

---

## CHAPTER 22

# *SMTP*

---

### 22.1 MULTIPLE-CHOICE QUESTIONS

- |       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 1. d  | 3. b  | 5. a  | 7. d  | 9. b  |
| 11. c | 13. c | 15. a | 17. c | 19. a |
| 21. d | 23. d | 25. a | 27. a | 29. c |
| 31. a |       |       |       |       |

---

### 22.2 EXERCISES

33. The HELO command is needed so that the client can identify itself using its domain name during connection establishment. The MAIL FROM message is needed to supply the server with a return mail address for returning errors and reporting messages.
35. Connection establishment is needed for mail transfer because the messages sent relay necessary information about the communication to the client and server software, not just whether the computers have a connection via TCP.
37. Client to Server: MAIL FROM: aaa@xxx.com  
Server to Client: 250 (Request command completed)  
Client to Server: RCPT TO: bbb@yyy.com  
Server to Client: 250 (Request command completed)  
Client to Server: DATA  
Server to Client: 354 (Start mail input)  
Client to Server: From: A.A.  
Client to Server: To: bbb  
Client to Server: Date: 3/6/02  
Client to Server: Subject: Howdy!  
Client to Server: Good morning my friend.

Client to Server: .  
Server to Client: 250 (Request command completed)  
39. (Connection is established with yyy.com)  
Server to Client: 220 (Service ready)  
Client to Server: HELO xxx.com  
Server to Client: 250 (Request command completed)  
Client to Server: MAIL FROM: aaa@xxx.com  
Server to Client: 250 (Request command completed)  
Client to Server: RCPT TO: bbb@yyy.com  
Server to Client: 250 (Request command completed)  
Client to Server: DATA  
Server to Client: 354 (Start mail input)  
Client to Server: From: A.A.  
Client to Server: To: bbb  
Client to Server: Date: 3/6/02  
Client to Server: Subject: Howdy!  
Client to Server: Good morning my friend.  
Client to Server: .  
Server to Client: 250 (Request command completed)  
Client to Server: QUIT  
Server to Client: 221 (Service closing transmission channel)  
(Connection is established with zzz.com)  
Server to Client: 220 (Service ready)  
Client to Server: HELO xxx.com  
Server to Client: 250 (Request command completed)  
Client to Server: MAIL FROM: aaa@xxx.com  
Server to Client: 250 (Request command completed)  
Client to Server: RCPT TO: ccc@zzz.com  
Server to Client: 250 (Request command completed)  
Client to Server: DATA  
Server to Client: 354 (Start mail input)  
Client to Server: From: aaa  
Client to Server: To: ccc  
Client to Server: Date: 3/6/02  
Client to Server: Subject: Howdy!  
Client to Server: Good morning my friend.  
Client to Server: .  
Server to Client: 250 (Request command completed)  
Client to Server: QUIT  
Server to Client: 221 (Service closing transmission channel)

41. 18
43. MIME-version: 1.1  
 Content-Type: Image/JPEG; name="something.jpg"  
 Content-Transfer-Encoding: base64
45. There are 1200 bytes in the encoded message. There are 200 redundant bytes. The ratio of redundant bytes to the entire message length is 1 : 6.
- 47.
- Original: 01010111 00001111 11110000 10101111 01110001 01010100
  - Grouped by six: 010101 110000 111111 110000 101011 110111 000101 010100
  - Base64: 21 48 63 48 43 55 5 20
  - ASCII: V w / w r 3 F U
  - Bit Pattern: 01010110 01110111 00101111 01110111 01110010 00110011 01000110 01010101
- 49.
- Original: 01010111 00001111 11110000 10101111 01110001
  - Grouped by six: 010101 110000 111111 110000 101011 110111 0001
  - Base64: 21 48 63 48 43 55 1
  - ASCII: V w / w r 3 B
  - Bit Pattern: 01010110 01110111 00101111 01110111 01110010 00110011 01000010

