Which of the following statements are true about the OpenFlow specification?



The OpenFlow specification provides mechanisms to perform Layer 2 learning across a network of switches.



**The main purpose of the OpenFlow control channel is to update flow table entries on switches.**



Once a switch has sent one packet for a flow, it must also send all subsequent packets for that flow to the controller.



**If a switch does not contain a flow table entry that matches a particular packet, the switch forwards the packet to the controller for handling.**



**Some versions of the OpenFlow specification allow for performing more than one action on a single packet.**

1 point

2.Question 2

Which of the following statements are true about dpctl?



dpctl can respond to network events, such as packets sent from a switch.



**dpctl can modify flow table entries on an OpenFlow switch**



dpctl is an OpenFlow controller.



dpctl is invoked from within the Mininet emulator.



**dpctl can inspect flow table entries on an OpenFlow switch.**

1 point

3.Question 3

Which of the following are reasonable considerations for choice of controller?



**Need for production-quality operation.**

****

**Support for and integration with cloud applications.**

****

**Speed of prototyping.**

****

**Ease of learning curve.**

****

**Performance of the programming language that the controller is implemented in.**

1 point

4.Question 4

Which of the following controllers support OpenStack integration?



**Ryu**



NOX



CpQD

****

**Floodlight**



Pox

1 point

5.Question 5

Which of the following are true about Pox?



Pox automatically determines the order to install flow table rules, to avoid inconsistent forwarding behaviour may be answer.



Pox provides a function to modify flow table entries at a switch.



Pox automatically determines the priority between two conflicting rules.



**Pox's \_handle\_PacketIn function determines how a packet should be handled when it arrives at the controller.**

****

**Pox's performance is typically slower than NOX.**

1 point

6.Question 6

What is the difference between a hard timeout and an idle timeout?



A hard timeout expunges a flow table entry for all switches in the network, whereas an idle timeout only expunges the flow table entry on the switches that have seen no matches for that flow within the specified interval.



**A hard timeout expunges a flow table entry regardless of whether there have been active matches, whereas an idle timeout expunges the flow table entry only if there have been no matches for that flow within the specified interval**.



A hard timeout expunges all flow table entry from the switch, whereas an idle timeout only expunges one flow at a time.



A hard timeout occurs exactly at the specified interval, whereas an idle timeout may occur slightly later than the specified interval.

1 point

7.Question 7

Which of the following are true hubs and learning switches?



A hub implemented in Pox requires all incoming packets to be directed to the controller.



**A learning switch implemented in Pox can be easily extended to support firewall capabilities**.



**A hub forwards an incoming packet on all ports (except the incoming port), whereas a switch only floods an incoming packet on all ports if it does not have a table entry that determines the output port for that packet.**



A learning switch implemented in Pox requires all incoming packets to be redirected to the controller.



**A learning switch requires more logic at the controller (in terms of lines of code in Pox) than a hub.**

1 point

8.Question 8

Which of the following functions ensures that the controller will hear PacketIn messages?



AddRule



launch



**connection.addListeners**



\_handle\_PacketIn



\_\_init\_\_

1 point

9.Question 9

What are the two key steps of an OpenFlow flow table entry (check two)?



Redirect Not Answer



drop



**action**



**match**



Forward Not answer

1 point

10.Question 10

Which of the following are true about the OpenDaylight controller?



Open Daylight only supports proprietary switches from Cisco and IBM.



It only supports OpenFlow as a "southbound" control framework.



**Its code shares a lot of similarities with Beacon.**



It is slower and less scalable than some of the more lightweight SDN controllers such as Pox.



**It allows dynamic reloading of controller functionality without restarting the controller.**