

NTA UGC NET - Way to JRF 2021

Target: 100 Percentile AIR- 1

MAHA Episode

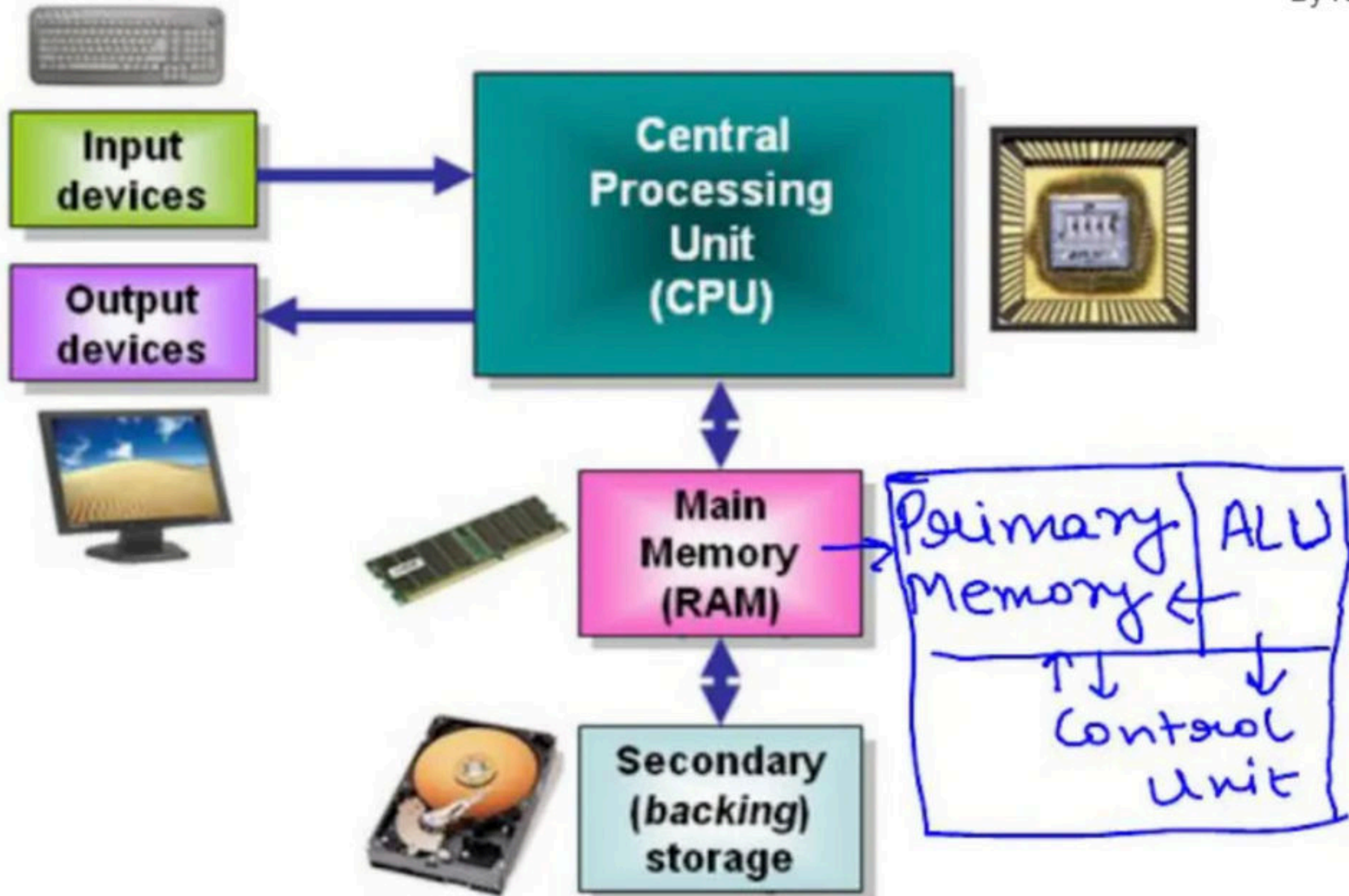
Complete in 1 Class

ICT

JRF is Mine

इस बार JRF लेकर रहेंगे





Central Processing Unit (CPU)-

1. CPU is considered as the brain of the computer, Heart of the Computer
2. CPU performs all types of data processing operations.
3. It stores data, intermediate results, and instructions (program).
4. It controls the operation of all parts of the computer.
5. CPU clock speed, or clock rate, is measured in Hertz — generally in gigahertz, or GHz. A CPU's clock speed rate is a measure of how many clock cycles a CPU can perform per second. For example, a CPU with a clock rate of 1.8 GHz can perform 1,800,000,000 clock cycles per second.

CPU Process:

1. Fetch the Instruction
2. Interpret the Instruction
3. Fetch the Data
4. Process the Data
5. Write the data

- **Father of the computer – Charles Babbage**
- **Father of the modern computer – Alan Turing**
- **Basic Architecture of Computer: John Von Neumann (1947-49) Von Neumann Architecture.** Von Neumann architecture was first published by John von Neumann in 1945. His computer architecture design consists of a Control Unit, Arithmetic and Logic Unit (ALU), Memory Unit, Registers and Inputs/Outputs. This design is still used in most computers produced today.
- **First Programmer: Lady Ada Lovelace (1880)** Augusta Ada King-Noel, Countess of Lovelace was an English mathematician and writer, chiefly known for her work on Charles Babbage's proposed mechanical general-purpose computer, the Analytical Engine.
- **First Electronic Computer: ENIAC (1946) – J.P. Eckert & J.W. Mauchly** at the University of Pennsylvania.
- **First computer for the home user introduced – IBM in 1981**

Father of email: Raymond Samuel Tomlinson (April 23, 1941 – March 5, 2016) was a pioneering American computer programmer who **implemented the first email program on the ARPANET system**, the precursor to the Internet, **in 1971**; he is internationally known and credited as the inventor of email.

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500 BC: **Abacus** Computing is attributed to the invention of ABACUS almost 3000 years ago. It was a mechanical device capable of doing simple arithmetic calculations only.

1642: **Pascaline** Blaise Pascal invented a mechanical calculator known as Pascal calculator or Pascaline to do addition and subtraction of two numbers directly and multiplication and division through repeated addition or subtraction

1834: Charles Babbage invented **analytical engine**, a mechanical computing device for inputting, processing, storing and displaying the output, which is considered to form the basis of modern computers.

1890: **Tabulating Machine** Herman Hollerith designed a tabulating machine for summarising the data stored on the punched card. It is considered to be the first step towards programming

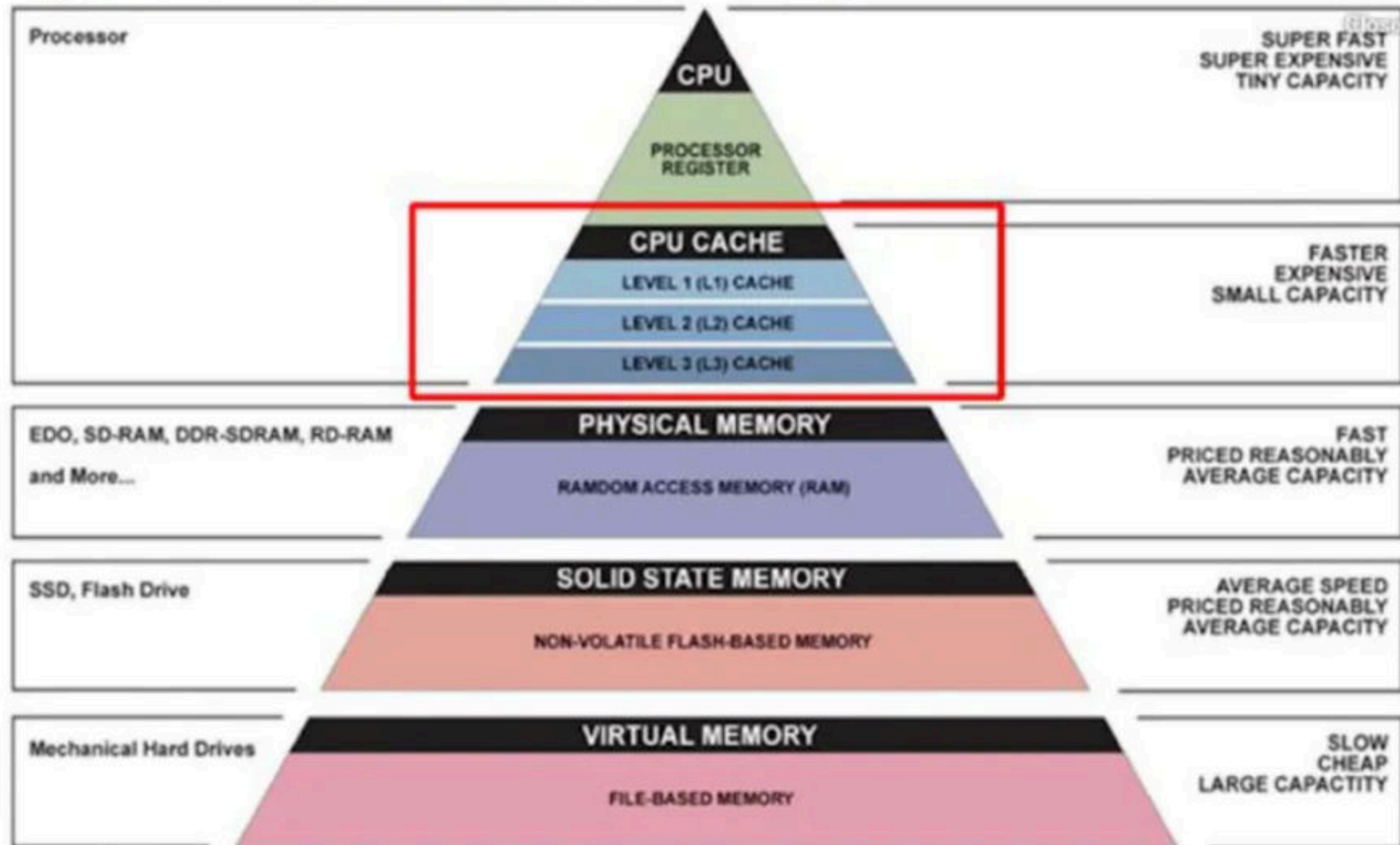
1937: **Turing Machine** The Turing machine concept was a general purpose programmable machine that was capable to solve any problem by executing the program stored on the punched cards

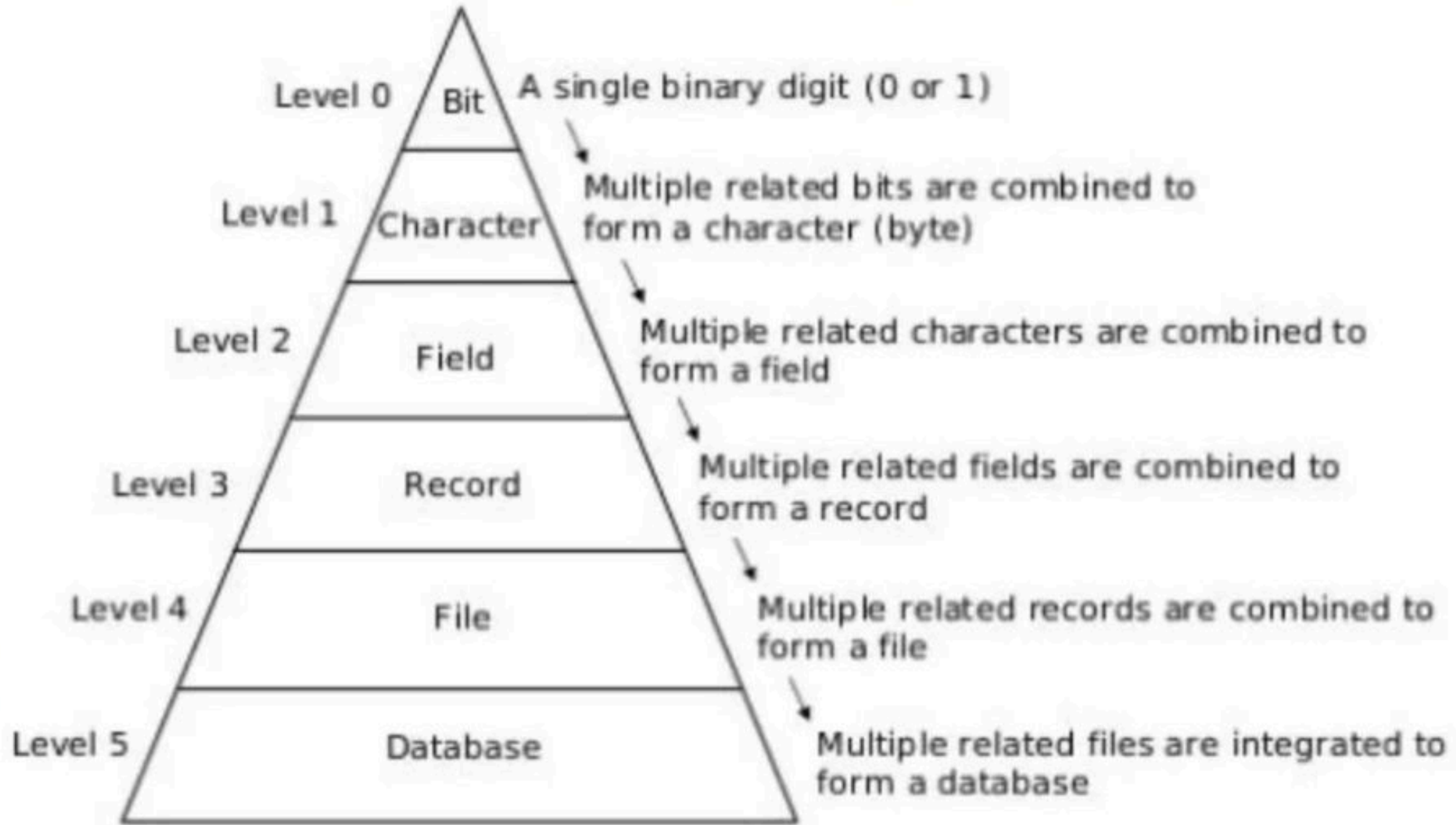
1945: **EDVAC/ENIAC** John Von Neumann introduced the concept of stored program computer which was capable of storing data as well as program in the memory. The EDVAC and then the ENIAC computers were developed based on this concept

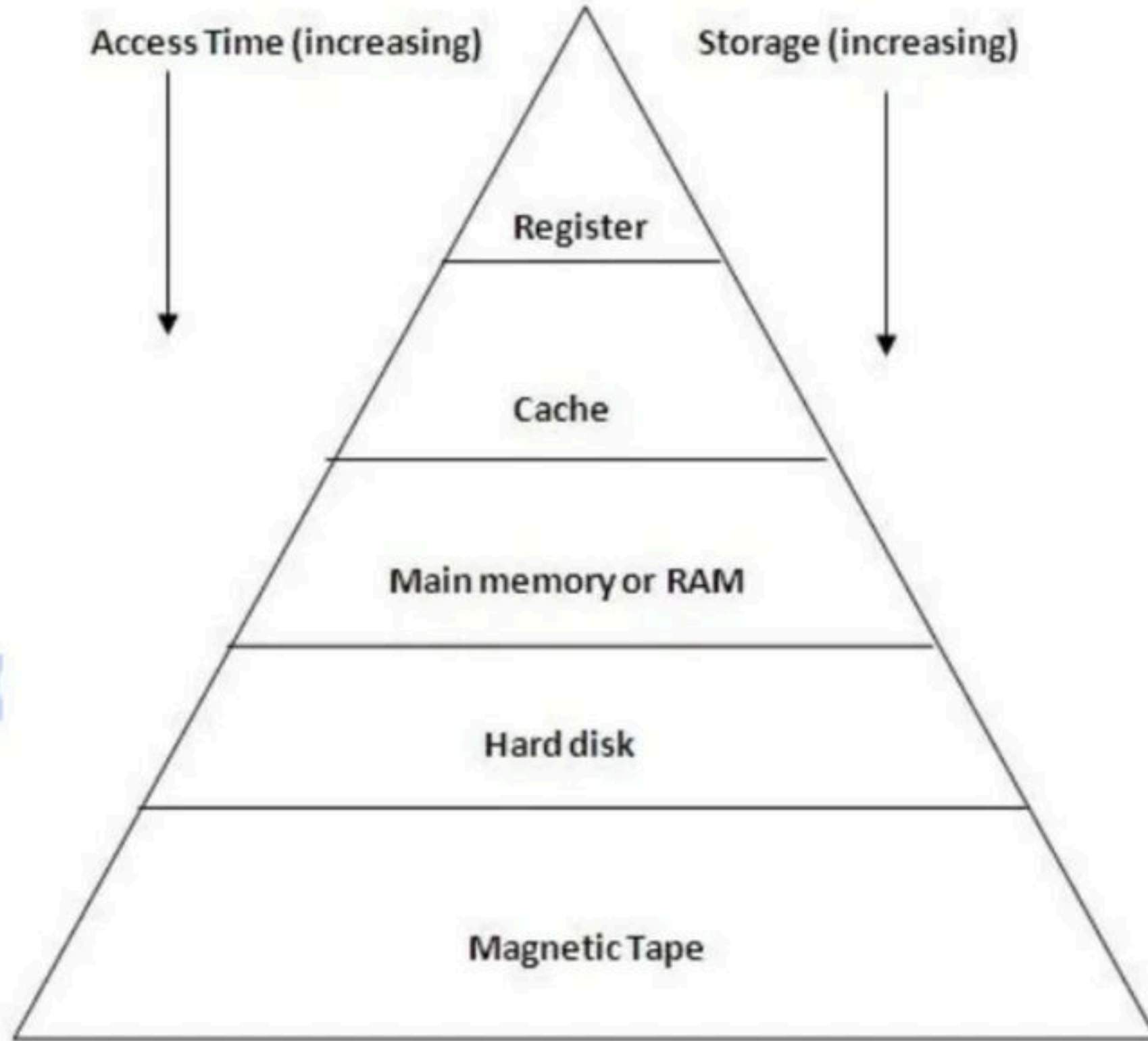
1947: **Transistor** Vacuum tubes were replaced by transistors developed at Bell Labs, using semiconductor materials

