



# AKSHIRAA COACHING CENTRE

**SALEM – 636004**

**(REG NO: TN-20-0012039)**

**SET / NET / JRF EXAM**

**(Paper 1 - Common to All Subjects)**

*for the post of*

**Assistant Professors in Government Arts and  
Science Colleges**

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# Unit V

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## 6. Blood Relationship

Expanded Relationship	Direct Relationship
Mother 's or Father's Son	Brother
Mother 's or Father's Daughter	Sister
Mother 's or Father's Father	Grandfather
Mother 's or Father's Mother	Grandmother
Son's Wife	Daughter in Law
Daughter's Husband	Son in Law
Husband's or Wife's Sister	Sister in Law
Husband's or Wife's Brother	Brother in Law
Brother's or Sister's Son	Nephew
Brother's or Sister's Daughter	Niece
Uncle or Aunt's Daughter/ Son	Cousin
Brother's Wife	Sister in Law
Sister's Husband	Brother in Law
Grand son's or Grand Daughter's Son/ Daughter	Great Grand Son/ Daughter

Symbols used in Blood Relationships:

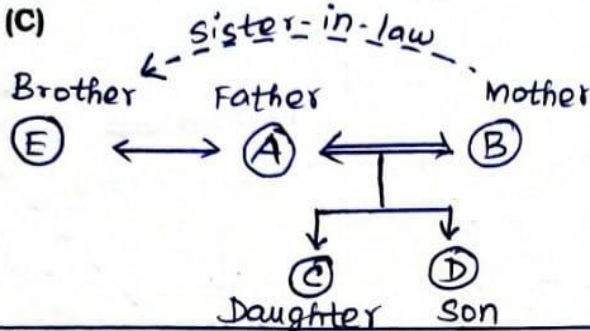
- Male : +
- Female : -
- Married :  $A \leftrightarrow B$
- Brothers / sisters :  $A \longleftrightarrow B$
- Son / daughter :  $A \downarrow B$
- children :  $A \begin{array}{l} \swarrow \\ \downarrow \\ \searrow \end{array} B \quad C$

**Examples:**

1. 'A' is the father of 'C', and 'D' is the son of 'B'. 'E' is the brother of 'A'.  
if 'C' is the sister of 'D', then how is 'B' related to 'E'?

- (A) Daughter (B) Husband  
(C) Sister-in-law (D) Brother-in-law

Ans: (C)

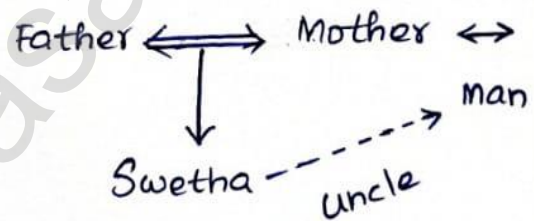


2. Pointing to a man, Swetha said, "He is the brother of mother my father's son". How is the man related to Swetha?

- (A) Father (B) Brother  
(C) Uncle (D) Cousin

Ans: (C)

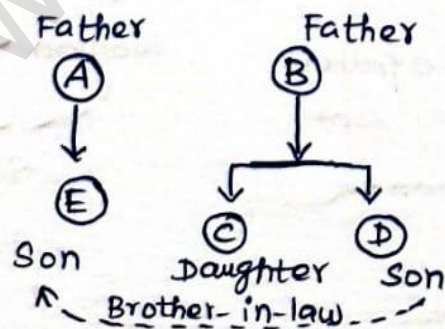
- Man is the brother of mother of Swetha's father's son
- Swetha's father's son - Swetha's brother
- Mother's Swetha's brother - Swetha's mother
- Brother of Swetha's mother - Swetha's Uncle.



3. 'E' is the son of 'A', and 'D' is the son of 'B'. 'E' is married to 'C'. 'C' is the daughter of 'B', then how is 'D' related to 'E'?

- (A) Brother (B) Uncle  
(C) Father-in-law (D) Brother-in-law

Ans: (D)



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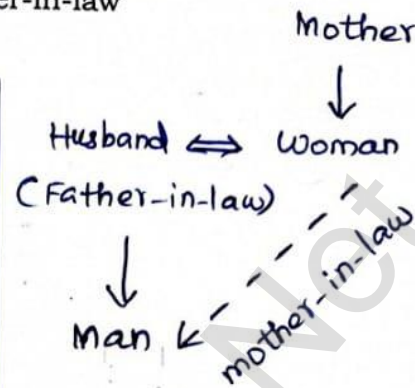
4. Pointing towards a man, the woman said, "His wife's father is the husband of my mother's only daughter". How is the woman related to the man?

