

CSE 5151 ADVANCED COMPUTER NETWORKS [3 1 0 4]

Unmanned aerial vehicle (uav) networks: Introduction, challenges, key issues, comparative study, UAV features, Multi-UAV network, UAV network topologies, categorization, self-organization in UAV networks, UAV routing protocols, Handoffs in UAV networks. SDN: Benefits, Use cases, Controllers, Policies, Overlays, Automating Cloud via SDN. Supporting Multivendor Ecosystems. Data Center Evolution: Modern Data Center, Monolithic Storage Array, Virtualization, Convergence, the Role of Cloud, Cloud Types, Cloud Drivers. Emerging Data Center Trends, Hyperconverged Infrastructure. Multimedia Networking: Types of Multimedia, Streaming, DASH. CDN, Case Studies. VoIP. Best-Effort Service, Jitter, Best-Effort Networks, QoS Guarantees, Resource Reservation, Call Admission. Optical Networks: Multiplexing, Generations, Switching, Transparency. WDM Network Elements: Optical Line Terminals, Amplifiers, Multiplexers, OADM Architectures. Network Survivability: Basic Concepts, Self-Healing rings, Protection, Resilient Packet Rings, Service Classes.

References:

1. <https://nptel.ac.in/courses/106105160/18> (Accessed on 2/2/2019).
2. Brian Underdahl and Gary Kinghorn, "*Software Defined Networking For Dummies*", Cisco Special Edition, John Wiley & Sons, Inc., 2015.
3. Scott D. Lowe, James Green, and David Davis, "*Building a Modern Data Center: Principles and Strategies of Design*", ActualTech Media, USA, 2016.
4. James F. Kurose, Keith W. Ross, "*Computer Networking-A Top Down Approach*", (6e), Pearson, 2013.
5. Rajiv Ramaswami, Kumar N. Sivarajan, Galen H. Sasaki, "*Optical Networks -A Practical Perspective*", (3e), Morgan Kaufmann, 2010.
6. Relevant research papers.