

Jadavpur University  
Bachelor of Information Technology  
B. IT 3<sup>rd</sup> Year 2<sup>nd</sup> Semester (OLD) Examination'2017  
Sub: Wireless Networks  
Answer any five questions

Full Marks: 100

Time: 3 hours

1. (4+4+12)
  - a. List some problems of wireless networks in comparison of wired networks?
  - b. What are the benefits of reservation schemes? What are the disadvantages of reservation schemes?
  - c. What do you mean by hidden and exposed terminal problems?
2. (10+5+5)
  - a. Define the following terms: frequency reuse, vertical handoff, orthogonal sequences, MSRN, IMEI.
  - b. What functionalities are performed by mobile switching centers?
  - c. Draw a diagram showing the main components of GSM networks.
3. (5+6+9)
  - a. Explain the problems TCP faces in wireless networks.
  - b. List some advantages and disadvantages of split connection approach to enhance TCP performance in wireless networks.
  - c. Compare between split connection, end-to-end connection, localization, and explicit notification approaches to enhance TCP performance in wireless networks with respect to the following issues: mobility support, end-to-end autonomy.
4. (2+8+10)
  - a. What is triangular routing? How triangular routing problem is eliminated in MIPv4 and MIPv6?
  - b. Explain with diagram the paths involved when two mobile hosts communicate using MIPv6 and both are in foreign network.
5. (6+6+8)
  - a. Describe the following functionalities in AODV.
    - i. Route discovery
    - ii. Route maintenance
  - b. Compare between DSDV, DSR and AODV.
6. (10+10)
  - a. Power is a real crisis for wireless and mobile devices. Describe a suitable power management scheme for infrastructure WLAN.
  - b. Describe a method for clock synchronization in infrastructure WLAN.
7. Write short notes: (10+10)
  - a. TCP Snoop
  - b. Handoff mechanism of GSM