- (A) Daughter  
(C) Sister

- (B) Sister-in-law  
(D) Mother-in-law

Ans: (D)

- ① The man's wife's father is the husband of woman's mother's only daughter.
- ② Man's wife's father - man's father-in-law
- ③ Man's father-in-law - woman's husband



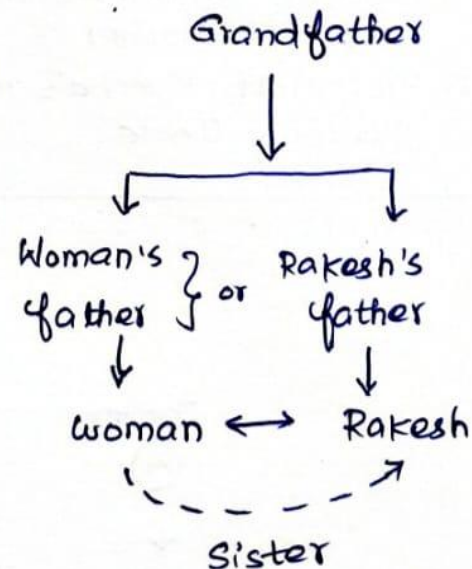
5. Introducing Rakesh to her husband a woman said, "His brother's father is the only son of my grandfather". The woman is related to Rakesh as

- (A) Sister  
(C) Aunt

- (B) Daughter  
(D) Mother

Ans: (A)

- ① Rakesh's brother's father is the only son of woman's grandfather.
- ② Rakesh's brother's father - Rakesh's father
- ③ Son of woman's grandfather - woman's father (only son)
- ④ Rakesh's father - woman's father



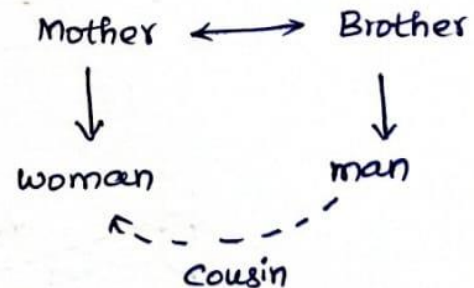
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**Exercises:**

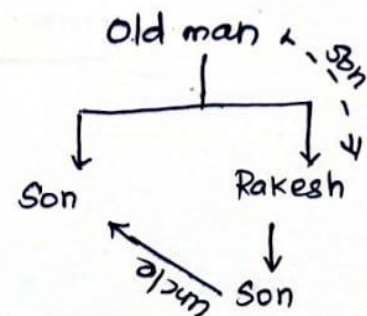
- 1. A woman introduces a man as the son of the brother of her mother. How is the man related to the woman?**  
 (A) Son (B) Uncle  
 (C) Cousin (D) Grandson
- 2. Ajay is a friend of Rakesh. Pointing to an old man Ajay asked Rakesh who is he? Rakesh said "His son is my son's uncle". The old man is related to Rakesh as:**  
 (A) Grandfather (B) Father-in-law  
 (C) Father (D) Uncle
- 3. 'C' and 'D' are sisters. 'A' and 'B' are brothers. 'E' is the son of 'A' and brother of 'D'. 'B' is related to 'C' as:**  
 (A) Brother (B) Son  
 (C) Uncle (D) Father-in-law
- 4. 'A' sister of 'B', 'F' is daughter of 'G'. 'C' is mother of 'B'. 'D' is father of 'C'. 'E' is mother of 'D'. 'A' is related to 'D' as:**  
 (A) Granddaughter (B) Daughter  
 (C) Daughter-in-law (D) Sister
- 5. 'A' is brother of 'B'. 'B' is the brother of 'C'. 'C' is the husband of 'D'. 'E' is the father of 'A'. 'D' is related to E as:**  
 (a) Daughter (b) Daughter-in-law  
 (c) Sister-in-law (d) Sister

**Answers:****1. Ans: (C)**

- Man is the son of the brother of woman's mother.
- Brother of woman's mother - Uncle
- Son of uncle - Cousin

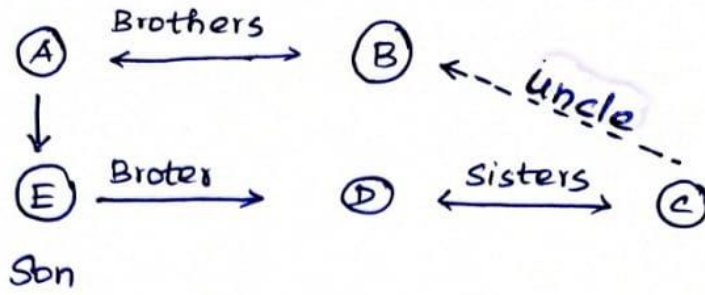
**2. Ans: (C)**

- Old man's son is Rakesh's son's uncle
- Rakesh's son's uncle - Rakesh's Brother
- Rakesh's Brother - oldman's son
- Oldman - Rakesh's father

