IPV4

Version:

0100 for ipv6 i.e version 4

Header Length:

The length of the given header in 20 bytes i.e 0101 which is 5 in decimal and when multiplied by 4, it results 20 which is the size of the header.

Type of service:

DSCP[0-5] and ECN[6-7]

PPPDTRCO i.e precedence, delay, throughput, reliability, cost and last bit is reserved for future use. In routine data transfer all the bits are set as 0. If there is congestion in data transfer then the ECN is set as 11. Then the precedence is set for the data packets using the DHCP.

Total Length:

The length of the packet i.e header length as well as payload. Here, the size of payload is 20 bytes.

Time to Live:

Here, the value of ttl is 62 i.e after the packet has reached all the 62 nodes, it is dropped because it is stuck in a loop.

Protocol:

The protocol is tcp so its value is 6.

Header Checksum:

This field is used for error detection as every nodes calculates the checksum and checks it with the written value. The checksum is calculated using only the necessary fields.

Source and Destination address:

It contains the source and destination address.

Fragmentation:

A single packet is fragmented into multiple fragments.

Identification is used to identify each fragments.

The flags has 3 bits. First is the reserved bit, second is the donot fragment and the third is the more fragment. Here in our example donot fragment is 1 so fragmentation is not supported and more fragment is also zero.

Fragment offset represents the number of bytes of the packet ahead of you. Since the given packet was not fragmented so the offset has value 0.