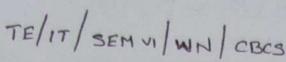
## Paper / Subject Code: 88984 / Wireless Networks





[10]

[10]

[20]

(3 Hours) [80 marks]

Note:	Question	No.1	is	com	pulsory
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Answer any three questions out of any remaining five questions

Q4. a) Draw and explain the GPRS architecture in detail with neat diagram.

Q4. b) Discuss and compare between MANET & VANET architecture with its applications.

Figures in right indicate marks

Diagrams to be drawn neatly & should be legible

Diagrams to be drawn neatly & should be legible	
Q1 a) The channel data rate is 270.833kbps in GSM standard that is 40% of theoretical maximum data rate that can be supported in a 200kHz channel bandwidth. Calculate the corresponding theoretical S/N required.	[4]
b) Write in brief about WLAN technology and discuss about Hidden exposed terminal problem in WLAN.	[4]
<ul> <li>c) Explain frequency reuse concept with neat diagram and state the mechanism to calculate freque re-use distance q.</li> </ul>	ncy [4]
d)Write about the GSM logical channel hierarchy in detail. e) Discuss about UMTS 3G security with neat flow diagram.	[4] [4]
Q2.a) Write in detail the working of Reverse link CDMA system. In an IS-95 system calculate the processing gain in dB if the baseband data rate is 9.6kbps, 4.8kb 2.4kbps & 1.2 kbps in rate set 1. If the error correction codes increase the data rate to 19.2kbps, recalculate the processing gain. Comment on the results obtained.	ps, [10]
Q2.b) Explain with neat diagram about DSSS technique in detail with types of spread spectrum.	[10]
Q3. a) Explain the working of WEP protocol in detail with neat diagram. Q3. b) Write in detail about the need of internet firewalls for trusted system in wireless networks.	[10] [10]

- Q5. a) A mobile communication system is allocated RF spectrum of 25 MHz and uses RF channel bandwidth of 25 kHz so that a total number of 1000 voice channels can be supported in the system.
  - i) If the cell service area is divide into 20 cells with a frequency reuse factor of A, calculate the system capacity.
  - ii) The cell size is reduced to the extent that the service area is now covered with 100 cells.

    Compute the system capacity while keeping the frequency reuse factor as 4. [10]
- Q5. b) Explain in detail the working of forward link CDMA system with neat diagram. [10]
- Q6. Write in detail on any four of the following:

a)UMTS Architecture

- b) wireless sensor network architecture
- c) Bluetooth architecture
- d) A 5/1 of GSM architecture
- e) WPAN 802.15.1 standard

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