**Lesson Plan Form**

**Course Title: Computer Networks**

**Course Code: ETE-331**

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| Title: **IPV6**  | Ref. No:**ETE 331/23** |
| Target Population: **25** | Duration**90 minutes** |
| Aims/Rationale: **After completing these lesson students will be able to learn an overview of IPv6 technologies, covers IPv6 design and implementation, describes IPv6 operations, addressing, routing, services, transition, and deployment of IPv6 in enterprise as well as service provider networks, and includes case studies useful for deployment scenarios.**  |
| **Learning Outcomes: At the end of the session participant will be able to :** * **Describe the factors that led to the development of IPv6 and possible uses of this new IP structure.**
* **Describe the structure of the IPv6 address format, how IPv6 interacts with data link layer technologies, and how IPv6 is supported in Cisco IOS Software.**
* **Implement IPv6 services and applications.**
* **Understand the updates to IPv4 routing protocols needed to support IPv6 topologies.**
* **Describe security issues, how security for IPv6 is different than for IPv4, and emerging practices for IPv6-enabled networks**
* **What are the similarities and differences among unicast, broadcast, and multicast IPv4 addresses?**
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| **Content** | Method or Technique | Resource or Aid | Time |
| Introduction: **Welcome address****Rapport building****Bridging topic****Layout/ content outline****Attendance****Pre-assessment** | **Lecture****Q/A** | **W/B** | **10 minutes** |
| Development:Section-A* **What are the parts of an IPv4 address? What is the purpose of the subnet address?**
* **Describe the factors that led to the development of IPv6 and possible uses of this new IP structure.**

Section-B* **Describe the structure of the IPv6 address format, how IPv6 interacts with data link layer technologies, and how IPv6 is supported in Cisco IOS Software.**
* **Implement IPv6 services and applications.**

Section-C* **Describe the updates to IPv4 routing protocols needed to support IPv6 topologies.**
* **Describe security issues, how security for IPv6 is different than for IPv4, and emerging practices for IPv6-enabled networks**

**Section-D*** **What are the similarities and differences among unicast, broadcast, and multicast IPv4 addresses?**
* **What are the different types of IPv6 addresses?**
 | **Lecture****Discussion** **Do** **Do** **Do** | **W/B****MMP****Video** | **10 minutes** **20 minutes** **25 minutes** **15 minutes** |
| Conclusion:**Recap main points****Feedback & answer****Assessment of LOs****Reference****Forward plan** | **Lecture****Discussion****Q/A** |  | **10 minutes** |
| Equipment & aids: **Optional** |