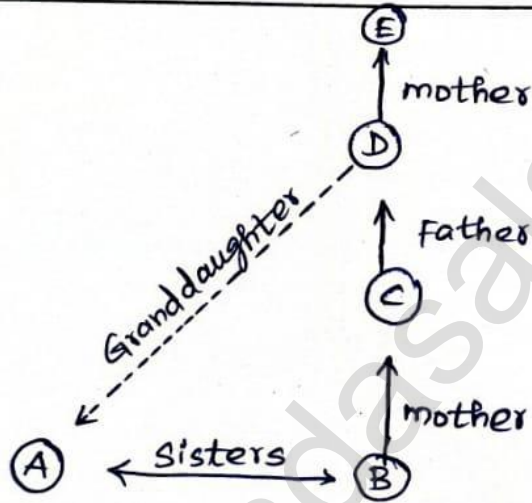


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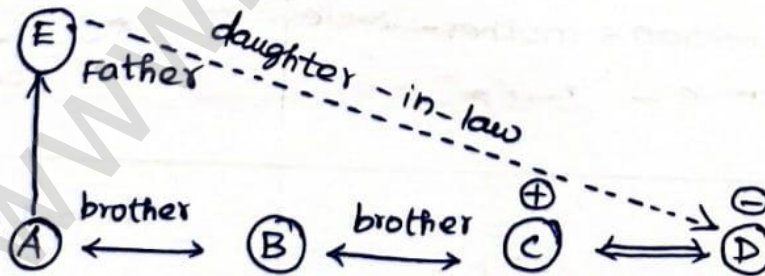
3. Ans: (C)



4. Ans: (A)



5. Ans: (B)



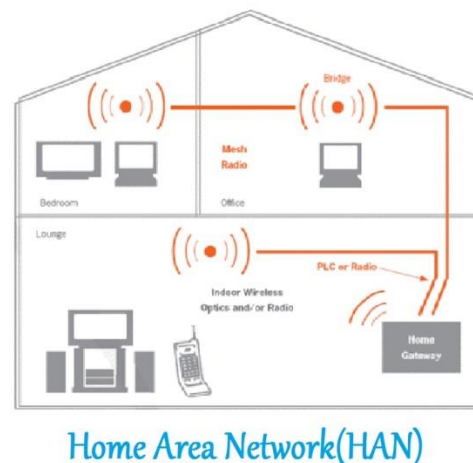
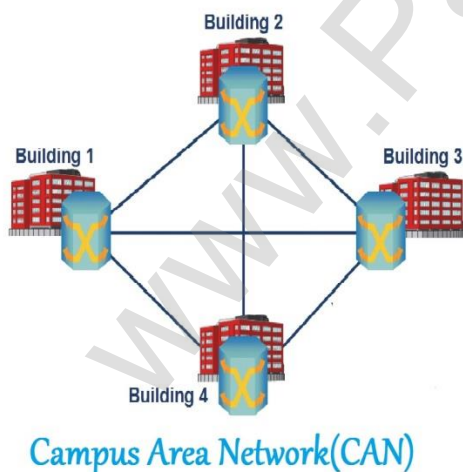
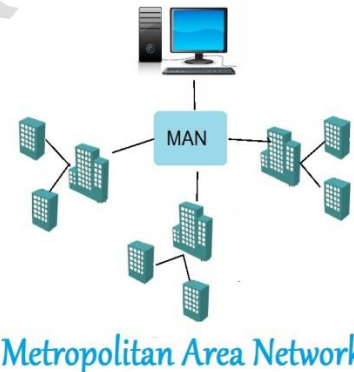
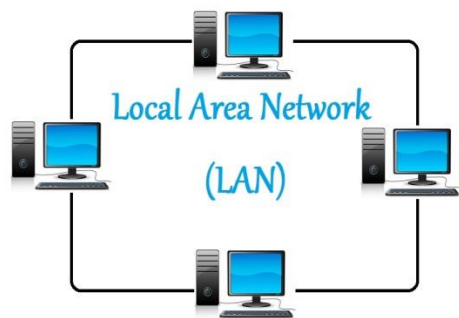


### 3. Networking

#### Network:

- ⊙ A computer network is a system of interconnected computers.
- ⊙ They are connected together to share files, resources like hardware and software.
- ⊙ Computers can be connected with wired medium such as coaxial cable, twisted-pair cable, fibre-optic cable, or wireless medium like radio waves, broadband and satellite.
- ⊙ There are a number of types of computer networks.