1970: **Integrated Circuit** An Integrated Circuit (IC) is a silicon chip which contains entire electronic circuit on a very small area. The size of computer has drastically reduced because of ICs

Primary Memory or Main Memory







© Nk

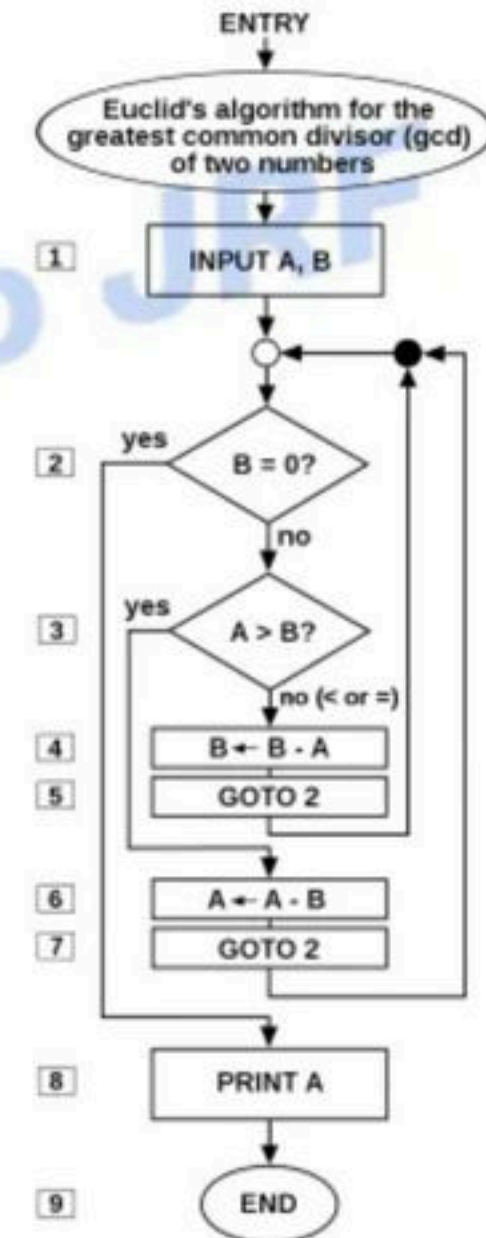
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| RAM | CACHE |
|--|--|
| <p>RAM is a volatile memory which could store the data as long as the power is supplied.</p> | <p>Cache is a smaller and fast memory component in the computer. Cache 100 times faster, as they have flipflops, while ram has capacitors which are slow and need to be restored once data is retrieved from them.</p> |
| <p>The size of ram is greater.</p> | <p>The size of cache memory is less.</p> |
| <p>It is expensive.</p> | <p>It is not expensive.</p> |
| <p>It holds programs and data that are currently executed by the CPU.</p> | <p>It holds frequently used data by the CPU.</p> |
| <p>It is not fastest as compared to cache.</p> | <p>It is faster.</p> |
| <p>Cache memory increase the accessing speed of CPU.</p> | <p>RAM is faster than a hard disk, floppy disk, compact disk, or just any form of secondary storage media.</p> |
| <p>CPU reads Cache Memory data before reading RAM.</p> | <p>CPU reads RAM data after reading Cache Memory.</p> |
| <p>It can be internal and external both.</p> | <p>It is generally internal.</p> |

An algorithm is a finite sequence of well-defined, computer-implementable instructions, typically to solve a class of problems or to perform a computation. Algorithms are always unambiguous and are used as specifications for performing calculations, data processing, automated reasoning, and other tasks.

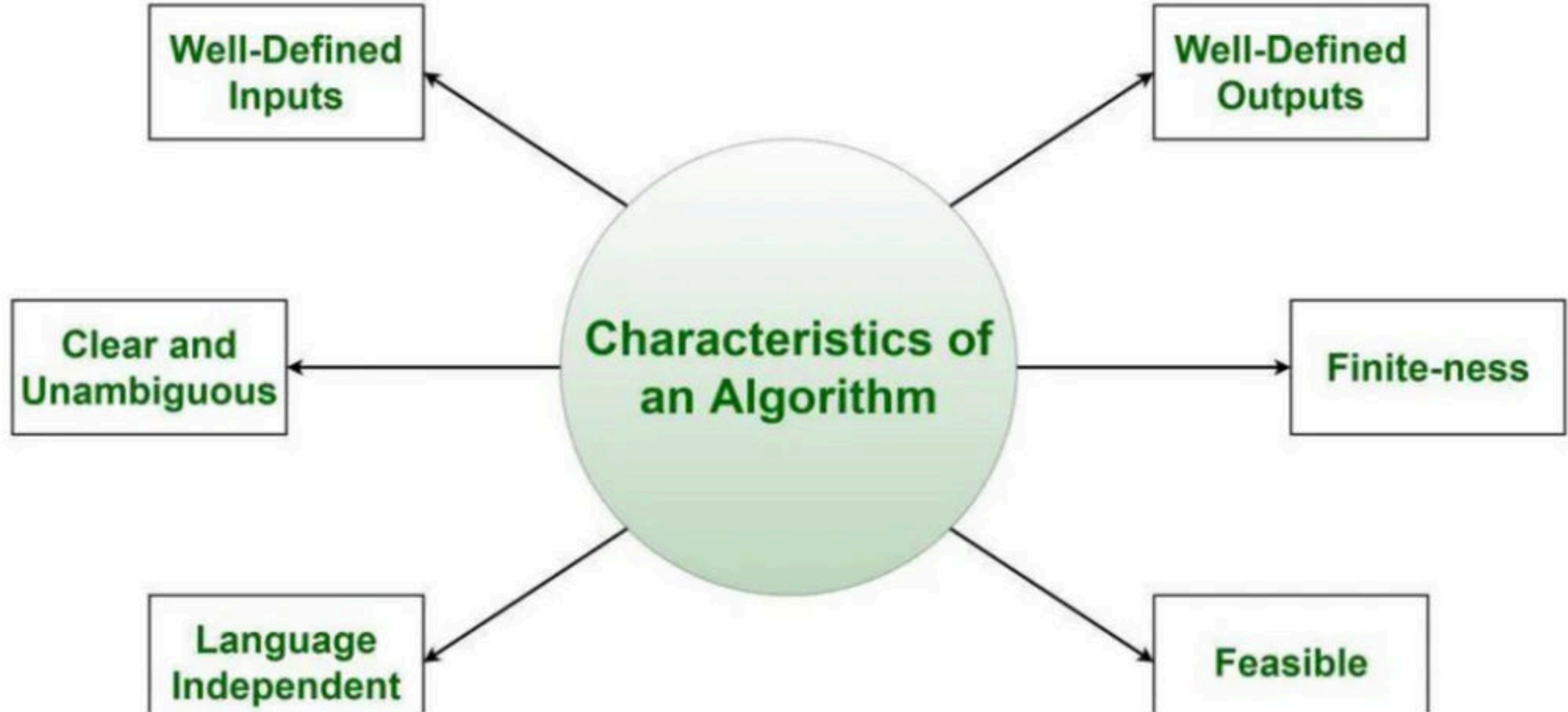
Steps in the development of algorithms:

1. Problem definition
2. Development of a model
3. Specification of the algorithm
4. Designing an algorithm
5. Checking the correctness of the algorithm
6. Analysis of algorithm
7. Implementation of algorithm
8. Program testing
9. Documentation preparation



**Flowchart of an algorithm
(Euclid's algorithm)**

Characteristics of an Algorithm



Translator - takes a program's code and translates it into machine code, allowing the computer to read and understand what tasks the program needs to be done, in its own native code. An Assembler and a Compiler are examples of a translator.

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| Interpreter | Compiler |
|---|--|
| Translates program one statement at a time. | Scans the entire program and translates it as a whole into machine code. |
| It takes less amount of time to analyze the source code but the overall execution time is slower. | It takes large amount of time to analyze the source code but the overall execution time is comparatively faster. |
| No intermediate object code is generated, hence are memory efficient. | Generates intermediate object code which further requires linking, hence requires more memory. Compilers generates intermediate machine code that is saved to the computer as an exe. |
| Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy. | It generates the error message only after scanning the whole program. Hence debugging is comparatively hard. |
| Programming language like Python, Ruby use interpreters. | Programming language like C, C++ use compilers. |

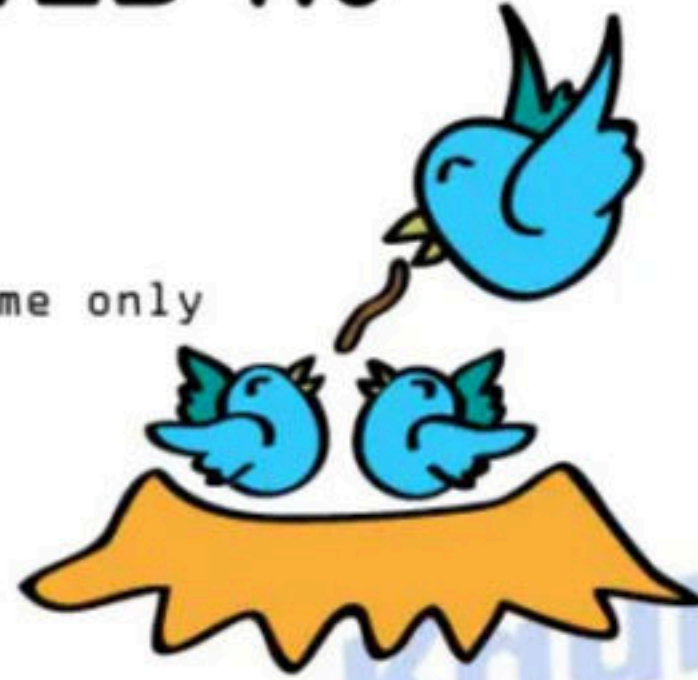
A generation language may refer to any of the following:

- 1. The first generation languages, or 1GL,** are low-level languages that are machine language. **no translator , binary numbers, represented by 1s and 0s.**
- 2. The second-generation languages, or 2GL,** are also low-level **assembly languages.** They are sometimes used in kernels and hardware drives, but more commonly used for video editing and video games.
- 3. The third-generation languages, or 3GL,** are high-level languages, such as **C, C ++, Java, JavaScript, and Visual Basic.** 1950s, **Fortran, ALGOL, and COBOL, BASIC** are examples of early 3GLs.
- 4. The fourth-generation languages, or 4GL,** are languages that consist of statements similar to statements in a human language. Fourth generation languages are commonly used in database programming and scripts examples include **Perl, PHP, Python, Ruby, and SQL, Unix Shell, Oracle Reports, R.**
- 5. The fifth-generation languages, or 5GL,** are programming languages that contain visual tools to help develop a program. Examples of fifth generation languages include **Mercury, OPS5, and Prolog.**

WEB 1.0

1989 to 2005.

Consume only



Web 1.0

The first stage of the web represents the web 1.0, which, according to **Tim Berners-Lee**, is the “**read-only web.**” In other words, the early web allowed us to search for information and read it. There was very little in the way of user interaction or content generation.

Web 2.0 is the second generation of web. It was defined by **Dale Dougherty in 2004** as a read-write web

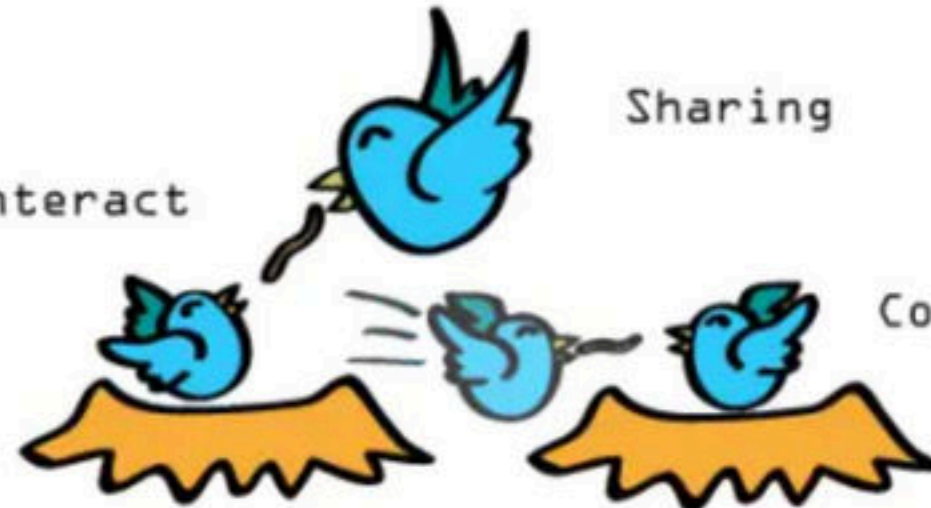
WEB 2.0

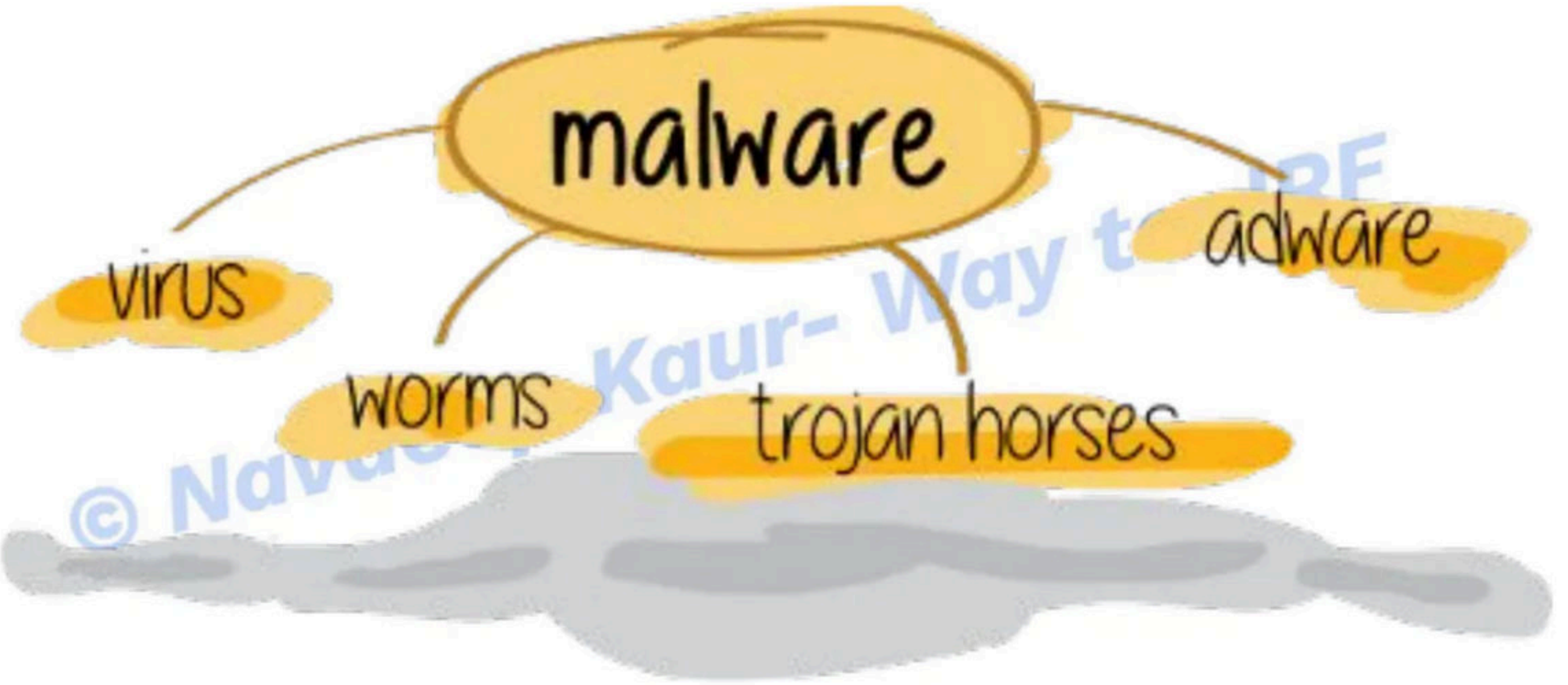
Community

Interact

Sharing

Collaboration





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Internet Security Threats

1. Virus is a type of malicious software program (malware) that, when executed, replicates by reproducing itself (copying its own source code) or infecting other computer programs by modifying them

Ex: Code Red, Nimba, SirCam, Melisa, Ripper, MDMA, One_Half

- **Boot virus** (Trojans) affect the disk operating system, thereby corrupting the booting files in spite of the operating system used. The main distinction is that they don't replicate but spread on opening an email attachment specifically.
- **Macro virus (Worms)** are intended to affect data files specifically by finding vulnerabilities in word or excel documents. They infect by replicating to other systems in the network. They don't require a host file to replicate themselves.
- **Virus hoax** is a message warning the recipients of a non-existent computer virus threat. The message is usually a chain e-mail that tells the recipients to forward it to everyone they know.
- **Companion virus** is a complicated computer virus which, unlike traditional viruses, does not modify any files

2. Spyware: It is a software that secretly collects user information while on the internet.

Spyware can capture information like web browsing habits, email messages, usernames and passwords, and credit card information.

