Computer Network

Overview

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Network Acronym

- **N**ovel
- **E**xperience of
- **T**heoretical,
- **W**orking,
- **O**perational, and
- **R**ealized
- **K**nowledge

Useful NPTel Course

- Demystifying Networks
  – Strongly recommended.

Resource Material

- Access URL : CN theory and lab
  - https://accsindia-my.sharepoint.com/:f:/g/personal/rprustagi_accsindia_org/EtXLWA8JGdBIo2K_hrLxj48B71LkK2c1GBQz7Mn6_2poHg?e=zOwklq
  - github.com/rprustagi/VTU-CNLab
  - github.com/rprustagi/VTU-17CS52-CN
  - youtube.com/rprustagi
  - http://acc.digital
- Structure
  - `Slides:`
  - `Misc, QP, Results ...`
    - Will be updated as the course progresses

Resource Material

- **Text Book:** Computer Networks 6th ed
  - **Authors:** Kurose, Ross
- Note: Do not depend upon notes
  - Read the text book
- Support Material
  - RFCs
  - References cited in the book
- Access to resources by authors (6th ed)
  - **http://wps.pearsoned.com/ecs_kurose_compnetw_6/216/55463/14198700.cw/index.html**

Course Methodology

- Exams
  - External: as per VTU
  - Internal: As per freedom under VTU/KSIT
    - Most likely openbook exams
    - Same question to all, but
      - » may have different answers for e
- Assignments (to be worked out)
  - To be done in team of size 2 or 3
  - Submissions online
    - TBD: Upload on the server
      - cse.ksit.edu.in (web access works)
        - » ssh access is pending.

Course

- Approach
  - It is neither top down or bottom up
  - Not sequential as per modules
    - It is mix of modules
  - Designed to be learning driven.
    - First basics (50% course), Advanced (50%)
- Desiderata:
  - Need to be regular in the class
    - Can have attendance freedom
    - Missing the classes may turn out to be costly.
  - Decide yourself:
    - **Outstanding** vs out->standing

Classroom Management

- Be in time in class
  - Late comers disturbs the class hygiene
    - (Adhere to Swachh Bharat)
- Be interactive in the class.
  - When in doubt, open your mouth
  - Don't hijack the session
- Bring the laptop to your class if wants to
  - Beneficial for real time experience of networks
  - Especially when studying
    - Network delays: ping, traceroute, other tools
    - Application layer: HTTP, DNS
    - Transport layer: TCP, .UDP
    - Network layer: IP packet analysis

Classroom Management

- Availability
  - Tea and Lunch break (1:00pm)
    - My office in Dept or CSE R&D center
  - Other time as per convenience
- Communication
  - On email only
    - Unlikely on social media
    - ~~Whatsapp, Facebook, Twitter, Linkedin etc.~~
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Course Plan

- Excel file (2019-06-10-CN Course Design.xls)
  - Part I: Basics
  - Part II: Advanced
  - Comparision with AICTE and others
- Likely to deviate few times.
- Expect flipped classroom for few clases.
- Concept consoliation
  - Simple design experiments available.
  - Need to know your interest.
  - Will be done after class hours
    - or Saturday

Concept Consolidation

- Activities
  - Be comfortable with wireshark
    - It will be quite helpful for your understanding
      - Available for Windows, Linux, Mac etc.
  - Be comfortable with Linux
    - The default deployment server for most companies
  - Work out the exercises (at end of chapter)
    - Helps you consolidate the subject
- COs/POs are designed accordingly.
  - 17CS52-CN-CO-PO-Mapping.xls

COs/POs

- COs are applicable to all modules
  - Unlikely one to one mapping of modules
- CO1:
  - Able to analyze working of internet protocols at application level communication
- CO2:
  - Able to differentiate between reliable and unreliable communication and apply this knowledge to build robust applications
- CO3:
  - Understand IP subnetting and routing protocols

COs/POs

- CO4:
  - Apply networking knowledge to diagnose network communication and performance issues
- CO5:
  - Understand wireless networking and mobile communications
- CO6:
  - Design and implement Network Systems and applications to meet desired performance needs
- POs: Focus on PO3, 4, 5,8,9 and 10
  - Design/Development, Conduct investigations
  - Modern Tool usage, Ethics, Team work, Communication

Summary

- Resource material
- Course plan
- Classroom management
- COs and POs
- Activities preparedness