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**CT1502 Communication Network Planning and Design  
Mid 2**

**Question 1: (20 marks)**

Choose the correct choice:

1. send one signal through wire medium connection :
   * Baseband.
   * Packet Switching
   * Broadband.
   * Transmission
2. send more than one signal through medium connection using supporting hardware:
   * Baseband.
   * Packet Switching
   * Broadband.

Transmission

1. Institution, company or group has an independent entity and perform a specific function to produce a product or service:
   1. Planning
   2. Strategic unit
   3. users
   4. Administrators.
2. LAN protocols set on :
   * Network layer
   * Physical layer
   * Transport layer
   * Data link layer
3. In CSMA , if a node detect a collision it will:
   * Send Jam signal.
   * Resend the frame again.
   * Send nothing.
   * For the administrator to solve the collision.
4. In token detection, if the token stops, the network:

* use another token.
* Wait for a solution
* Stops.
* Continue operate.

1. Gateways work on:
   * Data link layer
   * Physical layer
   * Application layer
   * Network layer.
2. In ITU planning steps, Evaluate the current status means:
   * Testing new systems.
   * Configure a new settings.
   * Checking the current working system and measure it.
   * Change the settings of the network.
3. Adaptations used:
   * Linking two LANs
   * Linking different protocols.
   * Start a new network.
   * Develop new configuration.
4. Access demand means:
   * The ability to get a service.
   * The ability to use the service.
   * The ability to access servers.

**Question2**: (5 mark)  
Find the overall access demand D(0) for Land line Telephone in city with population of 10,000,000 , if you know that :

* 40 % of population do have the lines.
* Required access demand is 80% of capable
* Number of cable lines is 20,150,000 line

P = 10,000,000

S = 40% = 0.4

I = 80% = 0.8

U = 20,150,000

D = P.S.I

D = 10,000,000 × 0.4 × 0.8

D= 3,200,000