#### Types of Network:



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**Local Area Network (LAN):**

- ⊙ A network that connects a number of computers within the same location such as home, office, building etc.

**Campus Area Network (CAN):**

- ⊙ It is a network of multiple interconnected LANs in a limited geographical area like a university campus. It is smaller than a MAN or WAN.

**Metropolitan Area Network (MAN):**

- ⊙ It is a network of computers located at different sites within a large such as a city. E.g. a cable TV network.
- ⊙ It covers an area greater than LAN but lesser than WAN.

**Wide Area Network (WAN):**

- ⊙ A network that uses telephone lines or other telecommunication devices to link computers in widely separated locations.
- ⊙ It is a network of a large number of computers that cover a large area like a city, state or even a whole country.

**Wireless Local Area Network (WLAN):**

- ⊙ A network that connects two or more devices using some wireless distribution method and provides connection through an access point to a wider internet.

**Personal Area Network (PAN):**

- ⊙ It is a computer network used for communication among computers and different IT devices close to one person. (e.g.) Connecting phone with Bluetooth headphone.

**Virtual Private Network (VPN):**

- ⊙ It is a computer network in which some of the links between the nodes are carried out by open connections or virtual circuits in some larger network instead of physical wires.

**Enterprise Private Network (EPN):**

- ⊙ It is an exclusive network created by any enterprise or private organization.
- ⊙ The enterprise holds the exclusive rights of the data stored over EPN.

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**Value-added network (VAN):**

- ⊙ It is a private, hosted service that provides companies with a secure way to send and share data with its counterparties.

**Storage Area Network (SAN):**

- ⊙ It is a network of storage devices that can be accessed by multiple servers or computers, providing a shared pool of storage space.

**Client-Server Network:**

- ⊙ Servers in the network are computers that have the special role of providing services to other computers.
- ⊙ Client computers avail the services of the server computers.

**Internet:**

- ⊙ The internet is a system that links existing networks into a worldwide network.

**❖ World Wide Web (WWW):**

- It refers to all the public websites or pages that users can access on their local computers and other devices through the internet.

**❖ Web Page:**

- It is a pattern through which data is related across internet reader.
- It is developed using the hypertext transfer protocol. It can be viewed over web browsers such as MSIE (Microsoft internet explorer), Opera, Safari, Google Chrome, Mozilla Firefox etc.

**❖ HTML:**

- HTML stands for Hyper Text Markup Language.
- It is the standard markup language for creating web pages and websites.

**Intranet:**

- ⊙ It is a private network inside a company or an educational organization and used over its LAN.
- ⊙ This can be taken as akin to local internet and it is under a single administrative set-up.

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**Extranet:**

- ⊙ It is a technology that permits users of an organization's intranet to enter portions of another organization's intranet in order to conduct business transactions or collaborate on joint projects.

**Wi-Fi (Wireless Fidelity):**

- ⊙ It is a technology for radio wireless local area networking of devices.
- ⊙ Wi-Fi compatible devices can connect to the Internet via a WLAN and a wireless access point.

**Li-Fi: (Light Fidelity)**

- ⊙ It is a technology for wireless communication between devices using light to transmit data and position.
- ⊙ Li-Fi is a bi-directional, high-speed and fully networked wireless communication technology similar to Wi-Fi.

**Optical Fiber:**

- ⊙ It is a very thin strand of plastic or glass that is used to transmit messages via light.
- ⊙ It is mode of transmitting data, voice, and images by the passage of light through thin, transparent fibers.

