SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

19EET304/ IOT for Electrical Sciences

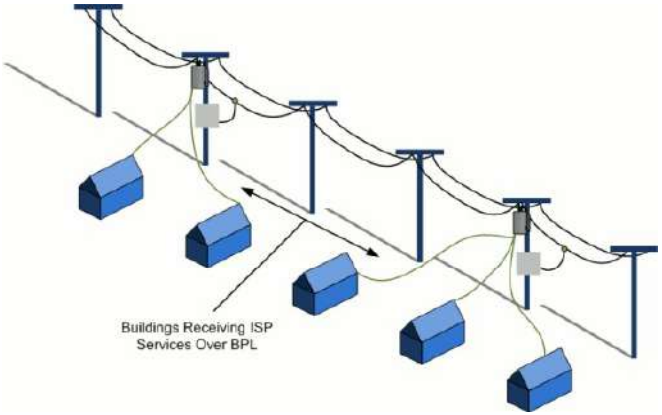
III YEAR VI SEM

UNIT 3 COMMUNICATION INTERFACE

TOPIC 4 – BROADBAND OVER POWER LINE (BPL), IP BASED PROTOCOLS

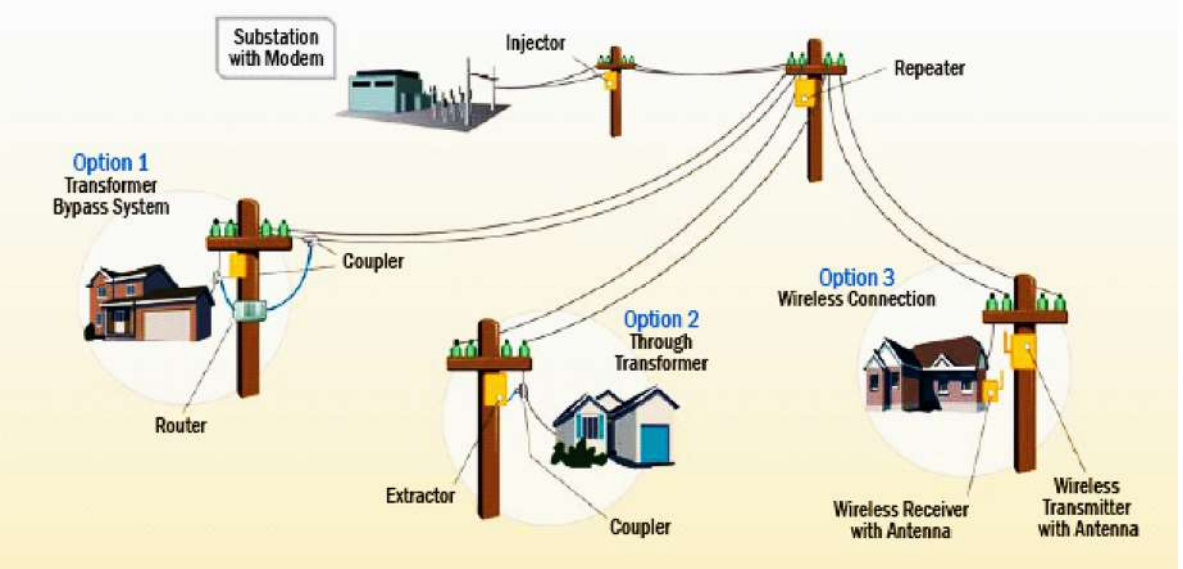
WHAT IS BROADBAND OVER POWER LINES BPL?

Broadband over power lines (BPL) is a method of power-line communication (PLC) that allows relatively high-speed digital data transmission over the public electric power distribution wiring.



TYPES OF BPL

1. **Access BPL**
2. **In-house BPL**



ADVANTAGES OF BROADBAND OVER POWER LINES

– BPL technology has been prolific and widespread in most developed countries.
– Access BPL may be quicker, cheaper, and simpler to deploy in rural areas.
– In-house BPL is perfectly compatible with Wi-Fi and helps to overcome distance and reliability limitations in existing wireless networks.

