## **🧩 MCQs, Fill-in-the-Blanks, Short Answer**

### **Multiple Choice**

1. Which mode of IPsec encrypts only the payload?  
   * A. Tunnel Mode
   * **B. Transport Mode** ✅
2. What is the maximum value of hop count in RIP?  
   * A. 32
   * **B. 16** ✅
3. What does IPsec AH provide?  
   * A. Confidentiality only
   * **B. Integrity and Authentication** ✅

### **Fill in the Blanks**

1. IPsec’s two main protocols are \_\_\_\_\_\_ and \_\_\_\_\_\_.  
    → **AH, ESP**
2. The unique identifier for an SA is called \_\_\_\_\_\_.  
    → **SPI (Security Parameters Index)**
3. In IKE Phase 2, keys may be refreshed using \_\_\_\_\_\_ to ensure forward secrecy.  
    → **Diffie-Hellman (DH)**

### **Short Answer**

* **Q**: What’s the purpose of a Security Association in IPsec?  
   **A**: It defines how IP traffic will be secured, including encryption/authentication algorithms, keys, and lifetime.
* **Q**: Why is BGP considered insecure by design?  
   **A**: BGP lacks strong authentication, making it vulnerable to route hijacking.