**WiMax (Worldwide Interoperability for Microwave Access):**

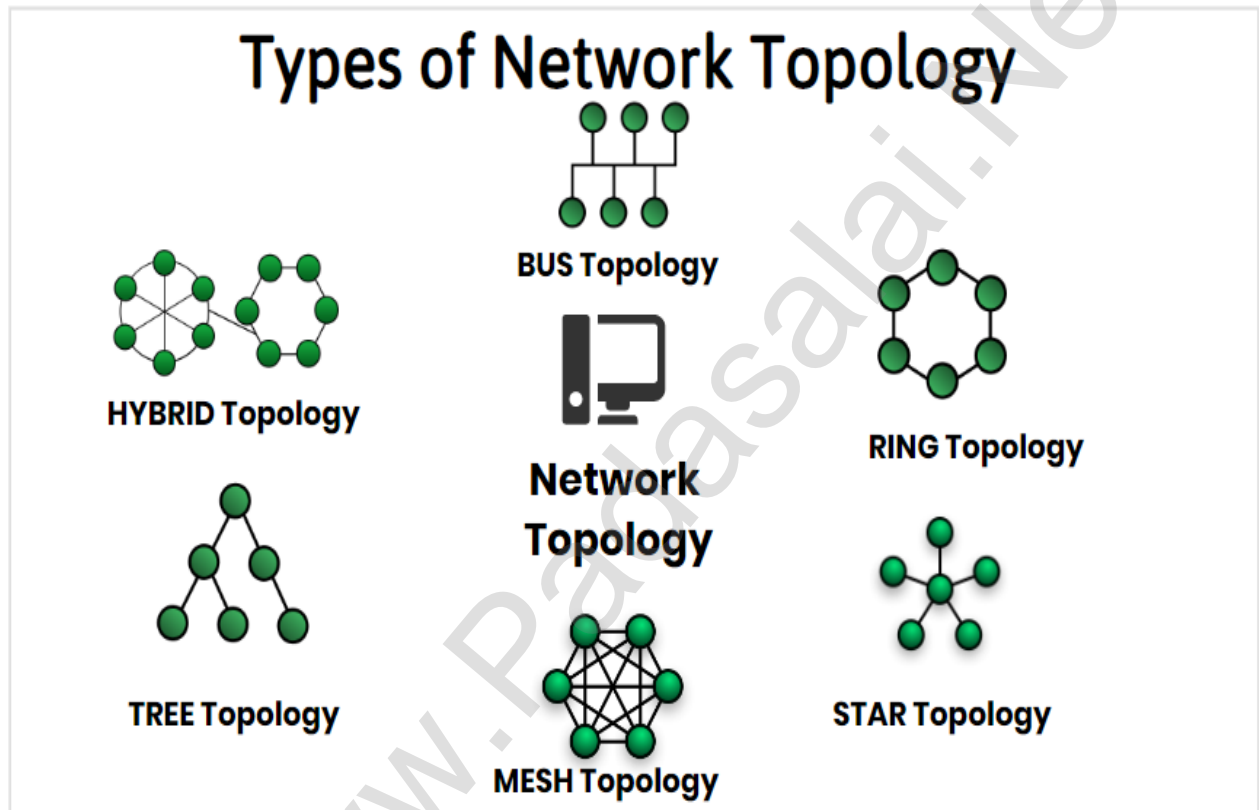
- ⊙ It is a pattern through which metropolitan area network can be created with a range of 20 km maximum linear distance.
- ⊙ It helps in connection across mobile tower or dedicated transmission hubs, which can connect infinite devices at a time.

**Network Topology:**

- ⊙ Network topology is the way of arranging a network or how links and nodes are set up to relate with each other.
- ⊙ It also refers to how various nodes, devices, and connections on ones' network are physically or logically arranged in relation to each other.
- ⊙ Node refers to computer systems which are in the network.

**Types of Network Topology:**

1. Bus topology
2. Star Topology
3. Ring Topology
4. Mesh Topology
5. Tree Topology
6. Hybrid Topology

**Bus Topology:**

- ⊙ Bus topology is a type of network in which each computer and network device is joined to a single cable.
- ⊙ If the cable is broken, the entire segment fails.
- ⊙ When it consists of exactly two endpoints, then it is called Linear Bus topology.

**Ring Topology or Circular Topology:**

- ⊙ It is named ring topology because it creates a ring as each computer is linked to the neighbouring computer.
- ⊙ Data travels from node to node with each node handling every bit of data.

**Star Topology:**

- ⊙ All the nodes are linked to a common hub via a cable.
- ⊙ This hub is the central node and all other nodes are linked to the central node.
- ⊙ If a device requires sending data to another device, it has to first transfer the data to the hub, and then the hub forwards that data to the selected device.

**Mesh Topology:**

- ⊙ Every device is correlated to every other device on the network by a dedicated point-to-point connection.
- ⊙ It is known as interconnected topology.

**Tree Topology:**

- ⊙ It has a root node and all other nodes are linked to it creating a hierarchy.
- ⊙ It is also called “hierarchical topology”. It must have a minimum of three levels to the hierarchy.

**Hybrid Topology:**

- ⊙ It is two different kinds of topologies, which is a combination of two or more topologies.
- ⊙ For example, if in an office in some department ring topology is used and in another department in the same place star topology is used, connecting these topologies will form a hybrid topology.