3.Adware: This program launches the advertisements in the form of pop ups. Usually the add words are based on the internet behavior of the user.

4.Spam: (not malware/ virus) These are unwanted emails. In other words we can call them as unsolicited promotional mail.

5.Pharming: More advance method of Phishing in which the attackers create duplicate or similar looking website of other companies, to attract the customers and steal the data.

6.Cookies: These are program or information secretly stored in a computer especially the internet browser, which allows other users to monitor the internet activities of a person. These programs usually monitor the browsing nature of person so that the companies can create better marketing strategies.

7.Mail Bomb: An excessively large email (typically many thousands of messages) or one large message sent to a user's email account. This is done to crash the system and prevent genuine messages from being received.

8.Scareware: A common trick cyber criminals use to make users think that their computer has become infected with malware to get them to purchase a fake application.

9.Sniffers: A software program used to monitor the traffic in a network. The hackers may use the sniffed data to access important confidential data.

10.Rootkit: A program designed to hide objects such as processes, files or Windows registry entries (often including its own).

11. Phishing: This is acquiring the personal and sensitive information of a person through official looking emails. Users of online banking and e-commerce websites are more prone to this attack.

12. Spoofing : It is a type of scam where an intruder attempts to gain unauthorized access to a user's system or information by pretending to be the user.

SPOOLING

- Spool is an abbreviation for buffer or interim storage place.
- Is the process of transmitting data to a computer memory spool.
- This is significant because there is usually a time lag between sending and executing the data, so it rests in a temporary place in the meanwhile.
- Printing numerous documents, for example.

SPOOFING

- Unauthorized entry.
- MASQUERADE is another name for MASQUERADE.
- Enter another computer, for example, by accessing an IP address, i.e. via network, and pretending to be an authorised user.



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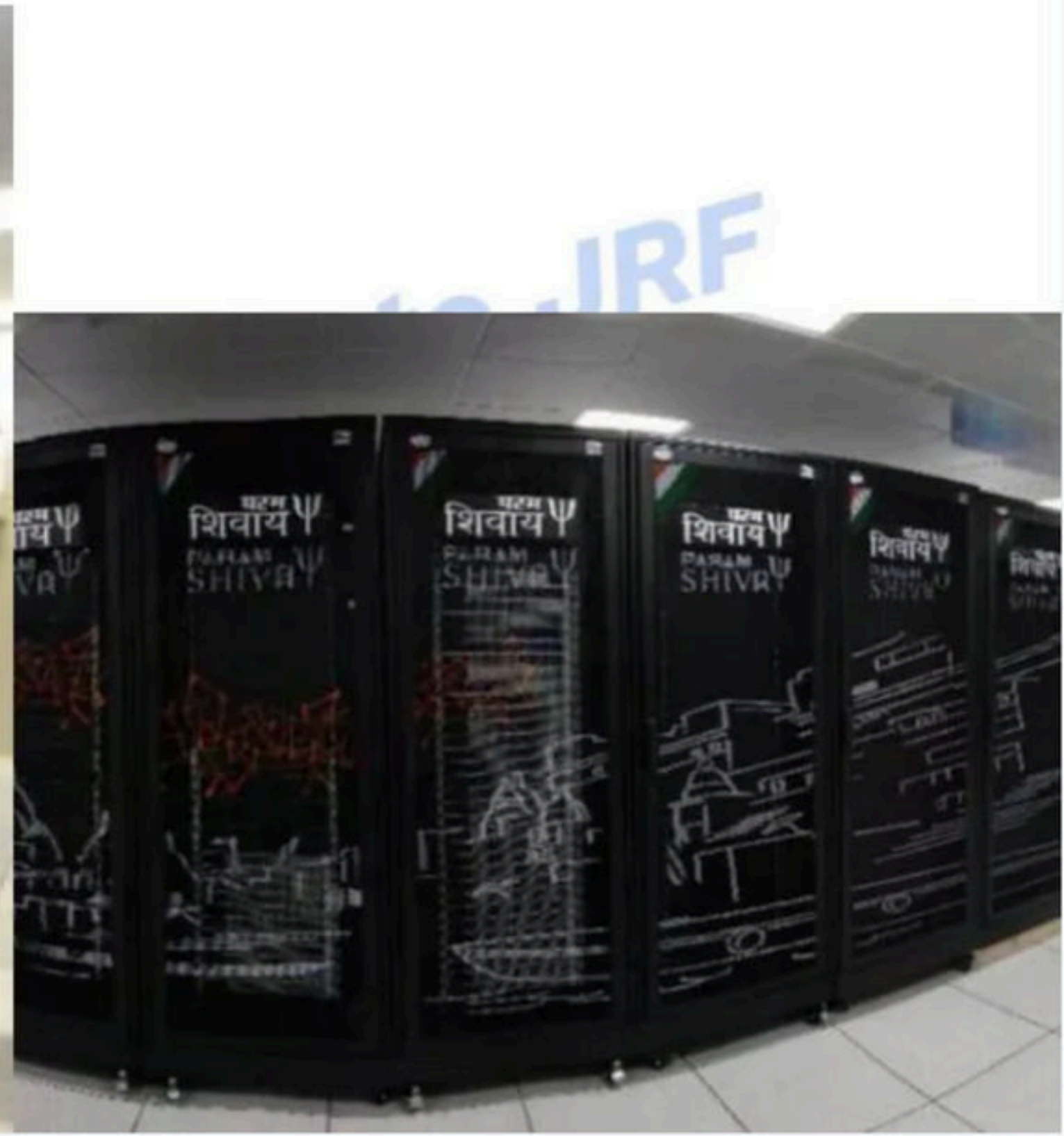
National Super Computing Mission (NSM) is boosting high power computing in the country **21 OCT 2020**

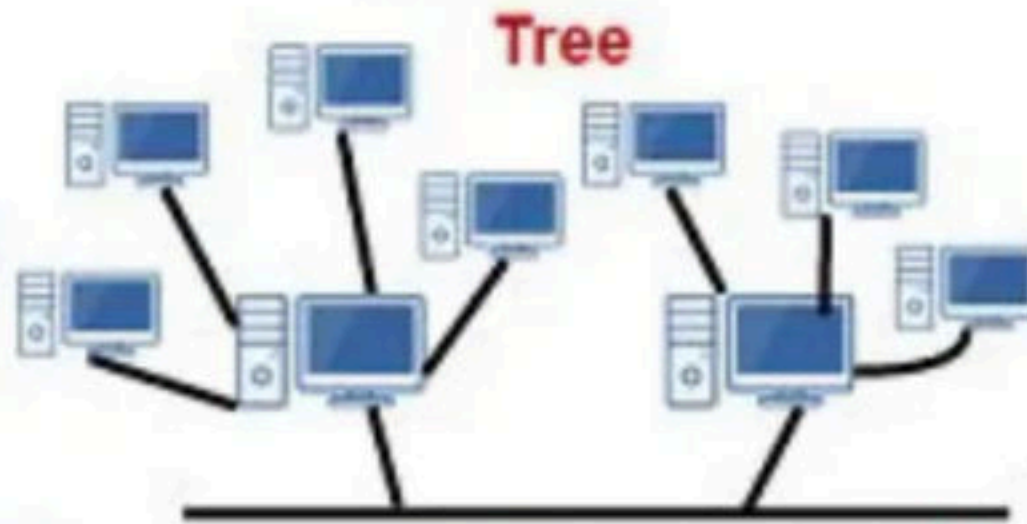
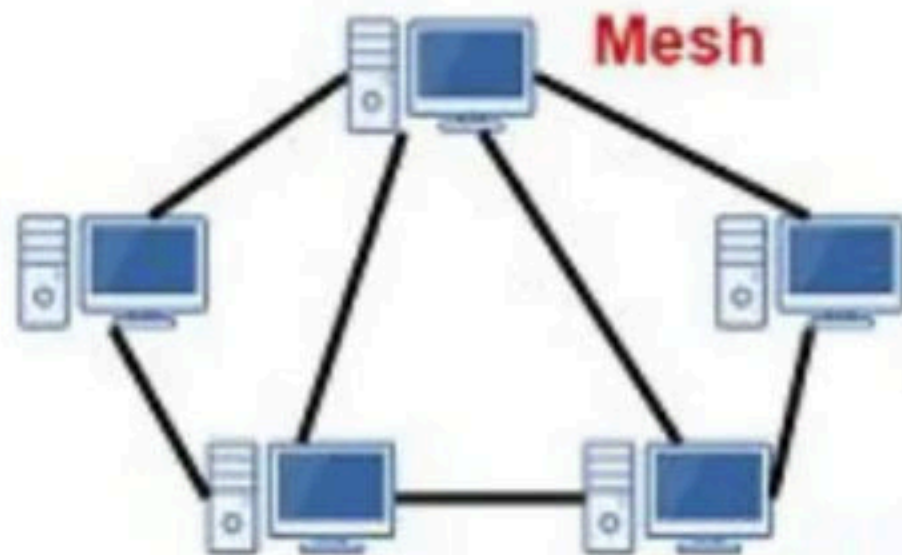
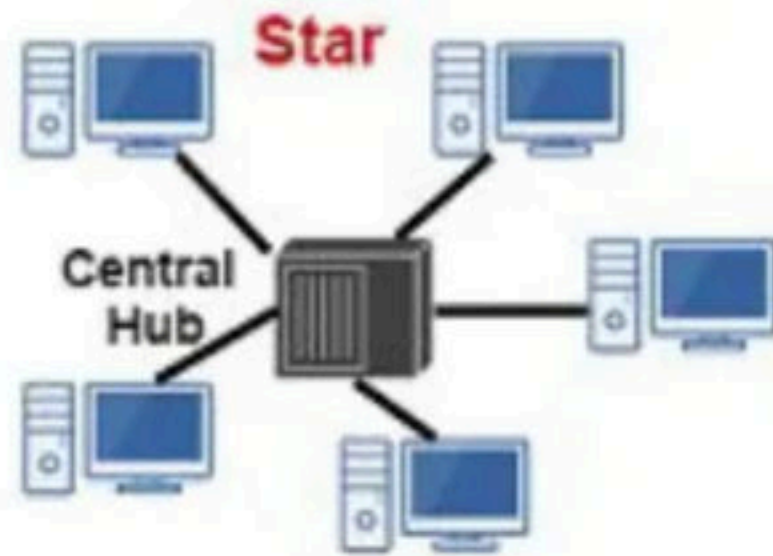
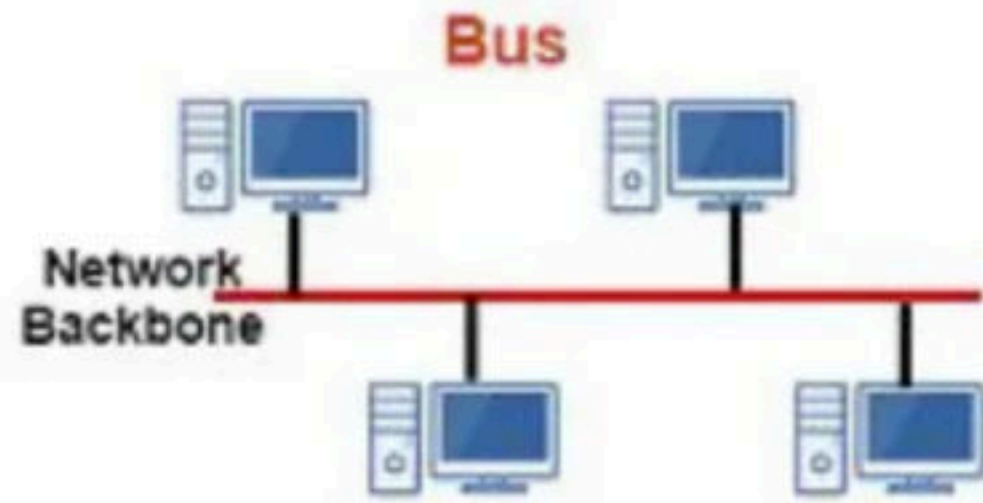
The National Super Computing Mission (NSM) is rapidly boosting high power computing in the country through its various phases to meet the **increasing computational demands of academia, researchers, MSMEs, and startups in areas like oil exploration, flood prediction as also genomics, and drug discovery.**

With the infrastructure planned in NSM Phase-I already installed and much of **Phase-II** in place, the network of supercomputers through the country will soon reach to around **16 Petaflops (PF)**. **Phase-III, to be initiated in January 2021, will take the computing speed to around 45 Petaflops.**

NSM is jointly **Implemented by**

1. The Ministry of Electronics and IT (MeitY) and
2. Department of Science and Technology (DST) and
3. implemented by the Centre for Development of Advanced Computing (C-DAC), Pune and
4. the Indian Institute of Science (IISc), Bengaluru.





Network Topologies

Conversion table

| Traditional units | | | | | Decimal for comparison | | | | |
|-------------------|--------|----------|-----------------------------------|----------|------------------------|------|-----------|-----------------------------------|-----------|
| Name | Symbol | Binary | Number of bytes | Equal to | Name | IEC | Decima | Number of bits | Equal to |
| Kilobyte | kB | 2^{10} | 1,024 | 1024 B | Kilobit | kbit | 10^3 | 1,000 | 1000 bit |
| Megabyte | MB | 2^{20} | 1,048,576 | 1024 kB | Megabit | Mbit | 10^6 | 1,000,000 | 1000 kbit |
| Gigabyte | GB | 2^{30} | 1,073,741,824 | 1024 MB | Gigabit | Gbit | 10^9 | 1,000,000,000 | 1000 Mbit |
| Terabyte | TB | 2^{40} | 1,099,511,627,776 | 1024 GB | Terabit | Tbit | 10^{12} | 1,000,000,000,000 | 1000 Gbit |
| Petabyte | PB | 2^{50} | 1,125,899,906,842,624 | 1024 TB | Petabit | Pbit | 10^{15} | 1,000,000,000,000,000 | 1000 Tbit |
| Exabyte | EB | 2^{60} | 1,152,921,504,606,846,976 | 1024 PB | Exabit | Ebit | 10^{18} | 1,000,000,000,000,000,000 | 1000 Pbit |
| Zettabyte | ZB | 2^{70} | 1,180,591,620,717,411,303,424 | 1024 EB | Zettabit | Zbit | 10^{21} | 1,000,000,000,000,000,000,000 | 1000 Ebit |
| Yottabyte | YB | 2^{80} | 1,208,925,819,614,629,174,706,176 | 1024 ZB | Yottabit | Ybit | 10^{24} | 1,000,000,000,000,000,000,000,000 | 1000 Zbit |

Decimal to Binary 25

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Convert Negative Numbers to Binary

Step 1: Divide Until You Reach Zero

Step 2: Derive Result

Step 3: Extend Binary Sequence

Step 4: 1's Complement Representation

Step 5: Add One

Step 6: Final Answer Format

A protocol technologies is required for communication between computers.

