1.
a) Integrity
b) Availability
c) Confidentiality

2.
a) it can be achieved by using the private key of the sender, because the receiver knows the public key of sender then only sender can generate this message.
b) it can be achieved by using the public key of receiver, because only receiver knows it is the private key.
c) they can be achieved by both the public key of receiver and the private key of sender.

3.
No. The right of each domain is specific to that domain and allows processes to move freely, from one domain to another, and to use those specific controls in that domain. Including the access privileges of domain B in those of domain A leads that all processes in domain A will get the privilege and can destroy the system with the privilege of domain B.

4.
a) The process can only access these authorized resources, which are necessary to complete the task. So, unauthorized users won't be allowed to access to the system, and all processes will respect the policy in terms of using resources. Respecting the need-to-know principle can minimize the damage to the system that the processes do.
b) The principle of the least privilege works by allowing only the level of access necessary to perform the task. By implementing least privilege access controls, organizations can help curb "privilege creep" and ensure human and non-human users only have the minimum levels of access required. The failure or corruption of a component causes minimal damage to the system because the failed or corrupt component has the minimum set of permissions required to support its normal mode of operation. So, the least privilege can stop the spread of malware and improve end user productivity.

5.
a)
Transport layer: logical communication between processes running on different hosts
Network layer: logical communication between hosts.
b) A router always has some higher functionality located in its control plane.
c) Multi-path networks and parallel processing paths within network equipment will cause the out of order packets.
d) b, d, e, h

6. Achieving Robustness by running on distributed nodes using copies of processes, it will lose progress the process it fails. Achieving Scalability by testing it can help us make progress if there are a lot of tests in terms of file system in various environments. Achieving Transparency by separating application components and files and the file system are hidden from the user.