DISADVANTAGES OF BROADBAND OVER POWER LINES

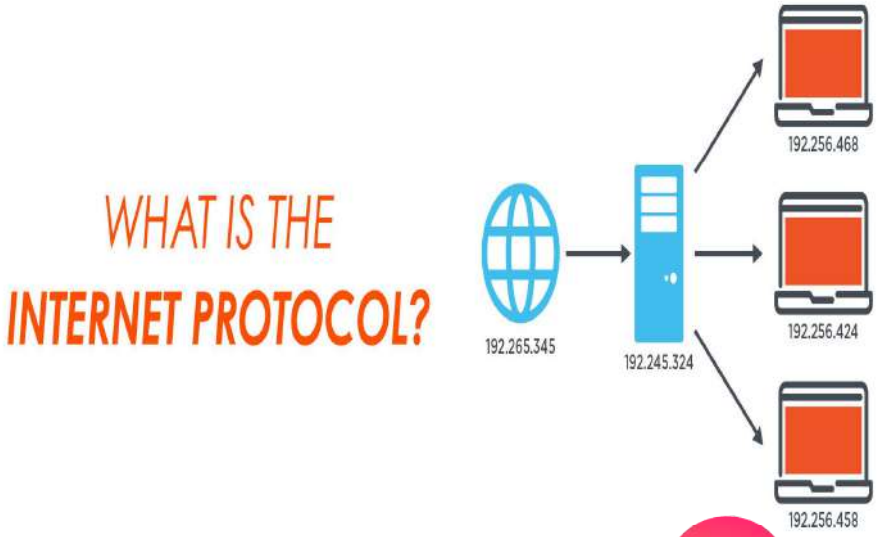
– With signal interference and repeater issues, Access BPL failed to gain momentum in countries such as the US, UK and Australia.
– Only low and medium voltage power cables can be used for Access BPL.
– Signals need booster equipment to make them travel long distances.

WHAT IS THE INTERNET PROTOCOL (IP)?

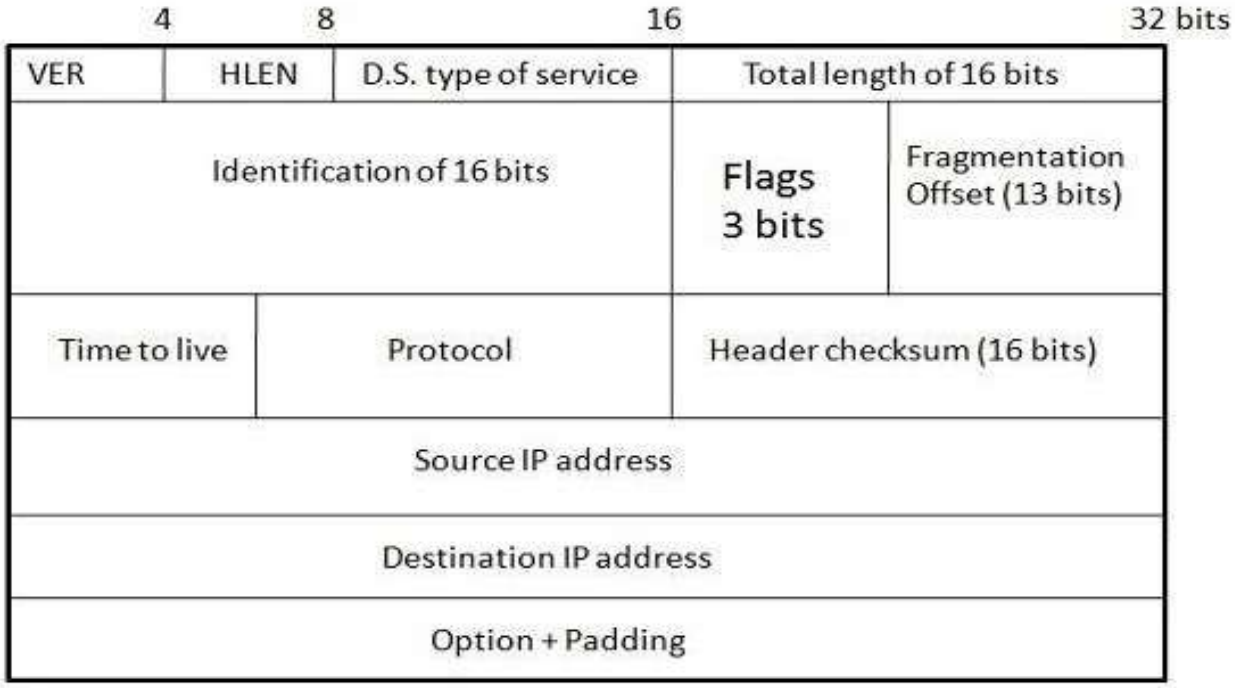
IP stands for **internet protocol**. It is a protocol defined in the TCP/IP model used for sending the packets from source to destination.