- To connect different types of computers from a variety of computer vendors, protocols must be first standardized.
- The **ARPA (Advanced Research Project Agency)** (1960s) (adopted TCP/IP in 1983) part of the **US Defense program** was the first to introduce the concept of a standardized protocol.
- ARPA is a resource sharing network connecting different computers at universities and laboratories in the US.
- The concept of the protocol and its layer structure, emerged from the ARPA network.
- ARPA developed an integrated network using packet protocol and is also renowned for its development of packet switching.

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP

Transmission control protocol is used for communication over a network. In TCP data is broken down into small packets and then sent to the destination. However, IP is making sure packets are transmitted to the right address.

IP is also working with TCP. It is an addressing Protocol. IP addresses packets route them and show different nodes and network Unless it reaches its right destination. The IP protocol is developed in 1970.

ARP (Address Resolution Protocol) is a protocol for **mapping an Internet Protocol address (IP address)** to a **physical machine address that is recognized in the local network**. For example, in IP Version 4, the most common level of IP in use today, an address is 32 bits long.

- **IMAP** - Internet Message Access Protocol - A protocol for e-mail messages on the Internet
- **IRC** - Internet Relay Chat - a protocol used for Internet chat and other communications
- **POP3** - Post Office protocol Version 3 - a protocol used by e-mail clients to retrieve messages from remote servers
- **SMTP** - Simple Mail Transfer Protocol - A protocol for e-mail messages on the Internet

Can be used in place of TCP/IP:

IPX/SPX stands for **Internetwork Packet Exchange/Sequenced Packet Exchange**. IPX and SPX are networking protocols used primarily on networks using the **Novell NetWare** operating systems.

Systems Network Architecture (SNA) is **IBM's** proprietary networking architecture, created in 1974. It is a complete protocol stack for interconnecting computers and their resources.

Apple: AppleTalk Protocol suite

UDP (User Datagram Protocol) is an alternative communications protocol to Transmission Control Protocol (TCP) used primarily for establishing low-latency and loss-tolerating connections between applications on the internet. The protocol was designed by **David P. Reed** in 1980 and formally defined in RFC 768.

Point-to-Point Protocol (PPP) is a data link layer (layer 2) communications protocol used to establish a direct connection between two nodes.

'Transponder' is obtained by the combining few letters of two words, Transmitter (Trans) and Responder (ponder).

Transponder performs mainly two functions. Those are amplifying the received input signal and translates the frequency of it. In general, different frequency values are chosen for both uplink and down link in order to avoid the interference between the transmitted and received signals.

- **Duplexer** is a two-way microwave gate. It receives uplink signal from the satellite antenna and transmits downlink signal to the satellite antenna.
- **Low Noise Amplifier** (LNA) amplifies the weak received signal.
- **Carrier Processor** performs the frequency down conversion of received signal (uplink). This block determines the type of transponder.
- **Power Amplifier** amplifies the power of frequency down converted signal (down link) to the required level.

| TCP/IP | OSI Model | Protocols |
|--------------------------|---------------------------|---|
| Application Layer | Application Layer | DNS - DHCP - FTP - HTTP - LDAP - NTP - POP3 - RTP - RTSP - SSH - SIP - SMTP - Telnet - TFTP |
| | Presentation Layer | JPEG - MIDI - MPEG - PICT - TIFF |
| | Session Layer | NetBIOS - NFS - PAP - SCP - SQL - ZIP |
| Transport Layer | Transport Layer | TCP - UDP HTTPS |
| Internet Layer | Network Layer | ICMP - IGMP - IPsec - IPv4 - IPv6 - IPX - RIP |
| Link Layer | Data Link Layer | ARP - ATM - CDP - FDDI - Frame Relay - HDLC - MPLS - PPP - STP - Token Ring |
| | Physical Layer | Bluetooth - Ethernet - DSL - ISDN - 802.11 - WiFi |

ATM:Asynchronous transfer mode

| COMPARISON | HTTP | HTTPS |
|--------------------|---------------------------|----------------------------|
| Prefix Used | Url begins with "http://" | Url begins with "https://" |
| Security | Unsecured. | Secured. |
| Operated On | Application layer | Transport layer. |
| Encryption | No encryption is there | Encryption is used. |
| Certificate | Not required. | Necessary |

Transport Layer Security (TLS) TLS replaced SSL(Secure Socket Layer) in 1999 Originally, HTTPS was used with the SSL protocol. As SSL evolved into Transport Layer Security (TLS), HTTPS was formally specified by RFC 2818 in May 2000. Google announced in February 2018 that its Chrome browser would mark HTTP sites as "Not Secure" after July 2018. This move was to encourage website owners to implement HTTPS, as an effort to secure the internet.

```
C:\WINDOWS\system32\cmd.exe

Windows IP Configuration

Host Name . . . . . : fano
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : localdomain

Ethernet adapter Local Area Connection 4:

Connection-specific DNS Suffix . . . . . : fano
Physical Address. . . . . : 00-1B-63-84-45-E6
Dhcp Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
IP Address. . . . . : 192.168.0.5
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.254
DHCP Server . . . . . : 192.168.0.254
DNS Servers . . . . . : 192.168.0.254
Lease Obtained. . . . . : Friday January 1st 12:34:56
Lease Expires . . . . . : Saturday January 2nd 12:34:56

C:\Documents and Settings\Administrator>
```


IPv4 address is 32-bit address whereas **IPv6 is 128-bit** address.

Your IP address will get changed each time you connect to the network as it is dynamically allocated to your device when it participates in the network.

IP address for a particular connection in a network can be retrieved by **RARP(Reverse Address Resolution Protocol)**.

A network interface card (NIC) is a computer circuit board or card that is installed in a computer so that it can be **connected to a network**.

An **IPv4 address consists of four numbers**, each of which contains one to three digits, with a single dot (.) separating each number or set of digits. Each of the four numbers **can range from 0 to 255**. Here's an example of what an IP address might look like: 78.125.0.209.

IP4 address classes

| Class | Address range |
|----------------|-------------------------------------|
| Class A | 1.0.0.1 to 126.255.255.254 |
| Class B | 128.1.0.1 to 191.255.255.254 |
| Class C | 192.0.1.1 to 223.255.254.254 |
| Class D | 224.0.0.0 to 239.255.255.255 |
| Class E | 240.0.0.0 to 254.255.255.254 |

URL is basically Uniform **Resource Locator**. It basically contains the address of the data that is requested from the server.

A URL has two main components:

- **Protocol identifier**: For the URL `http://example.com`, the protocol identifier is `http`.
- **Resource name**: For the URL `http://example.com`, the resource name is `example.com`.

The **resource name is the complete address to the resource**. The format of the resource name depends entirely on the protocol used, but for many protocols, including HTTP, the **resource name contains one or more of the following components**:

1. **Host Name**: The name of the machine on which the resource lives.
2. **Filename**: The pathname to the file on the machine.
3. **Port Number**: The port number to which to connect (typically optional).
4. **Reference**: A reference to a named anchor within a resource that usually identifies a specific location within a file (typically optional).

Protocol, domain, path (or pathname), hash and query string.

Path- Path to the location of the particular file inside the server computer.

File Name - The requested file.

resource name includes

Protocol is the technology that will be used to transfer the data, usually http or https

Domain is the the domain name, tealium.com for example. **unacademy.com**

Path relates to the section and page on the site **lesson**

Hash relates to a section within the page

millennium-development-goals-way-to-jrf-in-hindi

Query string contains data that is being passed to the page **NNLQN9PO**

**https://unacademy.com/lesson/millennium-development-goals-way-to-jrf-in-hi
ndi/NNLQN9PO/?source=Course**

| <u>Section</u> <u>n</u> | <u>Description</u> | <u>Penalty or</u> <u>Imprisonment</u> |
|----------------------------|--|--|
| Section 43: | Person without the permission of owner or any other person-in-charge damage the Computer, or Computer System, or Computer Network | |
| Section 44 | Fails to furnish any document, return, report to the controller, or certifying authority, | Rs.1,50,000/- per failure |
| | Further where a person fails to furnish any information, books or other documents within time specified | Rs.5,000/- per day |
| © | Further provided that where a person fails to maintain books of accounts or other records | Rs.10,000/- per day |

| Offences | | |
|--------------------|--|--|
| Section 65 | Tampering with Computer Source Documents Conceals, destroys or alters or intentionally or knowingly causes another to conceal, destroy or alter any computer source code | Imprisonment up to 3 years, or with fine which may extend up to 2 lakh rupees, or with both. |
| | Computer source code is required to be kept or maintained by law for the time being in force | |
| Section 66 | Any person dishonestly, or fraudulently does any act as referred in Section 43 | Upto Rs.5,00,000/-, or Imprisonment upto 3 years, or both. |
| Section 66B | Fraudulently receives or retains any stolen computer resource or communication device | Upto rs.1,00,000/-, or imprisonment upto 3 years, or both |

| | | |
|--------------------|--|--|
| Section 66C | Make use of Electronic Signature , Password or any other Unique Identification Feature of any other person | Upto Rs.1,00,000/-, or Imprisonment upto 3 years, or both. |
| Section 66D | Any communication device or computer resource cheats by personating | Upto rs.1,00,000/-, or imprisonment upto 3 years, or both. |
| Section 66E | Intentionally captures , publishes, or transmits image of private area of any person without consent | Upto rs.2,00,000/-, or imprisonment upto 3 years, or both. |
| Section 66F | Any person does any act electronically, or with use of computer with intent to threaten unity, integrity, security, or sovereignty of India | Punishable with Imprisonment for Life. |
| Section 67 | Any person publishes, or transmits in electronic form any material which appeals to prurient interest (unhealthy interest in sex) | Shall be liable to pay penalty upto Rs.5,00,000/-, or Imprisonment upto 3 years, or both |
| | In the event of second or subsequent conviction | Upto rs.10,00,000/-, or imprisonment upto 5 years, or both. |
| Section 67A | Person publishes, or transmits in electronic form any material which contains sexually explicit act | Upto rs.10,00,000/-, or imprisonment upto 5 years, or both |
| | In the event of second or subsequent conviction | Rs.10,00,000/-, or imprisonment upto 7 years, or both. |

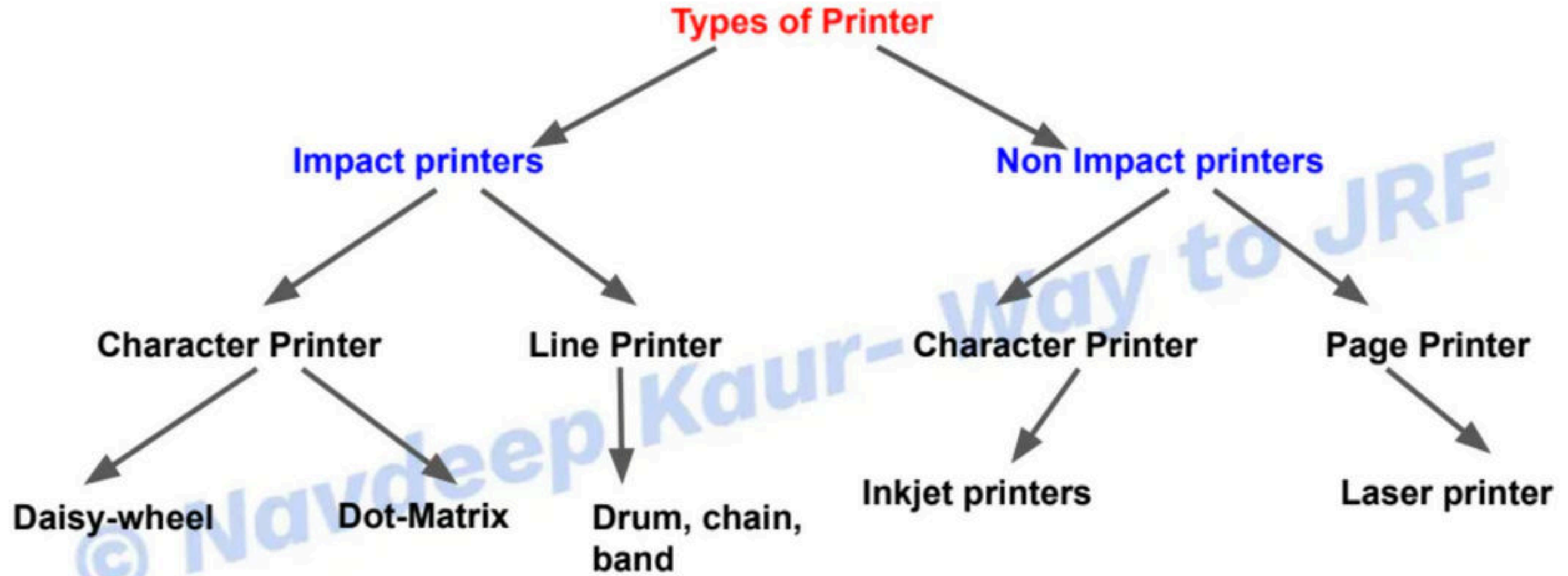
input

output



HTTP means HyperText Transfer Protocol. HTTP is the underlying protocol used by the World Wide Web and this protocol defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.

Hypertext Transfer Protocol Secure (HTTPS) is an extension of the Hypertext Transfer Protocol (HTTP).



Non-impact printers



Laser Printer



Inkjet Printer



Thermal Printer

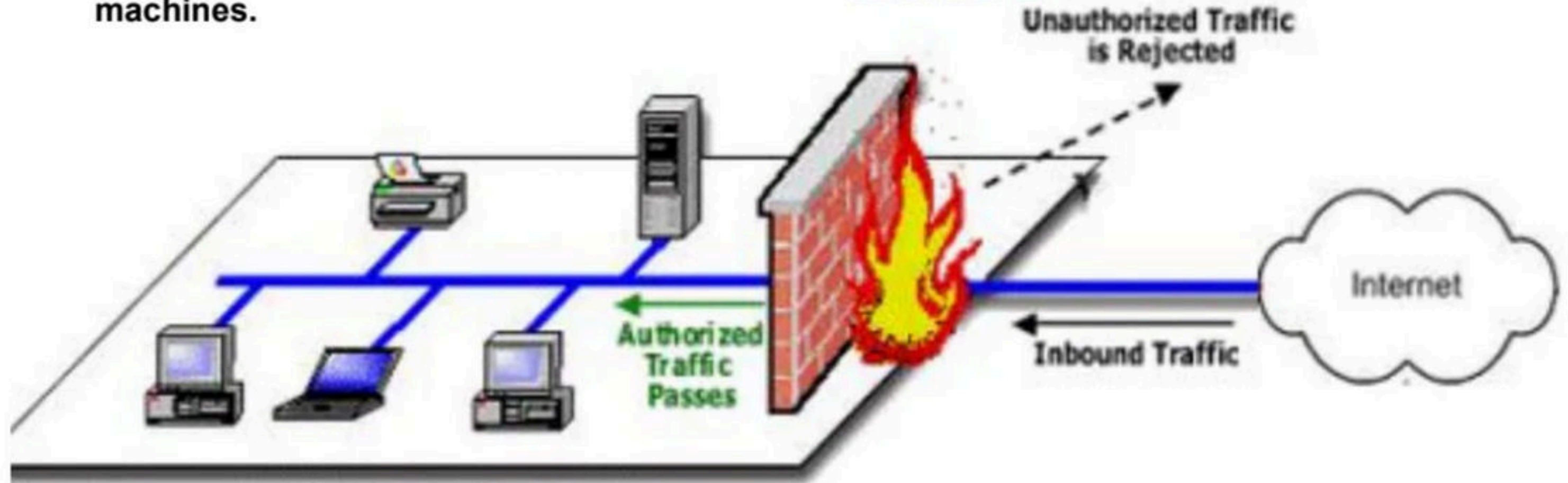


Plotter

Firewall

Firewall is a network security system that monitors and **controls incoming and outgoing network traffic based on predetermined security rules.**

- A firewall typically establishes a barrier between a trusted internal network and untrusted external network, such as the Internet.
- Firewalls are often categorized as either network firewalls or host-based firewalls. Network firewalls filter traffic between two or more networks and run on network hardware. Host-based firewalls run on host computers and control network traffic in and out of those machines.

