

Computer Networks

TCP & UDP

DPP 01

[MSQ]

1. which of the following statements is/are true regarding TCP header?
- The range of TCP header length field value is always [5, 15]
 - The range of TCP header length is always [20, 60]
 - The range of TCP header length field value is always [0 – 15]
 - The range of TCP header length is always [0 – 60]

[MCQ]

2. What is the purpose of using PSH bit in TCP header?
- PSH bit is used to treat certain data on an urgent basis.
 - PSH bit indicates whether acknowledgement number field is valid or not.
 - PSH bit is to push the entire buffer immediately to the receiving application.
 - None of the above.

[NAT]

3. Consider the following statements:
- S₁: RST bit is used to reset the TCP connection.
- S₂: When RST bit is set to 1, it indicates the receiver to terminate the connection immediately.
- S₃: When RST bit is set to 1 it may result in the loss of data that is in transit.
- S₄: SYN bit is used to synchronize the sequence number.

How many are the true statements?

[MCQ]

4. Match the Following:

Field in TCP header	Length in bits
1. Sequence number	A : 16
2. Reserved bits	B : 4
3. Header length	C : 32
4. Advertisement window D : 6	
(a) 1 – A, 2 – B, 3 – C, 4 – D	
(b) 1 – C, 2 – D, 3 – B, 4 – A	
(c) 1 – C, 2 – D, 3 – A, 4 – B	
(d) 1 – A, 2 – B, 3 – D, 4 – C	

[MCQ]

5. Which of the following is not a field in TCP header?
- Sequence Number
 - Checksum
 - Fragment offset
 - Window size.

[MCQ]

6. The maximum payload of TCP segment is:
- 65, 535
 - 65, 495
 - 65, 515
 - 65, 475

Answer Key

- | | |
|-------------|------------|
| 1. (a, b) | 4. (b) |
| 2. (c) | 5. (c) |
| 3. (4 to 4) | 6. (65495) |



Hints & Solutions

1. (a, b)

TCP header length field value range

$(0101)_2$

$(1111)_2$

↓

↓

5

15

Header length 5×4

15×4

= 20 bytes

= 60 bytes

2. (c)

Option A : It's true regarding URG bit of TCP header

Option B : It's true regarding ACK bit of TCP header

Option C : True.

3. (4 to 4)

- All the given statements are true statements.

4. (b)

Sequence Number – 32

Reserved bits – 6

Header length – 4

Advertisement window – 16

5. (c)

Fragment offset is not a field of TCP header.

6. (65495)

Payload = window size – min header size (TCP + IP)

= $65535 - (20 + 20)$

= $65535 - 40$

= 65495



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