The main task of IP is to deliver the packets from source to the destination based on the IP addresses available in the packet headers.

IP defines the packet structure that hides the data which is to be delivered as well as the addressing method that labels the datagram with a source and destination information.



INTERNET PROTOCOL (IP)

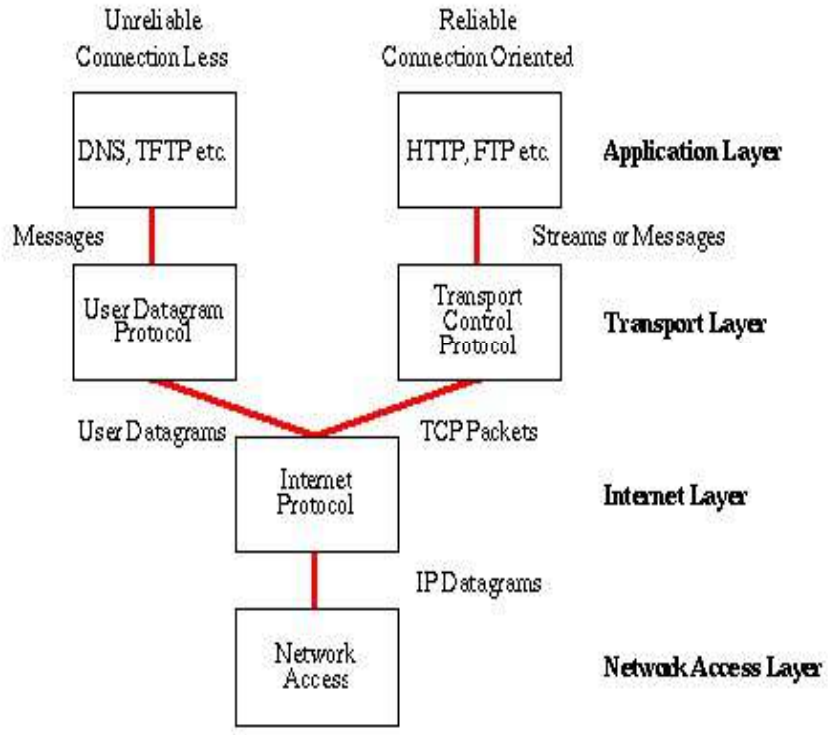


TYPES OF INTERNET PROTOCOL

Internet Protocols are of different types having different uses

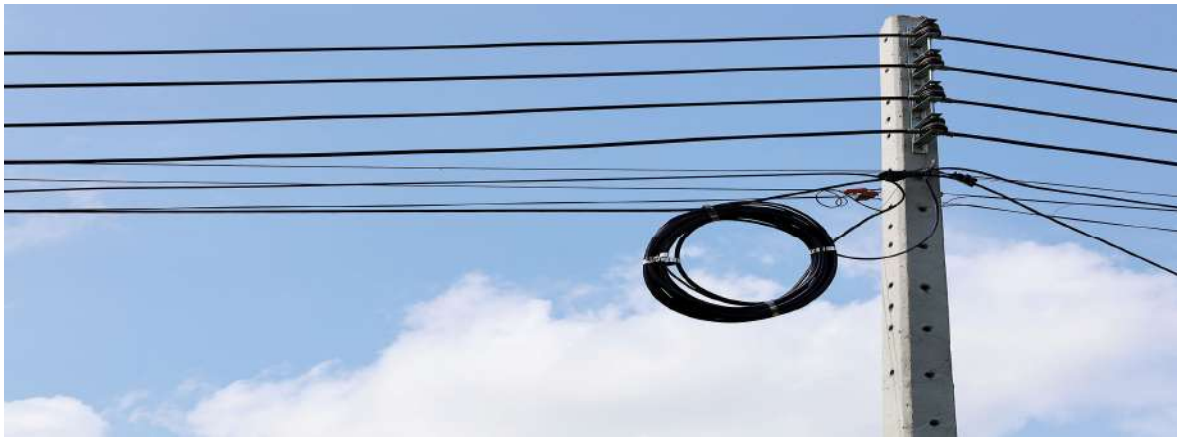
1. TCP/IP(Transmission Control Protocol/ Internet Protocol)