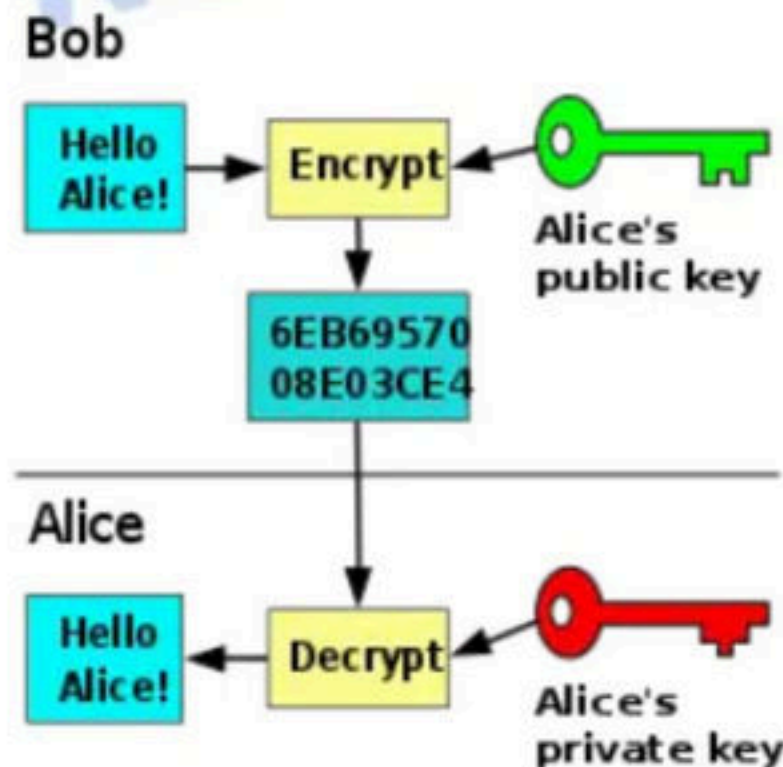


Cryptography (science) has 2 components and one of those components is encryption while the other be decryption.

Encryption (technique) is a process through which information is secured by converting into a code to prevent unauthorized usage.

Decryption is the process of decoding the information to read the original information.

Both, when work together enables secured communication which is nothing but "Cryptography".



The Supreme Court of India has legitimized the usage of Bitcoin across the country last year. The apex court observed that the existence of Bitcoin or any cryptocurrency is unregulated, but not illegal. This has relieved cryptocurrency traders to some extent. Now, India as a market is as vast as China, and this ruling has supported the world of digital money extensively. So, in simple words, investing in Bitcoin is completely legal and you can do so through various apps and traders in the market.

Bitcoin is absolutely legal in India. There is no law prohibiting Indians from buying/selling cryptocurrencies in India. There was a banking ban between **July 2018 – March 2020** due to which cryptocurrency exchanges were not able to hold bank accounts.

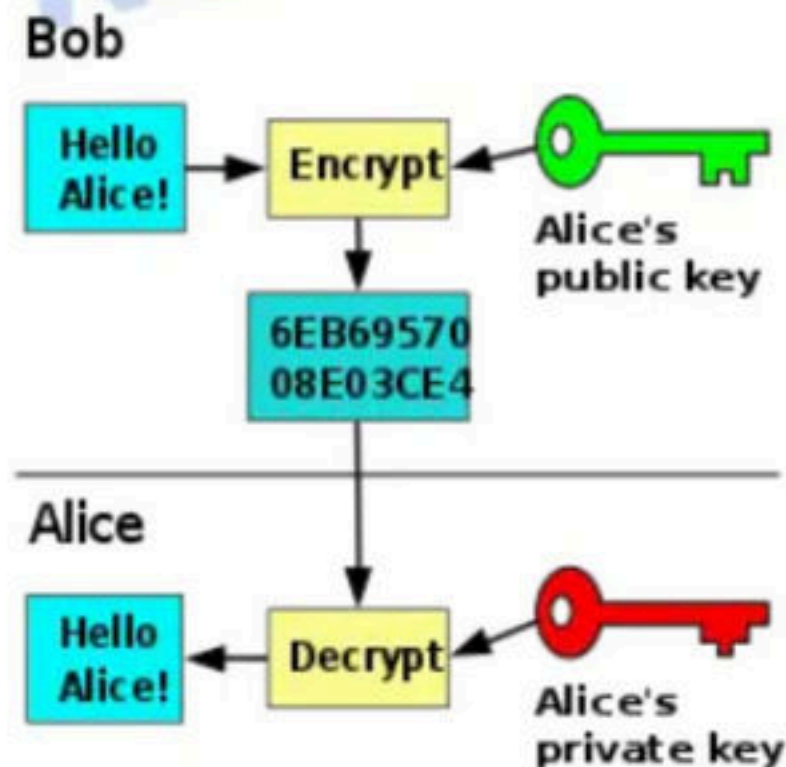
Earlier in 2018, the Reserve Bank of India had banned crypto transactions and alerted all banks to stop dealing with private cryptocurrencies. This halted cryptocurrency trading in India. However, in **2020, the Supreme Court** order squashed the central bank's order on the grounds of disproportionality.

Cryptography (science) has 2 components and one of those components is encryption while the other be decryption.

Encryption (technique) is a process through which information is secured by converting into a code to prevent unauthorized usage.

Decryption is the process of decoding the information to read the original information.

Both, when work together enables secured communication which is nothing but "Cryptography".



Blockchain: the record-keeping technology behind the Bitcoin network.

- > Blockchain is a specific type of database.
- > It differs from a typical database in the way it stores information; blockchains store data in blocks that are then chained together.
- > As new data comes in it is entered into a fresh block. Once the block is filled with data it is chained onto the previous block, which makes the data chained together in chronological order.
- > Different types of information can be stored on a blockchain but the most common use so far has been as a ledger for transactions.
- > In Bitcoin's case, blockchain is used in a decentralized way so that no single person or group has control—rather, all users collectively retain control.
- > Decentralized blockchains are immutable, which means that the data entered is irreversible. For Bitcoin, this means that transactions are permanently recorded and viewable to anyone.

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- WMV (wmv, wma, asf*)
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Then **Expected MCQs** in **Question Bank** book

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Then **Expected MCQs** in **Question Bank** book
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Table of Content in Detail

| | | | |
|---|----------|--|----------|
| 2020 All Shifts Previous Year Questions | Page No. | JUNE 2019 Mathematical and logical reasoning All shifts (Section Reasoning-J19) (Ans. Key R-J19) | 299-310 |
| Teaching Aptitude 2020 | 1- 14 | Reasoning all shifts Dec 2019 (Section Reasoning-D19) (Ans. Key R-D19) | 311-321 |
| Research Aptitude 2020 | 15- 27 | Data Interpretation | Page No. |
| Communication 2020 | 29- 39 | (Section DI-D19) (Ans. Key DI-D19) | 322-327 |
| Mathematical Reasoning 2020 | 40- 51 | (Section DI-7.1) (Ans. Key DI-7.1) | 328-361 |
| Logical Reasoning 2020 | 52- 62 | ICT PYQs | |
| Data Interpretation 2020 | 63- 75 | (Section I-8.1) (Answer Key I-8.1) | 362-379 |
| ICT 2020 | 76- 85 | (Section I-8.2) (Answer Key I-8.2) | 379-398 |
| Reading comprehension 2020 | 86- 99 | People and environment PYQs | |
| People and Environment 2020 | 100-111 | (Section P-9.1) (Answer Key P-9.1) | 391-407 |
| Higher Education 2020 | 112-121 | (Section P-9.2) (Answer Key P-9.2) | 408-422 |
| Teaching aptitude | | Higher education PYQs | |
| (Section T-1.1) (See Answer Key T-1.1) June, Dec 2019, Dec 2018 | 122-141 | (Section H-10.1) (Answer Key H-10.1) | 423-438 |
| (Section T-1.2) (Answer Key T-1.2) 2018 to 2004 All PYQs | 141-157 | (Section H-10.2) (Answer Key H-10.2) | 437-455 |
| Research Aptitude PYQs | | Expected MCQs Prepared by Navdeep Kaur | |
| (Section R-2.1) (Answer Key R-2.1) Dec 2019 & June 2019 & Dec 2018 | 158-173 | Expected MCQs on Teaching Aptitude | 447-467 |

| | | | |
|--|---------|--|---------|
| (Section R-2.2) (Answer Key R-2.2) 2018- 2004 All PYQs | 173-190 | Expected MCQs on Research Aptitude | 468-481 |
| Unit 3: Reading comprehension (Section RC-3.1) (Answer Key RC-3.1) | 193-198 | Expected MCQs on Reading comprehension | 482-485 |
| (Section RC-3.2) (Answer Key RC-3.2) | 198-223 | Expected MCQs on Communication | 486-496 |
| Communication PYQs | | Expected MCQs on Math. Reasoning | 497-507 |
| (Section C-4.1) (Answer Key C-4.1) | 224-239 | Expected MCQs on Logical Reasoning | 508-513 |
| (Section C-4.2) (Answer Key C-4.2) | 239-253 | Expected MCQs on Data Interpretation | 514-521 |
| Mathematical Reasoning and Aptitude | 254 | Expected MCQs on ICT | 522-527 |
| (Section M-5.1) (Answer Key M-5.1) | 255-277 | Expected MCQs on People & environment | 528-532 |
| Logical Reasoning | | Expected MCQs on Higher education | 533-542 |
| (Section L-6.1) (Answer Key L-6.1) | 278-304 | | |

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Index for Concepts:

| | |
|--|------------------|
| Unit 1: Business Environment and International Business | 1 - 20 |
| International Business | 10 - 20 |
| Unit 2: Accounting and Auditing | 21 - 40 |
| Unit 3: Business Economics | 41 - 55 |
| Unit 4: Business Finance | 56 - 75 |
| Unit 5: Business Statistics and Research Methods | 76 - 102 |
| Unit 6: Business Management and Human Resource Management | 103 - 145 |
| Human Resource management | 116 - 145 |
| Unit 7: Banking and Financial Institutions | 146 - 188 |
| Unit 8: Marketing Management | 189 - 219 |
| Unit 9: Legal Aspects of Business | 220 - 262 |
| Unit 10: Income-tax and Corporate Tax Planning | 263 - 319 |
| <u>Latest Syllabus READING COMPREHENSION</u> | 320 - 325 |

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Index of Question Bank

| | |
|---|----------|
| Unit 1: Business Environment and International Business | |
| Business Environment PYQs (Sec 1.1) | 1- 8 |
| International Business PYQs (Sec 1.2) | 8- 19 |
| Expected Questions on Unit 1: BE & IB (Sec 1.3) | 20- 24 |
| Answer Key & Explanation of Section 1.1 to 1.3 | 24- 28 |
| Unit 2: Accounting and Auditing- PYQs Sec 2.1 | 29- 40 |
| Expected MCQ on Unit 2: Accounting and Auditing Sec 2.2 | 41- 46 |
| Answer Key of Sec 2.1 and 2.2 | 46- 49 |
| Unit 3: Business Economics- PYQs Sec 3.1 | 50-54 |
| Expected MCQs on Business | 54- 58 |
| Business Economics PYQs | 58- 62 |
| Answer Key & Explanation of Sec 3.1 | 62- 64 |
| Unit 4: Business Finance- PYQs Section 4.1 | 65- 66 |
| Business Finance PYQs Section 4.2 | 66- 75 |
| Expected Questions on Business Finance Section 4.3 | 75- 79 |
| Answer Key of Sec 4.1 to 4.3 | 79- 81 |
| Unit 5: Business Statistics and Research Methods- PYQs Sec 5.1 | 82-83 |
| Business Statistics and Research Methods- PYQs section 5.2 | 83- 92 |
| Expected Questions on Business Statistics and Research Methods section 5.3 | 92- 97 |
| Answer Key of Section 5.1 to 5.3 | 97- 98 |
| Unit 6: Business Management and Human Resource Management- PYQs section 6.1 | 99- 115 |
| Expected Questions on Unit 6: BM and HRM Section 6.2 | 116- 120 |
| Answer Key of Section 6.1 to 6.2 | 120- 122 |
| Unit 7: Banking and Financial Institutions- PYQs section 7.1 | 123- 129 |
| Expected Questions on Unit 7: Banking and Financial Institutions Section 7.2 | 129- 131 |
| Answer Key of Section 7.1 to 7.2 | 131- 134 |
| Unit 8: Marketing Management- PYQs Section 8.1 | 135- 144 |
| Expected Questions on Unit 8: Marketing Management Section 8.2 | 145- 147 |
| Answer Key of Section 8.1 to 8.2 | 147- 152 |
| Unit 9: Legal Aspects of Business- PYQs Section 9.1 | 153- 154 |
| Expected Questions on Unit 9: Legal Aspects of Business | 154- 160 |
| Answer Key of Section 9.1 | 160- 162 |
| Unit 10: Income-tax and Corporate Tax Planning- PYQs Section 10.1 | 163- 168 |
| Expected Questions on Unit 10: Income-tax and Corporate Tax Planning Section 10.2 | 168- 172 |
| Answer Key of Section 10.1 & 10.2 | 172- 176 |
| 2020 PYQs First Shift 17 Oct 2020 | 177- 186 |
| 2020 PYQs Second Shift 17 Oct 2020 | 186- 195 |

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- Biggest issue Panic
- Ur fear kills ur time



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How to Manage and deal with Ques.

Read Ques carefully

Best to be Fast but don't skip Important



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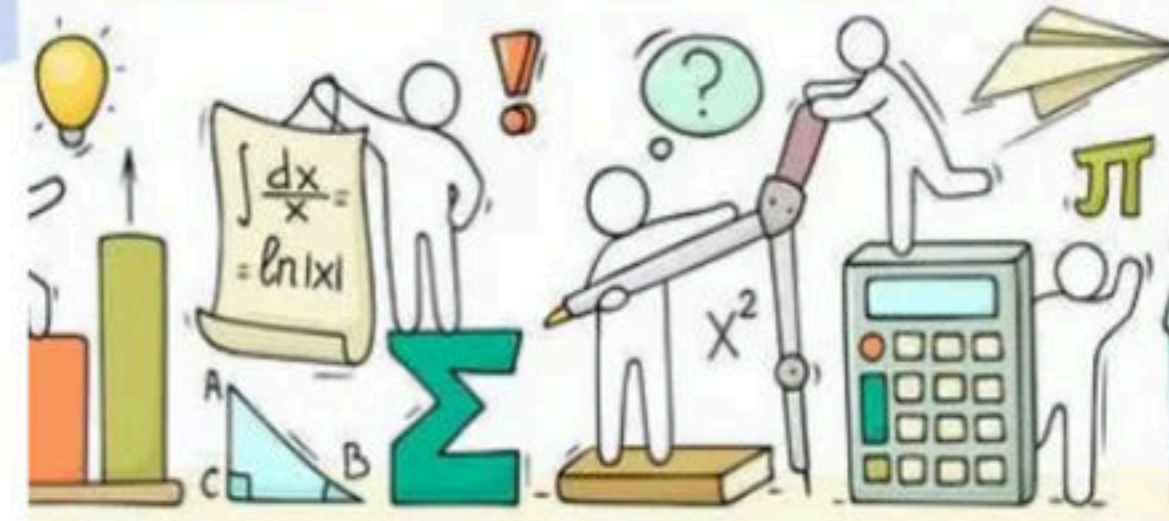
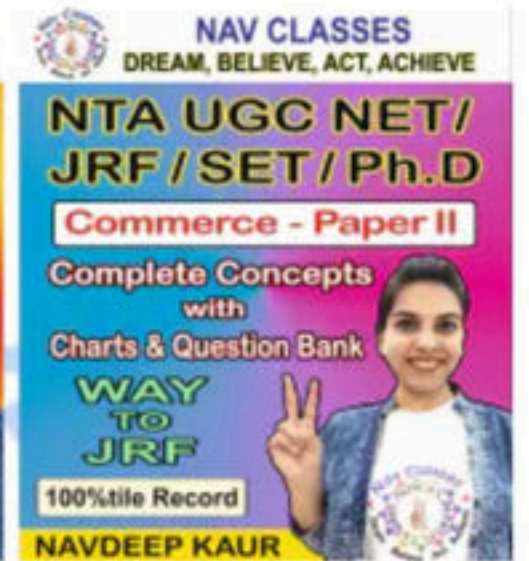
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In Data Interpretation

Mathematical reasoning

- Do random Divide Daily
- Slowly read Ques
- Make equation for that part only
- Then read further, then solve
- If not able to, go backward
- Do from options



Unit-I Teaching Aptitude

- Levels of teaching (Memory, Understanding and Reflective),
- Learner's characteristics: (Academic, Social, Emotional and Cognitive),
- Methods : Teacher centred vs. Learner centred methods; Off-line vs. On-line methods (Swayam, Swayamprabha, MOOCs etc.).
- Teaching Support System: Traditional, Modern and ICT based.
- Evaluation Systems: Choice Based Credit System in Higher education, Computer based testing, Innovations in evaluation systems.





