**Suggested Course Paper Topics**

| **No.** | **Topic** |
| --- | --- |
|  | **Chapter 2 The Physical Layer** |
| 1 | Passive Optical Network – PON(EPON/GPON) |
| 2 | Orthogonal Frequency Division Multiplexing - OFDM and its application to 4G |
|  | **Chapter 3 The Date Link Layer** |
| 3 | PPP Password Authentication Protocol (PAP) |
| 4 | PPP Challenge Handshake Authentication Protocol (CHAP) |
| 5 | Point to Point Protocol PPP over Ethernet ---PPPoE |
|  | **Chapter 4 The MAC Sublayer** |
| 6 | Spanning Tree Protocol(STP) and Rapid RTP(RSTP) |
| 7 | IEEE802.1ad : Provider Bridges (PB)--- Q-in-Q |
| 8 | IEEE802.1ah : Provider Backbone Bridge (PBB)--- MAC-in-MAC |
| 9 | Wireless Security Protocols (WEP, WPA and WPA2/802.11i) |
|  | **Chapter 5 The Network Layer** |
| 10 | Multicast OSPF--MOSPF |
| 11 | Distance Vector Multicast Routing Protocol—DVMRP |
| 12 | Ad hoc On-demand Distance Vector—AODV |
| 13 | Optimized Link State Routing Protocol--OLSR |
| 14 | Principle of ARP Spoofing and Protecting Method |
| 15 | OpenFlow-Based SDN Technologies |
| 16 | NAT Traversal Mechanisms for Peer-To-Peer Application |
| 17 | IPv6 Addressing Architecture |
| 18 | Methods for IPv4-IPv6 Transition |
| 19 | IPTV |
| 20 | Virtue Private Network |
| 21 | Multi-Protocol Label Switching |
|  | **Chapter 6 The Transport Layer** |
| 22 | TCP SYN Flooding Attacks and Common Defenses |
| 23 | New Reno Congestion Control |
| 24 | Vegas TCP Congestion Control |
| 25 | Friendly TCP Congestion Control |
| 26 | Real-time Transport Protocol/Real-time Transport Control Protocol--RTP/RTCP |
| 27 | Multipath TCP |
| 28 | Delay(Disruption) Tolerant Network—DTN |
|  | **Chapter 7 The Application Layer** |
| 29 | DNS Spoofing and its Defense Scheme |
| 30 | Methods for Identifying and Filtering Junk Mail or Spam |
| 31 | Dynamic Hash Table(DHT)-based P2P System |
| 32 | Dynamic Adaptive Streaming over HTTP--DASH |
| 33 | Real Time Streaming Protocol—RTSP |
| 34 | Real Time Messaging Protocol—RTMP |
| 35 | Named Date Networking--NDN |
| 36 | Information(Content)-Centric Networking—ICN/CCN |
| 37 | Application-layer multicast |
| 38 | Block-Chain Technology |

**论文或技术报告要求**

1. 格式和字数：

格式见《计算机网络课程论文模板》，字数至少5000字。

请使用MS Word 2003或以上版本编写论文。

2. 语言

中文、英文均可。

3. 最迟提交时间

2020年6月15日下午17:30。

4. 选题

每班每人从上述选题中各选择一个主题，每人撰写一篇课程论文。

同一个班级同学的论文选题不能重复（具体由班级内部协调）。

不同班级同学若选择的是同一主题，论文内容不得雷同，否则按作弊处理。

5. 参考文献

至少5篇，且必须在正文中标明引用。

6. 成绩占比

在期末最终成绩中占10%。

7. 提交方式

论文以纸质A4打印版提交，电子版每班刻光盘一张。

8. 论文查重

论文会进行查重，查重结果影响最终成绩评定。