Date: 29th May 2019

To,

The Exam Controller,

Pillai College of Engineering,

New Panvel,

Raigad – 410206.

Subject: Grievance regarding WN question paper.

Respected Sir/Madam,

I would like to bring it to your notice that the question paper of the exam held on 28th May 2019 (2:30 pm to 5:30 pm) for the subject 'Wireless Network' Question paper Code '71079' had several questions out of syllabus and were likely from the old syllabus. Some of the questions are mentioned below:

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 200khz channel bandwidth. Calculate the corresponding theoretical S/N required.

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, 4.8kbps, 2.4kbps and 1.2kbps 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.

Q5. (a) A mobile communication system is allocated RF Spectrum of 25mhz and uses RF channel bandwidth of 25khz so that the total number of 1000 voice channels can be supported in the system.

1. **If the cell service area is divide into 20 cells with a frequency reuse factor of A, calculate the system capacity.**
2. **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.**

Forwarded to COE for further action
HOD IT
29/5/19.

forwarded please
Subj incharge
Sem VI IT

On a single chapter i.e. chapter 2 of syllabus having 10 lectures was asked for 58 marks.

Chapter 5 of syllabus having 7 lectures which is part of the new syllabus was asked for 0 marks.

In question number 6, the bluetooth architecture was asked twice with topics 6(c) Bluetooth Architecture and 6(e) as WPAN 802.15.1 Standards.

The topics mentioned as CDMA (2a & 5b), UMTS (1e) and GSM (6d) was asked according to old syllabus.

Revised Syllabus:
http://www.frcrce.ac.in/TDocs/Exams/Syllabus/BEIT.pdf
(Page no. 137)

Old Syllabus: https://tinyurl.com/revsyllabus

I have attached the WN question paper of May 2019 for your reference. Kindly consider our request for the same and do the needful.

Thanking You.

Yours sincerely,

TE IT

TE/Sem VI/CBCGS/IT/MJ2019/28.05.2019

Paper / Subject Code: 88984 / Wireless Networks

(3 Hours) [80 marks]

Note: Question No.1 is compulsory
Answer any three questions out of any remaining five questions
Figures in right indicate marks
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]

c) Explain frequency reuse concept with neat diagram and state the mechanism to calculate frequency re-use distance **q**. [4]

d)Write about the GSM logical channel hierarchy in detail. [4]

e) Discuss about UMTS 3G security with neat flow diagram. [4]

Q2.a) Write in detail the working of Reverse link CDMA system. [10]
In an IS-95 system calculate the processing gain in dB if the baseband data rate is 9.6kbps, 4.8kbps, 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.

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. [10]

Q3. b) Write in detail about the need of internet firewalls for trusted system in wireless networks. [10]

Q4. a) Draw and explain the GPRS architecture in detail with neat diagram. [10]

Q4. b) Discuss and compare between MANET & VANET architecture with its applications. [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: [20]

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