Unit-II Research Aptitude

- Types, and Characteristics,
- Positivism and Post positivist approach to research.
- Methods: Experimental, Descriptive, Historical, Qualitative and Quantitative methods.
- Steps of Research.
- Thesis and Article writing: Format and styles of referencing.
- Application of ICT in research.
- Research ethics.

Unit-III Comprehension

Unit-IV Communication

- **Meaning, types**
- **Effective communication**
- **Inter-Cultural and group**
- **Classroom communication.**
- **Barriers to effective communication.**
- **Mass-Media and Society**



Unit-V Mathematical Reasoning and Aptitude

- Types of reasoning.
- Number series,
- Letter series, Codes and Relationships.
- (Fraction, Time & Distance, Ratio, Proportion and Percentage, Profit and Loss, Interest and Discounting, Averages etc.).

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Unit-VI Logical Reasoning



- Understanding the structure of arguments: argument forms, structure of categorical propositions, Mood and Figure, Formal and Informal fallacies,
- Uses of language, Connotations and denotations of terms, Classical square of opposition.
- Evaluating and distinguishing deductive and inductive reasoning.
- Analogies.
- Venn diagram: Simple and multiple use for establishing validity of arguments.

Indian Logic: Means of knowledge.

- **Pramanas: Pratyaksha (Perception), Anumana (Inference), Upamana (Comparison), Shabda (Verbal testimony), Arthapatti (Implication) and Anupalabddhi (Non-apprehension).**
- **Structure and kinds of Anumana (inference), Vyapti (invariable relation), Hetvabhasas (fallacies of inference).**

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Unit-VII Data Interpretation

- Table-chart and Line-chart

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Unit-VIII Information and Communication Technology (ICT)

- ICT: General abbreviations and terminology.
- Basics of Internet, Intranet, E-mail, Audio and Video-conferencing.
- Digital initiatives in higher education.
- ICT and Governance.
- Data representation
- Fundamentals



Unit-IX People, Development and Environment

- **Development and environment: Millennium development and Sustainable development goals.**
- **Human and environment interaction: Anthropogenic activities and their impacts on environment.**
- **Environmental issues: Local, Regional and Global; Air pollution, Water pollution, Soil pollution, Noise pollution, Waste (solid, liquid, biomedical, hazardous, electronic), Climate change and its Socio-Economic and Political dimensions.**
- **Impacts of pollutants on human health.**
- **Natural and energy resources: Solar, Wind, Soil, Hydro, Geothermal,**
- **Biomass, Nuclear and Forests.**

- **Natural hazards and disasters: Mitigation strategies.**
- **Environmental Protection Act (1986), National Action Plan on Climate Change, International agreements/efforts -Montreal Protocol, Rio Summit,**
- **Convention on Biodiversity, Kyoto Protocol, Paris Agreement, International Solar Alliance.**

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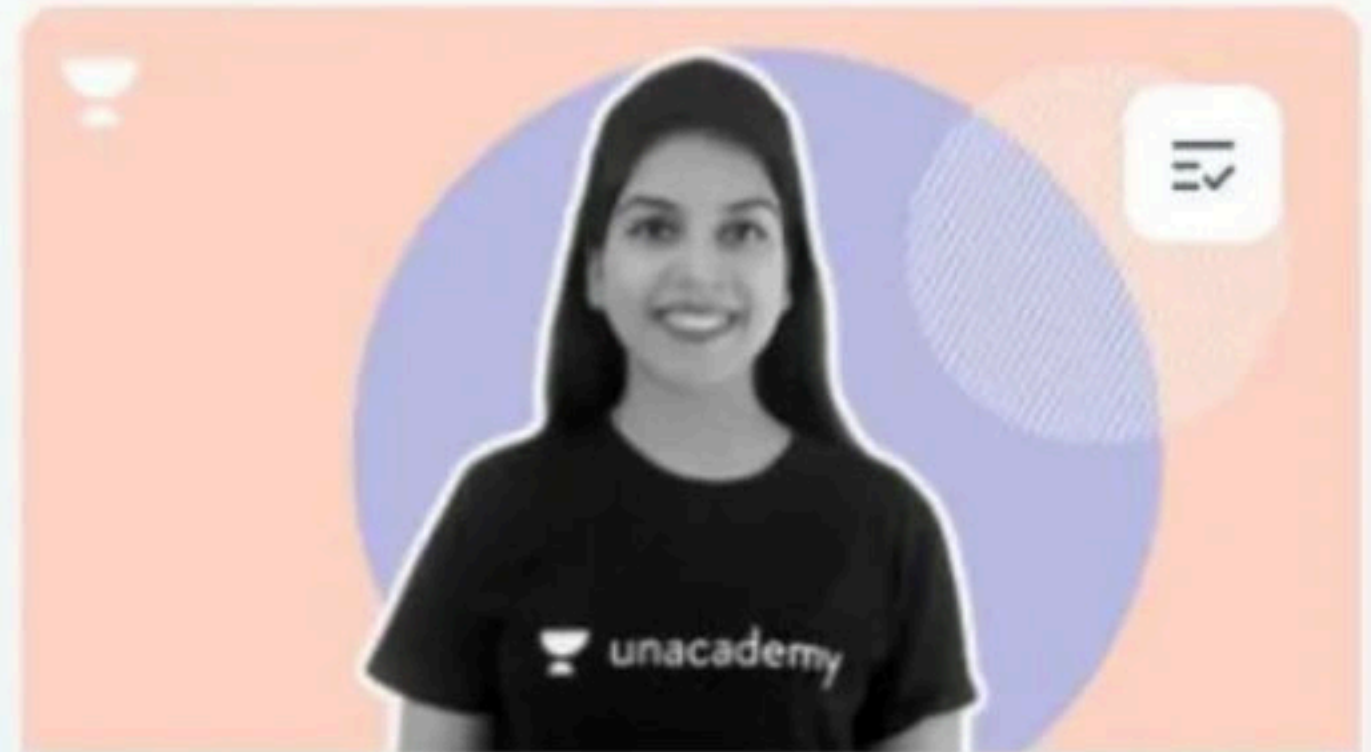
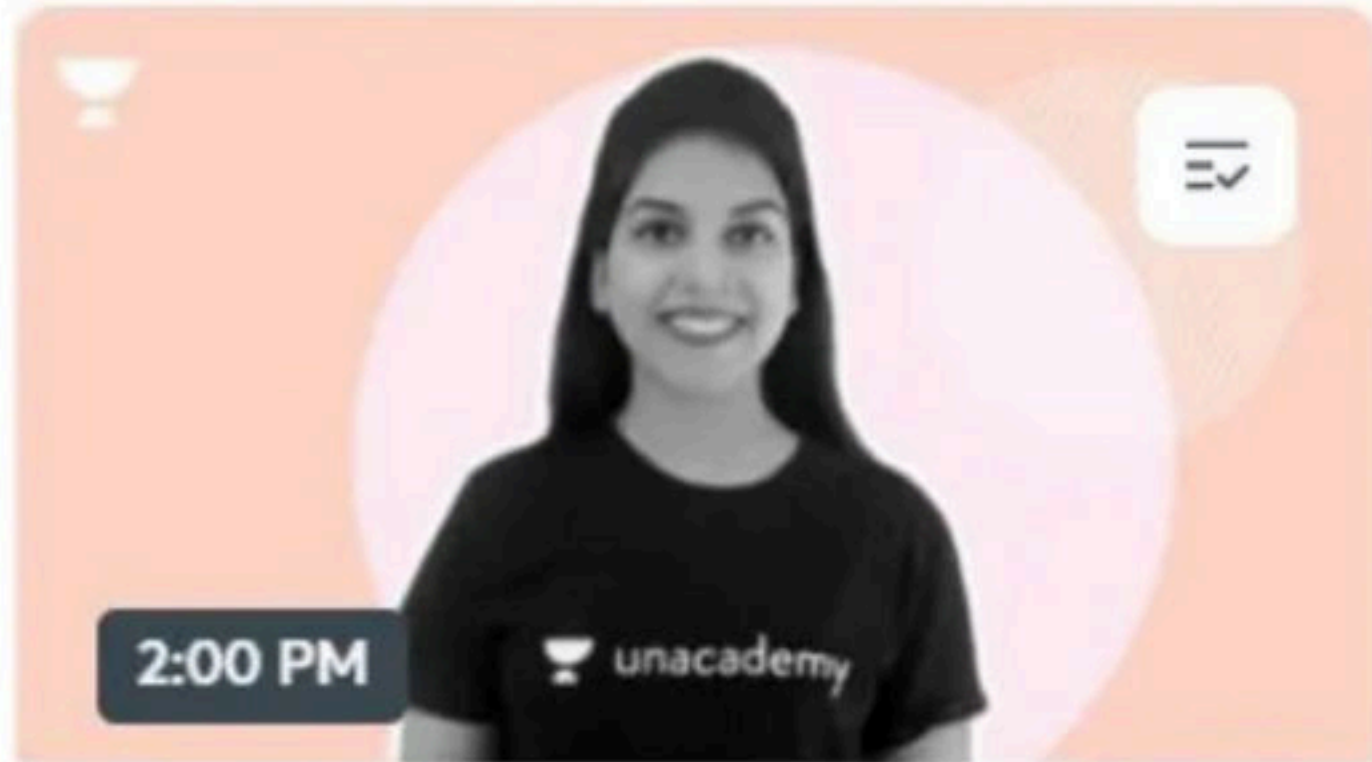
Unit-X Higher Education System

- Institutions of higher learning and education in ancient India.
- Evolution of higher learning and research in Post Independence India.
- Oriental, Conventional and Non-conventional learning programmes in India.
- Professional, Technical and Skill Based education.
- Value education and environmental education.
- Policies, Governance, and Administration.



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3 Hours to Paper 2 your subject (For Commerce management Maha Episodes will come during last days for Revision)

Samagra Shiksha Scheme 2.0 is a new version of the Samagra Shiksha Scheme.

- 4 Aug 2021

The scheme will be in effect from **April 1, 2021 to March 31, 2026**.

For this period, a **budget of Rs 2.94 lakh crore** has been approved.

The scheme covers **1.16 million schools, over 156 million students, and 5.7 million teachers** from **pre-primary to senior secondary level in government and aided schools**.

The scheme provides up to **Rs 500 per child per year** for **Teaching Learning Materials (TLM), indigenous toys and games, and play-based activities** in **Government Schools' pre-primary sections**.

Union Education Minister Dharmendra Pradhan announced the scheme, saying it will provide access to **quality education in an equitable and inclusive classroom environment**.

Samagra Shiksha is a comprehensive school education programme that runs from **pre-school to class 12**. It was created with the overarching goal of improving school **effectiveness as measured by equal access to education and equitable learning outcomes**.

It incorporates the **three schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education into one (TE)**.

Since the implementation of the National Education Policy (NEP) 2020 is underway, the Samagra Shiksha 2.0 scheme will also take new paths.

According to the **cabinet committee on economic affairs (CCEA)**, all **child-centric interventions will be provided directly to students over time through DBT mode (Direct Benefit Transfer) on an IT-based platform** in order to improve the scheme's direct outreach.

Furthermore, the existing infrastructure of **schools, ITIs, and Polytechnics** will be used to ensure that the facilities are utilised optimally, **not only for school-age children but also for out-of-school children**.

NIPUN Bharat, a new scheme, has been launched. This is a **National Mission on Foundational Literacy and Numeracy** that aims to ensure that every child achieves the desired learning competencies in reading, writing, and numeracy by the end of third grade and no later than fifth grade.

Teaching Learning Materials (TLM) of up to Rs 500 per child per year, Rs 150 per teacher for teacher manuals and resources, and Rs 10-20 lakh per district for assessment are available.

For **out-of-school children aged 16 to 19**, the scheme will provide **Rs 2,000 per child for SC, ST, and disabled children**.

This is in order for them to complete their **secondary/senior secondary levels via NIOS/SOS**.

The Major interventions proposed under the scheme are includes:

- Universal Access to Education including Infrastructure Development and Retention
- Foundational Literacy and Numeracy
- Gender and Equity
- Quality and Innovation
- Financial support for Teachers' Salary
- Digital initiatives
- Vocational Education
- Sports and Physical Education
- Strengthening of Teacher Education and Training

Major Objectives of the scheme:

- 1. Implementing the recommendations of the National Education Policy 2020**
- 2. Implementation of Right of Children to Free and Compulsory Education (RTE) Act, 2009**
- 3. Early Childhood Care and Education**
- 4. Emphasis on Foundational Literacy and Numeracy**
- 5. Emphasis on activity-based Curriculum and Pedagogy to impart 21st-century skills to the students**
- 6. Bridging Social and Gender Gaps in School Education**
- 7. Strengthening and up-gradation of State Councils for Educational Research and Training (SCERTs)/State Institutes of Education and District Institutes for Education and Training (DIET) as the nodal agency for teacher training**
- 8. Ensuring a safe, secure and conducive learning environment and maintenance of standards in schooling provisions**

समग्र शिक्षा योजना 2.0 समग्र शिक्षा योजना का एक नया संस्करण है।

यह योजना 1 अप्रैल, 2021 से 31 मार्च, 2026 तक प्रभावी रहेगी। इस अवधि के लिए 2.94 लाख करोड़ रुपये के बजट को मंजूरी दी गई है।

इस योजना में 1.16 मिलियन स्कूल, 156 मिलियन से अधिक छात्र, और 5.7 मिलियन शिक्षक पूर्व-प्राथमिक से वरिष्ठ माध्यमिक स्तर के सरकारी और सहायता प्राप्त स्कूलों में शामिल हैं।

यह योजना सरकारी स्कूलों के पूर्व-प्राथमिक वर्गों में शिक्षण सामग्री (टीएलएम), स्वदेशी खिलौने और खेल, और खेल-आधारित गतिविधियों के लिए प्रति वर्ष 500 रुपये तक प्रदान करती है।

केंद्रीय शिक्षा मंत्री धर्मेंद्र प्रधान ने इस योजना की घोषणा करते हुए कहा कि यह एक समान और समावेशी कक्षा के माहौल में गुणवत्तापूर्ण शिक्षा तक पहुंच प्रदान करेगी।

समग्र शिक्षा एक व्यापक स्कूली शिक्षा कार्यक्रम है जो पूर्व-विद्यालय से कक्षा 12 तक चलता है। इसे शिक्षा की समान पहुंच और समान सीखने के परिणामों द्वारा मापा गया स्कूल प्रभावशीलता में सुधार के व्यापक लक्ष्य के साथ बनाया गया था।

इसमें सर्व शिक्षा अभियान (एसएसए), राष्ट्रीय माध्यमिक शिक्षा अभियान (आरएमएसए), और शिक्षक शिक्षा की तीन योजनाओं को एक (टीई) में शामिल किया गया है।

चूंकि राष्ट्रीय शिक्षा नीति (एनईपी) 2020 का कार्यान्वयन चल रहा है, समग्र शिक्षा 2.0 योजना भी नए रास्ते अपनाएगी।

आर्थिक मामलों की कैबिनेट कमेटी (सीसीईए) के अनुसार, योजना की सीधी पहुंच में सुधार के लिए आईटी आधारित प्लेटफॉर्म पर डीबीटी मोड के माध्यम से समय के साथ सभी बाल-केंद्रित हस्तक्षेप सीधे छात्रों को प्रदान किए जाएंगे।

इसके अलावा, स्कूलों, आईटीआई और पॉलिटेक्निक के मौजूदा बुनियादी ढांचे का उपयोग यह सुनिश्चित करने के लिए किया जाएगा कि न केवल स्कूली उम्र के बच्चों के लिए बल्कि स्कूल से बाहर के बच्चों के लिए भी सुविधाओं का बेहतर उपयोग किया जाए।

NIPUN भारत, एक नई योजना शुरू की गई है। यह मूलभूत साक्षरता और संख्यात्मकता पर एक राष्ट्रीय मिशन है जिसका उद्देश्य यह सुनिश्चित करना है कि प्रत्येक बच्चा तीसरी कक्षा के अंत तक और बाद में पांचवीं कक्षा के बाद पढ़ने, लिखने और अंकगणित में वांछित सीखने की क्षमता हासिल कर ले।

