1. In circuit switching, operators connect users on demand and establish circuit to allow electrical current to flow from inlet to outlet. Therefore, only N connections instead of N(N-1)/2 connections are required to central office for a telephone network with N telephones. Circuit switching is end-to-end. Users signals for call setup and tear-down, which is dialing and hanging up in the telephone’s case. And signaling coordinates the connection setup.
2. It follows the Hybrid Protocol Model. There are the Application layer, Transport layer, Network Layer, Data Link Layer and Physical Layer.
3. 32/6(approximately 5.33) and so we need to increase 6 bits.
4. There are 8 possible points and so each waveform represents 3 bits.
5. There is an error after the second set of consecutive five 1s and since only one bit is erroneous, we change the 1 following the consecutive five 1s to 0 and then delete it.

0001101011111 11111 10110

1. a) 7

b) the third bit

7. Stop-and-Wait, Go-Back-N and Selective Repeat

8. Error-detecting code with high error coverage, ACKs, NAKs, timeout mechanisms

9. The sum of send window size and receive window size must be equal or less than 2^m.

10. Flow control prevents buffer overflow by regulating rate at which source is allowed to send information through different methods, such as X On/Off, Sliding window and etc.