**DV162\_20\_PAS ON Internet Connection Types  
Possible Answer Sheet**

1. What is satellite networking?  
   Ans: Is networking in which we communicate through satellite dish. This dish is communicating with satellite in lower earth orbit via line of sight.
2. How does the cost of satellite connectivity compare to other forms of internet connectivity?  
   Ans: Cost of satellite connectivity is higher than other forms specially its installation cost is far more expensive than other forms of internet connectivity.
3. What are typical speeds for satellite internet?  
   Ans: Satellite internet download speed is from 25MB to 150MB and upload speed is 3MB.
4. What are some common uses for satellite internet?  
   Ans: Satellites are used to provide internet connectivity to remote areas, as well as to support maritime, aviation, and military communications.
5. What is latency when communicating with satellites in space?  
   Ans: The latency when communicating with satellites in space is around 250ms. Where as A newer satellite technology Starlink advertised satellite communication with 40ms latency and now they are working on 20ms latency.
6. How does satellite internet compare to terrestrial internet when it comes to latency?  
   Ans: Satellite internet typically has higher latency compared to terrestrial internet technologies. This higher latency is primarily due to the physical distance that data signals must travel between the Earth and the satellite in orbit, as well as additional processing and routing delays inherent in satellite communication.
7. What is a newer type of satellite network?  
   Ans: One newer type of satellite network that has gained attention in recent years is the Low Earth Orbit (LEO) satellite constellation. LEO satellite networks consist of a large number of satellites orbiting the Earth at low altitudes, typically ranging from a few hundred to a few thousand kilometers above the Earth's surface.
8. What is the latency time advertised by Starlink?  
   Ans: 40 ms.
9. What frequency range do satellite connections operate in?  
   Ans: 2GHz
10. What is the cause of rain fade when using a satellite connection?  
    Ans: As satellite networks communicate with line of sight, as rain comes between the path of satellite and end dish it fades communication.
11. What is the advantage of fiber optic links for internet connections?  
    Ans: We can send a very large amount of data in a very short time using fiber optic links.
12. Why is fiber optics more expensive than other internet connections?  
    Ans: Fibre optic equipment cost is higher than other internet connections.
13. How is fiber optics used in enterprise networks?  
    Ans: Fiber optic cables are the backbone of modern enterprise networks, offering significant advantages over traditional copper cabling.
14. How does running fiber optics to a home or business improve bandwidth?  
    Ans: Running fiber optics to a home or business improves bandwidth by enabling faster data transmission rates, symmetrical upload and download speeds, reduced latency, scalability, reliability, and support for multiple services.
15. What is the method of communication used by cable broadband?  
    Ans: By Cable Broadband we can send multiple streams of data across a single wire by communicating across multiple frequencies on that wire. This means on a single wire, we can transmit video, voice, and data simply by using different frequencies on that same medium.
16. How does cable broadband transmit video, voice, and data?  
    Ans: Cable Broadband transmit video, voice and data on single wire by using different frequencies on that cable or medium.
17. Who might provide cable broadband service?  
    Ans: Cable Company might provide cable broadband service.
18. What is the standard for sending data over cable networks?  
    Ans: The standard for sending this data over cable networks is called DOCSIS. That stands for Data Over Cable Service Interface Specification. This DOCSIS standard supports very high speeds, and it’s not unusual to find DOCSIS networks that are 1(GB) gigabit or even higher in speed.
19. What are the typical speeds of DOCSIS networks?  
    Ans: Usually 1 GB or even higher.
20. Do you need to bring additional cables or services into your home for DOCSIS?  
    Ans: No we don’t need to bring additional cables or services into your home for DOCSIS.
21. What is the technology that uses existing copper in a home?  
    Ans: DSL (Digital Subscriber Line)
22. What is the difference between the speed of download and upload on DSL?  
    Ans: Download speed is up-to 200MB and upload speed is 20MB.
23. What are the typical speeds of DSL networks?  
    Ans: Download Speed up-to 200MB and Upload Speed is Up to 20MB
24. What is the limitation of DSL in terms of distance?  
    Ans: Limitation of DSL in terms of distance from central office or CO is 10,000 feet.
25. What type of networks are commonly used for internet connectivity when away from home or office?  
    Ans: Cellular Networks are commonly used for internet connectivity when away from home or office.
26. How is internet connectivity provided through cellular networks?  
    Ans: Internet connectivity provided through cellular networks is via cell phones tethering or hotspot, but instead of sending voice over that network, we communicate data.
27. What is tethering?  
    Ans: Tethering is the way to use mobile/cell phones as a router or modem.

1. What is a hotspot?  
   Ans: A hotspot refers to a physical location or device that provides internet access to other devices through a wireless local area network (WLAN) or Wi-Fi.

1. What is a WISP?  
   Ans: WISP stands for Wireless Internet Service Provide, In this way we send our data wirelessly to local ground stations that are in our geographic area for ISP. In many cases, we will need an external or outdoor antenna to be able to send and receive information from this WISP.

1. In what areas are WISPs commonly found?  
   Ans: In rural areas or places where there’s not a large infrastructure already available to send internet traffic.

1. What are the typical speeds of wireless networks provided by WISPs?  
   Ans: WISP speed is up to 1Gbps or 1000Mbps.

Section B

Q1. What Is Satellite Internet?

A. Satellite internet is the non-terrestrial network by which we communicate through Satellite Dish, using line of sight with Satellite orbiting in Lower Earth Orbit.

Q2. What is fiber optic internet?

A. Is a type of internet in which we use fiber optic as medium.

Q3. What is broadband internet?

A. Is a type of internet in which we use copper cable as medium.

Q4. What is DSL?

A. DSL stands for Digital Subscriber Line, it is the type of broadband internet connection technology that uses existing copper telephone lines to transmit data.

Q5. What is a cellular network?

A. The mobile networks that we would commonly associate with a cell phone.

Q6. What is wisp internet?

A. WISP stands for Wireless Internet Service Provide, In this way we send our data wirelessly to local ground stations that are in our geographic area for ISP. In many cases, we will need an external or outdoor antenna to be able to send and receive information from this WISP.