प्रति बच्चा प्रति वर्ष 500 रुपये तक का टीएलएम, शिक्षक नियमावली और संसाधनों के लिए प्रति शिक्षक 150 रुपये और मूल्यांकन के लिए 10-20 लाख रुपये प्रति जिला उपलब्ध है।

16 से 19 वर्ष की आयु के स्कूल से बाहर के बच्चों के लिए, योजना एससी, एसटी और विकलांग बच्चों के लिए प्रति बच्चा 2,000 रुपये प्रदान करेगी। यह उनके लिए एनआईओएस/एसओएस के माध्यम से अपने माध्यमिक/वरिष्ठ माध्यमिक स्तर को पूरा करने के लिए है।

योजना के तहत प्रस्तावित प्रमुख हस्तक्षेपों में शामिल हैं:

- बुनियादी ढांचे के विकास और प्रतिधारण सहित शिक्षा के लिए सार्वभौमिक पहुंच
- मूलभूत साक्षरता और संख्यात्मकता
- लिंग और समानता
- गुणवत्ता और नवाचार
- शिक्षकों के वेतन के लिए वित्तीय सहायता
- डिजिटल पहल
- व्यावसायिक शिक्षा
- खेल और शारीरिक शिक्षा
- शिक्षक शिक्षा और प्रशिक्षण का सुदृढीकरण

योजना के प्रमुख उद्देश्य:

इस योजना का उद्देश्य सभी को स्कूली शिक्षा तक सार्वभौमिक पहुंच प्रदान करना है, जिसमें राज्यों और केंद्र शासित प्रदेशों को सहायता प्रदान करने के कुछ प्रमुख उद्देश्य शामिल हैं:

1. राष्ट्रीय शिक्षा नीति 2020 की सिफारिशों को लागू करना
2. बच्चों के मुफ्त और अनिवार्य शिक्षा के अधिकार (आरटीई) अधिनियम, 2009 का कार्यान्वयन
3. बचपन की देखभाल और शिक्षा
4. आधारभूत साक्षरता और संख्यात्मकता पर जोर
5. छात्रों को 21वीं सदी के कौशल प्रदान करने के लिए गतिविधि आधारित पाठ्यचर्या और शिक्षाशास्त्र पर जोर
6. स्कूली शिक्षा में सामाजिक और लैंगिक अंतर को पाटना
7. शिक्षक प्रशिक्षण के लिए नोडल एजेंसी के रूप में राज्य शैक्षिक अनुसंधान और प्रशिक्षण परिषद (एससीईआरटी) / राज्य शिक्षा संस्थान और जिला शिक्षा और प्रशिक्षण संस्थान (डीआईईटी) का सुदृढीकरण और उन्नयन
8. एक सुरक्षित, सुरक्षित और अनुकूल शिक्षण वातावरण सुनिश्चित करना और स्कूली शिक्षा के प्रावधानों में मानकों का रखरखाव करना



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PRIME MINISTER
NARENDRA MODI

to launch digital
payment solution

e-RUPI

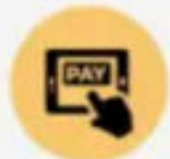
on 2nd August



e-RUPI is a **cashless and contactless** instrument for **digital payment** developed by **National Payments Corporation of India**



Connects sponsors of the services with beneficiaries & service providers in a **digital manner without any physical interface**



Assures timely payment **without involvement of any intermediary.**



It can also be used for **delivering services** meant for **providing drugs & nutritional support under Mother & Child welfare schemes, TB eradication programmes, etc**

**e-RUPI Digital Payment Launched
by PM Modi**

India's own Digital currency

| | |
|-------------------------|--|
| Initiative | e-RUPI Digital Payment |
| Launched By | Government Of India |
| Beneficiary | Citizens Of India or anyone having it can redeem Example: Can be used for fertilizer subsidies, Ayushman Bharat, Pradhan Mantri Jan Arogya Yojana etc |
| Objective | To Provide Cashless And Contactless Instrument For Making Digital Payments |
| Official Website | https://www.npci.org.in/ National Payments Corporation of India |
| Year | 2021 |

Everything Nav Learner Need to Know About e-RUPI

- e-RUPI is a cashless and contactless digital payment instrument. It is a **QR code or SMS string-based e-Voucher** that is delivered to the beneficiaries' mobile phones.
- Users of this **one-time payment mechanism** will be able to redeem the voucher at the service provider **without the need for a card, digital payments app, or internet banking access.**
- It was created in **collaboration with the Department of Financial Services, the Ministry of Health and Family Welfare, and the National Health Authority on the National Payments Corporation of India's UPI platform.**
- e-RUPI connects service sponsors with beneficiaries and service providers in a digital manner, with no physical interface. It also ensures that payment is made to the service provider only after the transaction is completed. **Because it is pre-paid, it ensures timely payment to the service provider without the involvement of a third party.**
- It is expected to be a game-changing initiative aimed at ensuring the **delivery of leak-proof welfare services.**
- Not only the **government, but any general organisation or organisation** that wants to help someone in their treatment, education, or any other work **will be able to do so using e-RUPI rather than cash.**

नव लर्नर को e-RUPI के बारे में जानने की जरूरत है सब कुछ

- e-RUPI एक कैशलेस और कॉन्टैक्टलेस डिजिटल पेमेंट इंस्ट्रूमेंट है। यह एक क्यूआर कोड या एसएमएस स्ट्रिंग-आधारित ई-वाउचर है जो लाभार्थियों के मोबाइल फोन पर दिया जाता है।
- इस एकमुश्त भुगतान प्रणाली के उपयोगकर्ता कार्ड, डिजिटल भुगतान ऐप या इंटरनेट बैंकिंग एक्सेस की आवश्यकता के बिना सेवा प्रदाता के वाउचर को भुनाने में सक्षम होंगे।
- इसे भारतीय राष्ट्रीय भुगतान निगम के UPI प्लेटफॉर्म पर वित्तीय सेवा विभाग, स्वास्थ्य और परिवार कल्याण मंत्रालय और राष्ट्रीय स्वास्थ्य प्राधिकरण के सहयोग से बनाया गया था।
- ई-आरयूपीआई बिना किसी भौतिक इंटरफेस के डिजिटल तरीके से सेवा प्रायोजकों को लाभार्थियों और सेवा प्रदाताओं से जोड़ता है। यह यह भी सुनिश्चित करता है कि लेन-देन पूरा होने के बाद ही सेवा प्रदाता को भुगतान किया जाए। क्योंकि यह प्री-पेड है, यह किसी तीसरे पक्ष की भागीदारी के बिना सेवा प्रदाता को समय पर भुगतान सुनिश्चित करता है।
- लीक-प्रूफ कल्याण सेवाओं की डिलीवरी सुनिश्चित करने के उद्देश्य से यह एक गेम-चेंजिंग पहल होने की उम्मीद है।
- न केवल सरकार, बल्कि कोई भी सामान्य संगठन या संगठन जो किसी के इलाज, शिक्षा या किसी अन्य काम में मदद करना चाहता है, वह नकद के बजाय ई-आरयूपीआई का उपयोग करके ऐसा कर सकेगा।

The following are the consumer benefits of e-RUPI:

Contactless: The beneficiary does not need to carry a printout of the voucher.

Simple redemption: A two-step redemption procedure

Safe and secure: Because the beneficiary is not required to share personal information during redemption, privacy is maintained.

There is no need for a digital or bank presence: The consumer who redeems the voucher does not need to have a digital payment app or a bank account.

ई-आरयूपीआई के उपभोक्ता लाभ निम्नलिखित हैं:

- संपर्क रहित: लाभार्थी को वाउचर का प्रिंटआउट ले जाने की आवश्यकता नहीं है।
- सरल मोचन: एक दो-चरणीय मोचन प्रक्रिया
- सुरक्षित और सुरक्षित: चूंकि मोचन के दौरान लाभार्थी को व्यक्तिगत जानकारी साझा करने की आवश्यकता नहीं होती है, इसलिए गोपनीयता बनाए रखी जाती है।
- डिजिटल या बैंक उपस्थिति की कोई आवश्यकता नहीं है: वाउचर को भुनाने वाले उपभोक्ता के पास डिजिटल भुगतान ऐप या बैंक खाता होने की आवश्यकता नहीं है।

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The terms 'pyrolysis and plasma gasification' are mentioned in which of the following contexts?

- (a) Rare earth element extraction
- (b) Techniques for extracting natural gas
- (c) Automobiles that run on hydrogen fuel
- (d) Waste-to-energy (WTE) systems

निम्नलिखित में से किसके संदर्भ में पद हैं

'पायरोलिसिस और प्लाज्मा गैसीकरण' का उल्लेख है?

- (ए) दुर्लभ पृथ्वी तत्वों का निष्कर्षण
- (बी) प्राकृतिक गैस निष्कर्षण प्रौद्योगिकियां
- (सी) हाइड्रोजन ईंधन आधारित ऑटोमोबाइल
- (डी) अपशिष्ट से ऊर्जा प्रौद्योगिकियां

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'पायरोलिसिस और प्लाज्मा गैसीकरण' का उल्लेख है?

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- (डी) अपशिष्ट से ऊर्जा प्रौद्योगिकियां

PAG is a waste-treatment method that uses a mix of electricity and high temperatures to convert municipal waste (garbage or trash) into useable by-products without the use of combustion (burning).

Which of the following claims concerning methane hydrate deposits is true?

1. The release of methane gas from these deposits could be triggered by global warming.
2. In the Arctic Tundra and beneath the seafloor, large deposits of 'methane hydrate' can be found.
3. After a decade or two, methane in the atmosphere oxidises to carbon dioxide.

Using the code provided below, select the correct answer.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

मीथेन हाइड्रेट जमा के संबंध में निम्नलिखित में से कौन सा दावा सही है?

1. इन जमाओं से मीथेन गैस का उत्सर्जन ग्लोबल वार्मिंग के कारण हो सकता है।
2. आर्कटिक टुंड्रा और समुद्र तल के नीचे 'मीथेन हाइड्रेट' के बड़े भंडार पाए जा सकते हैं।
3. एक या दो दशक के बाद, वातावरण में मीथेन कार्बन डाइऑक्साइड में ऑक्सीकृत हो जाती है।

नीचे दिए गए कूट का प्रयोग कर सही उत्तर का चयन करें।

- (ए) केवल 1 और 2
- (बी) केवल 2 और 3
- (सी) केवल 1 और 3
- (डी) 1, 2 और 3

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मीथेन हाइड्रेट जमा के संबंध में निम्नलिखित में से कौन सा दावा सही है?

1. इन जमाओं से मीथेन गैस का उत्सर्जन ग्लोबल वार्मिंग के कारण हो सकता है।
2. आर्कटिक टुंड्रा और समुद्र तल के नीचे 'मीथेन हाइड्रेट' के बड़े भंडार पाए जा सकते हैं।
3. एक या दो दशक के बाद, वातावरण में मीथेन कार्बन डाइऑक्साइड में ऑक्सीकृत हो जाती है।

नीचे दिए गए कूट का प्रयोग कर सही उत्तर का चयन करें।

- (ए) केवल 1 और 2
- (बी) केवल 2 और 3
- (सी) केवल 1 और 3
- (डी) 1, 2 और 3

Only certain physical, chemical, and geological conditions allow methane hydrates to form. The optimal conditions are high water pressures and cold temperatures. Methane Hydrate deposits can be hundreds of metres thick and can be found in two places: beneath Arctic permafrost and beneath the ocean floor. As a result of global warming, the temperature has risen, destabilising the methane hydrates and allowing methane to escape. Methane has a short lifetime in the atmosphere; within a decade or two, a molecule of methane is oxidised to water and carbon dioxide, primarily by interaction with another trace gas, the hydroxyl radical OH⁻.

केवल कुछ भौतिक, रासायनिक और भूवैज्ञानिक स्थितियां ही मीथेन हाइड्रेट्स को बनने देती हैं। इष्टतम स्थितियां उच्च पानी के दबाव और ठंडे तापमान हैं। मीथेन हाइड्रेट जमा सैकड़ों मीटर मोटी हो सकती है और इसे दो स्थानों पर पाया जा सकता है: आर्कटिक पर्माफ्रॉस्ट के नीचे और समुद्र तल के नीचे। ग्लोबल वार्मिंग के परिणामस्वरूप, तापमान बढ़ गया है, मीथेन हाइड्रेट्स को अस्थिर कर रहा है और मीथेन को बाहर निकलने की इजाजत दे रहा है। वातावरण में मीथेन का जीवनकाल छोटा होता है; एक या दो दशक के भीतर, मीथेन का एक अणु पानी और कार्बन डाइऑक्साइड में ऑक्सीकृत हो जाता है, मुख्य रूप से एक अन्य ट्रेस गैस, हाइड्रॉक्सिल रेडिकल OH⁻ के साथ बातचीत करके।

Consider the following propositions:

1. The Ramsar Convention requires the Indian government to safeguard and conserve all wetlands within its borders.
2. The Wetlands (Conservation and Management) Rules, 2010, were drafted by the Indian government in response to the Ramsar Convention's recommendations.
3. The Wetlands (Conservation and Management) Rules, 2010 also cover the authority's determination of the wetlands' drainage area or catchment areas.

Which of the following assertions is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

निम्नलिखित प्रस्तावों पर विचार करें:

1. रामसर कन्वेंशन के लिए भारत सरकार को अपनी सीमाओं के भीतर सभी आर्द्रभूमियों की सुरक्षा और संरक्षण की आवश्यकता है।
2. आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2010, रामसर कन्वेंशन की सिफारिशों के जवाब में भारत सरकार द्वारा तैयार किए गए थे।
3. आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2010 में प्राधिकरण द्वारा आर्द्रभूमि के जल निकासी क्षेत्र या जलग्रहण क्षेत्रों के निर्धारण को भी शामिल किया गया है।

निम्नलिखित में से कौन सा/से कथन सही है/हैं?

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The Ramsar Convention is an intergovernmental convention that establishes a framework for national and international action to conserve and wisely utilise wetlands and their resources. The Contracting Parties agree to work toward the wise use of all their wetlands under the Convention's three pillars: designate suitable wetlands for the Ramsar List and ensure their effective management; and cooperate internationally on transboundary wetlands, shared wetland systems, and shared species. As a result, it does not refer to all wetlands on a country's territory. The convention took effect in India on February 1, 1982.

रामसर कन्वेंशन एक अंतर सरकारी सम्मेलन है जो आर्द्रभूमि और उनके संसाधनों के संरक्षण और बुद्धिमानी से उपयोग करने के लिए राष्ट्रीय और अंतर्राष्ट्रीय कार्रवाई के लिए एक रूपरेखा स्थापित करता है। अनुबंध करने वाले पक्ष कन्वेंशन के तीन स्तंभों के तहत अपने सभी आर्द्रभूमि के बुद्धिमान उपयोग की दिशा में काम करने के लिए सहमत हैं: रामसर सूची के लिए उपयुक्त आर्द्रभूमि नामित करें और उनका प्रभावी प्रबंधन सुनिश्चित करें; और ट्रांसबाउंड्री वेटलैंड्स, साझा वेटलैंड सिस्टम और साझा प्रजातियों पर अंतरराष्ट्रीय स्तर पर सहयोग करते हैं। नतीजतन, यह किसी देश के क्षेत्र में सभी आर्द्रभूमियों को संदर्भित नहीं करता है। यह सम्मेलन 1 फरवरी, 1982 को भारत में प्रभावी हुआ।

In our country, there has recently been a growing awareness of the relevance of Himalayan nettle (*Girardinia diversifolia*) because it has been discovered to be a sustainable source of nutrition.

- (a) anti-malarial drug
- (b) textile fibre
- (c) biodiesel
- (d) pulp of paper industry

हमारे देश में, हाल ही में हिमालयन बिछुआ (गिरार्डिनिया डायवर्सिफोलिया) की प्रासंगिकता के बारे में जागरूकता बढ़ी है क्योंकि इसे पोषण का एक स्थायी स्रोत के रूप में खोजा गया है।

- (ए) मलेरिया-रोधी दवा
- (बी) कपड़ा फाइबर
- (सी) बायोडीजल
- (डी) कागज उद्योग का लुगदी

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The Himalayan Nettle, or *Girardinia diversifolia*, is a fiber-producing plant found in the Himalayan mountain range. This plant is most commonly found in alpine and mountainous areas above 3000 metres above sea level. Himalayan Nettle grows profusely in the forest, along riverbanks, and in damp environments.

