* **Q1.**

–What is OSI Model? Name the Seven Layers of OSI Model, and describe two functions of each layer

OSI – Open Systems Interconnection is a standard model that defines a framework of communication function in a telecommunication or computing system without regards to its underlying structure and technology.

Seven Layers of OSI Model

1. Physical Layer  
   - Connects two physical systems with cables  
   - It should allow modulation/demodulation of bits transmitted over the wire
2. Data Link Layer  
   - Enables multiple computers to access one printer/ device  
   - Divided in MAC & LLC   
   - Used to access, transmit shared media uses physical address   
   - Performs speed regulation with error correction and detection
3. Network Layer  
   - Access multiple locations devices or utilities at the same time  
   - Finds best routes from source to destination  
   - Provides congestion control
4. Transport Layer  
   - Performs flow control and error correction  
   - Uses protocols TCP/UDP  
   - Performs Multiplexing and de-multiplexing
5. Session Layer  
   - Maintains a session- open/close any session  
   - Synchronize information from different sources
6. Presentation Layer  
   - Data translator converts data into acceptable ad compatible data format  
   - Carry out Encryption / Decryption
7. Application Layer   
   - Supports underlying service that supports apps  
   - Service advertisement – SMTP, HTP, FTP, DNS

* **Q2.**

–What are the challenges of international treaties (bilateral/multilateral) in interconnected Networks  
  
There are following challenges in international treaties in interconnected networks –

* Require end to end monopoly regulation
* Trade issues because Network traffic passes through different jurisdictions
* Dealing with different business rules, charging rules and policies
* Require physical points of interconnection
* Require interoperability standards
* Promote competition and facilitate entry
* Protect consumers from monopoly power  
  Market power is company’s ability to manipulate price at the level of supply, demand or both. Interconnecton requirements are imposed by the regulatory laws.
* **Q3.**

–Interconnection is linking of two or more networks for the mutual exchange of network traffic. Draw the network models for multi-hop routing, and multilateral peering points