2. SMTP(Simple Mail Transfer Protocol)
3. PPP(Point-to-Point Protocol)
4. FTP (File Transfer Protocol)
5. SFTP(Secure File Transfer Protocol)
6. HTTP(Hyper Text Transfer Protocol)
7. HTTPS(HyperText Transfer Protocol Secure)
8. TELNET(Terminal Network)
9. POP3(Post Office Protocol 3)
10. IPv4
11. IPv6
12. ICMP
13. UDP
14. IMAP
15. SSH
16. Gopher

THE INTERNET PROTOCOL STACK



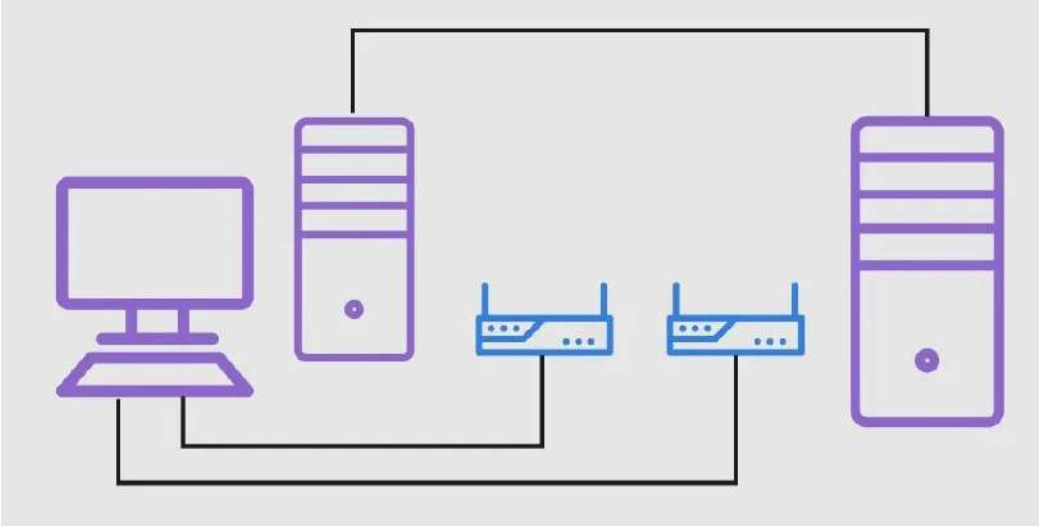
ASSESSMENT – 1

CAN FIBER RUN ON POWER LINES?



ASSESSMENT – 2

CAN YOU GUESS THIS TYPE OF PROTOCOL?



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