# Review Minggu ke-3B

1. True or false?
   a) A user requests a Web page that consists of some text and three images. For this page, the client will send one request message and receive four response messages.
   b) Two distinct Web pages (for example, www.mit.edu/research.html and www.mit.edu/students.html) can be sent over the same persistent connection.
   c) With nonpersistent connections between browser and origin server, it is possible for a single TCP segment to carry two distinct HTTP request messages.
   d) The Date: header in the HTTP response message indicates when the object in the response was last modified.
   e) HTTP response messages never have an empty message body.

2. What does stateless protocol mean? Is IMAP stateless? What about SMTP?

3. Why do HTTP, FTP, SMTP, and POP3 run on top of TCP rather than on UDP?

4. What is the difference between `MAIL FROM:` in SMTP and `From:` in the mail message itself?

5. Give two differences between HTTP and SMTP!

6. Is it possible for an organization's Web server and mail server to have exactly the same alias for a hostname (for example, foo.com)? What would be the type for the RR that contains the hostname of the mail server?

7. Describe how Web caching can reduce the delay in receiving a requested object. Will Web caching reduce the delay for all objects requested by a user or for only some of the objects? Why?

8. What is the difference between POP3 and IMAP protocol?

9. What is the difference between recursive and interative DNS queries?

10. Consider distributing a file of F = 15 Gbits to N peers. The server has an upload rate of $u_s$ = 30 Mbps, and each peer has a download rate of $d_i$ = 2 Mbps and an upload rate of u. For N = 10, 100, and 1,000 and u = 300 Kbps, 700 Kbps, and 2 Mbps, prepare a chart giving the minimum distribution time for each of the combinations of N and u for both client-server distribution and P2P distribution.