For individuals living in the Himalayan mountain area, this fiber-producing plant has become a good source of income. As a result, this plant has a commercial value. The Government of India is funding research and development for Himalayan Indian Nettle. This fibre is recyclable and biodegradable. As a result of these characteristics, this fibre is environmentally beneficial. The Government of India is pushing its textile and commercial uses in order to increase output.

For their livelihood, several Himalayan people produce fabric from Himalayan Nettle. Because this fabric and the products made from it are in high demand both locally and internationally.

Consider the following propositions: The Environment Protection Act of 1986 gives the Indian government the authority to protect the environment.

1. State the demand for public participation in the environmental protection process, as well as the approach and method for obtaining it.
2. establish criteria for the emission or discharge of contaminants into the environment from various sources.

Which of the following assertions is/are correct?

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

निम्नलिखित प्रस्तावों पर विचार करें: 1986 का पर्यावरण संरक्षण अधिनियम भारत सरकार को पर्यावरण की रक्षा करने का अधिकार देता है।

1. पर्यावरण संरक्षण प्रक्रिया में जनभागीदारी की मांग के साथ-साथ इसे प्राप्त करने का तरीका और तरीका बताएं।
2. विभिन्न स्रोतों से पर्यावरण में प्रदूषकों के उत्सर्जन या निर्वहन के लिए मानदंड स्थापित करें।

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Environment Protection Act of 1986 is to allow citizens to participate in decision-making, which helps society achieve its aim of sustainable and environmentally sound growth. Participation of the public in environmental decision-making, particularly in EIA, has several advantages in these procedures. The decision-making process, up to and including the final decision, becomes more transparent and genuine as a result of public participation. This legislation gives the Union government the authority to take all necessary steps to prevent and regulate pollution, as well as to set up effective equipment to safeguard and improve the environment's quality. It also establishes criteria for the emission or discharge of contaminants into the environment from various sources. As a result, both assertions are true.

1986 का पर्यावरण संरक्षण अधिनियम नागरिकों को निर्णय लेने में भाग लेने की अनुमति देता है, जो समाज को स्थायी और पर्यावरणीय रूप से ध्वनि विकास के अपने लक्ष्य को प्राप्त करने में मदद करता है। पर्यावरणीय निर्णय लेने में जनता की भागीदारी, विशेष रूप से ईआईए में, इन प्रक्रियाओं में कई फायदे हैं। निर्णय लेने की प्रक्रिया, अंतिम निर्णय तक और सार्वजनिक भागीदारी के परिणामस्वरूप अधिक पारदर्शी और वास्तविक हो जाती है। यह कानून केंद्र सरकार को प्रदूषण को रोकने और नियंत्रित करने के लिए सभी आवश्यक कदम उठाने के साथ-साथ पर्यावरण की गुणवत्ता की सुरक्षा और सुधार के लिए प्रभावी उपकरण स्थापित करने का अधिकार देता है। यह विभिन्न स्रोतों से पर्यावरण में प्रदूषकों के उत्सर्जन या निर्वहन के लिए मानदंड भी स्थापित करता है। परिणामस्वरूप, दोनों कथन सत्य हैं।

The BioCarbon Fund Initiative for Sustainable Forest Landscapes is overseen by which of following

- (a) World Bank
- (b) International Monetary Fund
- (c) United Nations Environment Programme
- (d) Asian Development Bank

सतत वन परिदृश्य के लिए बायोकार्बन फंड पहल की देखरेख निम्नलिखित में से किसके द्वारा की जाती है

- (ए) विश्व बैंक
- (बी) अंतर्राष्ट्रीय मुद्रा कोष
- (सी) संयुक्त राष्ट्र पर्यावरण कार्यक्रम
- (डी) एशियाई विकास बैंक

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- (डी) एशियाई विकास बैंक

The BioCarbon Fund ISFL is a global initiative managed by the World Bank and sponsored by donor nations.

The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral facility that promotes and rewards better land management, such as REDD+ (Reduced Emissions from Deforestation and Forest Degradation), climate smart agriculture, and smarter land use planning and policies, in order to reduce greenhouse gas emissions and increase sequestration. The ISFL will test techniques and share lessons learned by piloting programmes and interventions at a jurisdictional level.

In 2013, the BioCarbon Fund launched the Initiative for Sustainable Forest Landscapes. Germany, Norway, Switzerland, the United Kingdom (Department for Business, Energy and Industrial Strategy and Department for Environment, Food and Rural Affairs), and the United States all support the Initiative. It sponsors initiatives in Colombia, Ethiopia, Indonesia, Mexico, and Zambia with \$355 million in fund money.

बायोकार्बन फंड आईएसएफएल विश्व बैंक द्वारा प्रबंधित और दाता देशों द्वारा प्रायोजित एक वैश्विक पहल है।

बायोकार्बन फंड इनिशिएटिव फॉर सस्टेनेबल फॉरेस्ट लैंडस्केप्स (ISFL) एक बहुपक्षीय सुविधा है जो बेहतर भूमि प्रबंधन को बढ़ावा देती है और पुरस्कृत करती है, जैसे REDD+ (वनों की कटाई और वन क्षरण से कम उत्सर्जन), जलवायु स्मार्ट कृषि, और स्मार्ट भूमि उपयोग योजना और नीतियां, क्रम में ग्रीनहाउस गैस उत्सर्जन को कम करने और जब्ती बढ़ाने के लिए। ISFL तकनीकों का परीक्षण करेगा और एक अधिकार क्षेत्र के स्तर पर पायलटिंग कार्यक्रमों और हस्तक्षेपों से सीखे गए पाठों को साझा करेगा।

2013 में, बायोकार्बन फंड ने सतत वन परिदृश्य के लिए पहल शुरू की। जर्मनी, नॉर्वे, स्विट्ज़रलैंड, यूनाइटेड किंगडम (व्यापार, ऊर्जा और औद्योगिक रणनीति विभाग और पर्यावरण, खाद्य और ग्रामीण मामलों के विभाग), और संयुक्त राज्य अमेरिका सभी पहल का समर्थन करते हैं। यह कोलंबिया, इथियोपिया, इंडोनेशिया, मैक्सिको और जाम्बिया में 355 मिलियन डॉलर के फंड मनी के साथ पहल करता है।

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Make it realistic

Write down Your Goal JRF with 5 Point Reason

- > Why
- > For whom
- > How Important
- > Why only this most admirable
- > How much effort You can do to get JRF



Make it realistic

Write down Your Goal JRF with 5 Point Reason

- > Why
- > For whom
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- > Why only this most admirable
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Why laziness comes

- > Just bcz ...
- > Am i Preparing in correct Way
- > What Habit i have to Change

When i will start focusing and be mature to get JRF

Hey Let's Start For JRF Now !!

Way to JRF



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Target: 100 Percentile AIR- 1

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COMMERCE 17 October 2020

1st Shift PYQ with Official

Answer Keys, Explanation



JRF is Mine

इस बार JRF लेकर ही रहेंगे

International Yoga Day 2021

Theme 2021

**" Yoga for
Well-Being "**



सक्सेस की सबसे
बड़ी खास बात यह है कि
वह मेहनत करने वालों पर
फिदा हो जाती है!!

शिक्षा वो शेरनी का दूध है जो
इसे पियेगा वो शेर की तरह
दहाड़ेगा- Dr. B.R.
Ambedkar

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A computer cannot boot if it does not have which of the following?

- [A] Compiler
- [B] Loader
- [C] Operating System
- [D] Assembler

एक कंप्यूटर बूट नहीं कर सकता यदि उसमें निम्न में से क्या नहीं है?

- [ए] संकलक
- [बी] लोडर
- [सी] ऑपरेटिंग सिस्टम
- [डी] असेंबलर

An operating system is the most important software that runs on a computer. It manages the computer's memory and processes, as well as all of its software and hardware.



Unacademy Presents

Iconic Subscription For NTA UGC NET

Ace Your NTA UGC NET Preparation

With

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| Live Classes | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Test Series | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Unlimited Practice | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Structured Schedule | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Personal Coach | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Study Planner & Bi-Weekly Reviews | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Study Booster Sessions | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Personalised Doubt Solving | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| SOP & Interview Preparation | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Preparatory Study Material | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

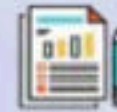


Unacademy Presents

Iconic Subscription For NTA UGC NET

What Is An ICONIC Subscription?

This Is A Mentorship Program Designed To Provide The Learners With A One Stop Solution To NTA UGC NET Preparation



Structured Assessment And Analysis



Reduce Roadblocks



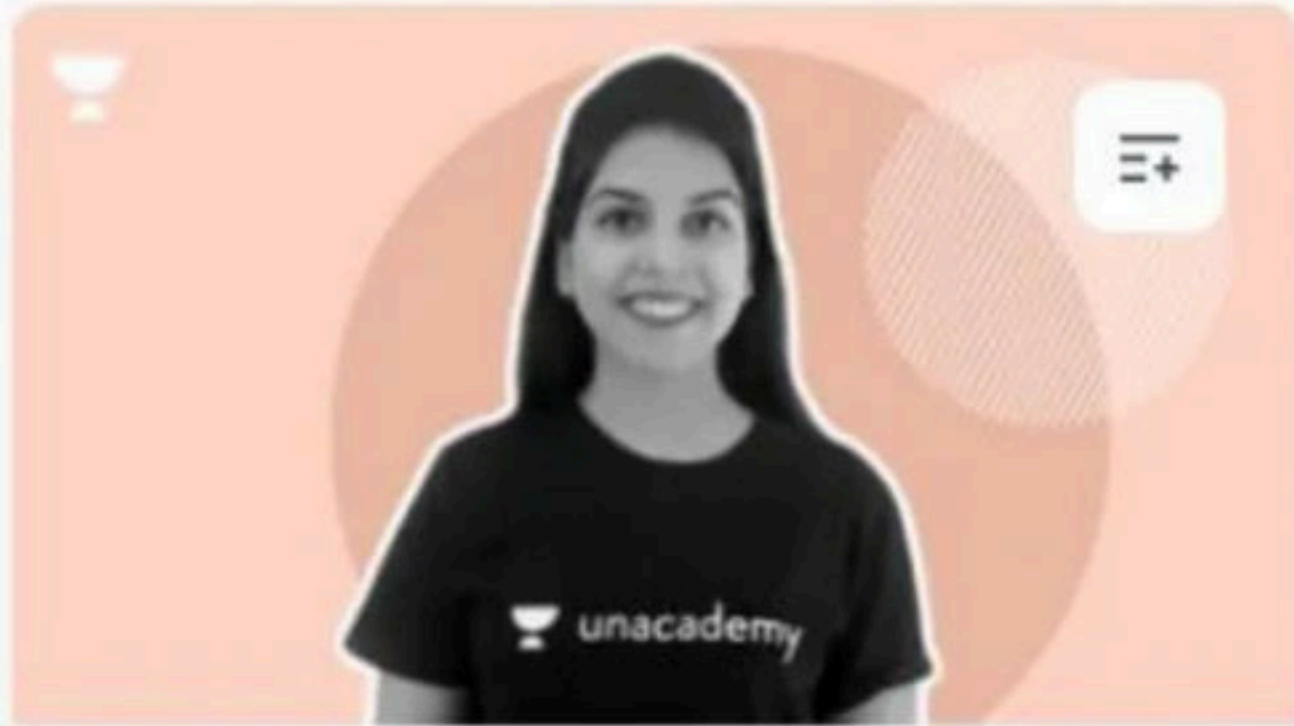
Clear Roadmap For Preparation



Help Establish Command Over Core Subjects

Code:

NAVCLASSES

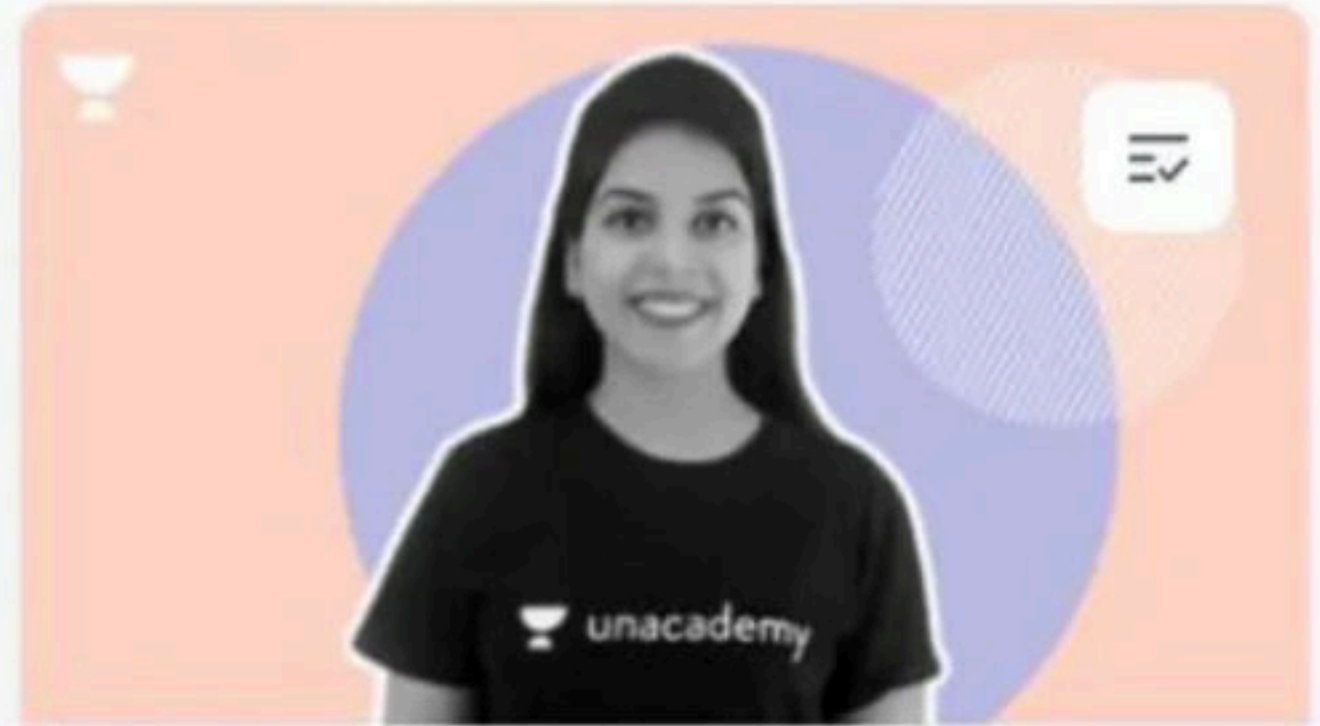


HINDI **GENERAL PAPER ON TEACHING**

Rank Booster Course on Paper 1
through MCQs

Starts on May 26, 2021 • 5 lessons

Navdeep Kaur



HINDI **COMMERCE**

Course on Commerce (Unit I, II, III &
V)

Starts on May 12, 2021 • 33 lessons

Navdeep Kaur

Code:
NAVCLASSES

© Navdeep Kaur - Way to JRF

Unacademy - Accelerate Scholarship Test

Schedule

Feb 21 - May 30 • 14 tests

MAY
9 Scholarship Mock 10 | Computer Science
Test 11 • 4:00 PM

MAY
16 Scholarship Mock 11 | Sociology
Test 12 • 4:00 PM

MAY
23 Scholarship Mock 12 | Commerce
Test 13 • 4:00 PM

MAY
30 Scholarship Mock 13 | Paper 1
Test 14 • 4:00 PM

**Code:
NAVCLASSES**

JRF

Advance Expected MCQs Course on Paper 1- Way to JRF

Discussion Forum

Week 1

Mar 29 - Apr 4 • 1 lesson, 2 quizzes

Code:
NAVCLASSES

APR
2
Expected MCQs Quiz on Teaching Aptitude
Quiz 1 • 7:30 PM

Create quiz

APR
3
Analysis of Expected MCQs Quiz on Teaching Aptitude
Lesson 1 • 5:00 PM

APR
4
Expected MCQs Quiz on Research Aptitude
Quiz 2 • 7:30 PM

Create quiz



Course on Commerce Paper II through MCQs (Way to JRF)

[Discussion Forum](#)

Week 1

Apr 5 - 11 • 1 lesson

APR
10 Expected MCQs Quiz on Unit I BE & IB
Lesson 1 • 2:00 PM



Week 2

Apr 12 - 18 • 1 lesson

APR
16 Expected MCQs Quiz on Unit II Accounting
Lesson 2 • 2:00 PM

