

EC-602**B.E. VI Semester**

Examination, June 2017

Cellular Mobile Communication**Time : Three Hours****Maximum Marks : 70**

- Note:** i) Attempt any five questions.
 ii) All questions carry equal marks
 iii) Assume suitable data if required.

1. Why do paging systems need to provide low data rates? How does a low data rate lead to better coverage?
2. Why is FM rather than AM, used in most mobile radio systems today? List as many reasons as you think of and justify your responses. Consider issue such as fidelity, power consumption and noise.
3. Derive a free space path loss formula from the transmitting end of a cell site.
4. What do you mean by effective radiated power? Derive a relation for practical use of field strength and received power.
5. Derive a relation for Interference of cellular mobile receivers by UHF TV Transmitters. Also explain the concept of Overwater path.

6. What are the various effects have to face on coverage and interference by decreasing the power and antenna height? Explain with suitable examples.

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7. Write short note on adjacent channel assignment and channel sharing and borrowing.
8. Answer any four of the following:
 - a) Explain the operation of Cellular systems.
 - b) Explain Foliage loss with the help of suitable example.
 - c) Derive a relation for Real time Co-channel interference at Mobile Radio Transceivers.
 - d) Derive the formula of traffic load on a set up channel and on N voice channels.
 - e) Give the different types of time slots in multiple access schemes.
 - f) Explain the radio resource management and mobility management.

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