P3.

1. The status code of 200 and the phrase OK indicate that the server was able to locate the document successfully. The reply was provided on Tuesday, 07 Mar 2006 12:39:45 GMT .
2. Sat, 10 Dec2005 18.27.46 GMT
3. 3874 bytes
4. <!doc Yes. Because of the “Connection:Keep-Alive” in the Header

P4.

1. Persistent connections provide a mechanism by which a client and a server can signal the close of a TCP connection. This signaling takes place using the Connection header field (section 14.10). Once a close has been signaled, the client MUST NOT send any more requests on that connection.

Either the client or the server can indicate to the other that it is going to close the persistent

connection.

1. HTTP does not provide any encryption services.

P7.

1. 2RTT0+RTT1+RTT2+…RTTn

P8.

1. RTT1+…+RTTn+2RTT0+3\*2RTT0 = 8RTT0+RTT1+…+RTTn
2. RTT1+…+RTTn+2RTT0+2RTT0=4RTT0+RTT1+…+RTTn
3. RTT1+…+RTTn+2RTT0+RTT0=3RTT0+RTT1+…+RTTn

P11.

非持久HTTP并行下载的话是没有意义的，这条链路太短而且带宽很小，并行每个链接分配的带宽相对来说更小，所以接受文件的时间会更长，RTT相对于接收文件的时间是可以忽略不计的。

持久HTTP增益也不会很大，一次ACK或握手的时延为 4/3 s。 而接收一个文件的时间大约为666s 。持久HTTP只不过少了几次握手的时间和等待ACK的时间 而这个时间相对于接收文件时间显然微不足道。

P16.

F=5Gbits = 5 \*1024 Mbits

us=20Mbps

dmin=di=1Mbps

|  |  |  |  |
| --- | --- | --- | --- |
|  | 10 | 100 | 1000 |
| 100Kbps | 5120 | 25600 | 256000 |
| 250Kbps | 5120 | 25600 | 256000 |
| 500Kbps | 5120 | 25600 | 256000 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 10 | 100 | 1000 |
| 100Kbps | 5120 | 17201.05 | 43516.6 |
| 250Kbps | 5120 | 11527.88 | 19383.61 |
| 500Kbps | 5120 | 7438.82 | 10073.16 |