्तीय लेनदेन किए जाते हैं

Stakeholder	: Charms आकर्षण	: Challenges चुनौतियां
 <b>RBI</b>  <b>Shaktikanta Das</b>	<ul style="list-style-type: none"> <li>- Saves cost of printing new currency (Rs.27 billion a year) – environment,</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, Fintech companies evolving more rapidly than legal framework.</li> <li>- KYC: Aadhar vs privacy debate (Ref: Polity, SC Judgement) आधार कार्ड और नागरिक की निजता का संघर्ष</li> </ul>
 <b>Govt.</b>	<ul style="list-style-type: none"> <li>- Better tax surveillance, checks on fake counterfeit currency terror finance,</li> <li>- targeted delivery of agri-loans and subsidies/ DBT: Annually ₹ 1 lakh crore can be saved.</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. बुनियादी 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 दे दे कर 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>
 <b>Household</b>	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 जागरूकता/साक्षरता नहीं है</li> <li>- Cyberfrauds, Card cloning, service fees on card payments. जालसाजी/धोखाधड़ी</li> </ul>
 <b>Businessman</b>	Homework	homework





### 10.16.1 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 रुपया 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.)

### 10.16.2 Mock question for Mains/ESSAY

1. **Essay:** The tenability of work from home. घर से काम- कितना मुनासिब/तर्कसंगत?
2. **Essay:** Money is not the root of all evil, greed is. पैसा नहीं, लोभ सभी बुराईओ का मूल है.
3. **(GSM2: e-governance)** In the aftermath of the Corona pandemic, there has been greater thrust towards using electronic mode for doing any activity from home. In this regard, enumerate the charms and challenges of following in 150 words each
  - A) Virtual Parliament (वर्चुअल संसद)
  - B) Virtual Courts (वर्चुअल न्यायालय)
  - C) E-Diplomacy (ई-कूटनीति)
  - D) E-Learning (ई-शिक्षा)
4. **(GSM3)** In 2020, People's Bank of China started experimentation on Central Bank Digital Currency (CBDC). Examine critically, the charms and challenges of such initiatives for Indian monetary system. 250 words. चीन का 'केन्द्रीय बैंक डिजिटल मुद्रा' प्रयोग. भारतीय मौद्रिक प्रणाली के लिए, इस तरह की पहल के आकर्षण और चुनौतियां की समीक्षा कीजिए
5. **(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. 250 words. क्रिप्टो मुद्रा को अनुमति देने से विनाश की परिस्थिति का निर्माण, किन्तु अंतर्निहित ब्लॉकचेन टेक्नोलॉजी प्रशासन और अर्थतंत्र के लिए रामबाण इलाज बन सकती है.
6. **(GSM3)** Explain these two terms with respect to ‘less cash economy’ (‘कम नगदी वाले अर्थतंत्र’ के परिपेक्ष्य में): (1) MDR (2) Interoperability. (150 words)
7. **(GSM4)** Educational institutions play an important role in inculcating values in students. Examine the ways in which ‘E-Learning’ amplifies and diminishes that role. विधार्थीओमें मूल्यों का सिंचन करने की शैक्षणिक संस्थानों की भूमिका को ई-शिक्षा कितना मजबूत और कमजोर करती है? समीक्षा कीजिए।
8. **(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 बैंक 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? 250 words (इस बैंक के चेयरमैन की भूमिका में आप इस संकट से कैसे निपटेंगे और भविष्य में इसकी पुनरावृत्ति को कैसे रोकेंगे?)

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