

**R09**

Code: 9A04804

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations, July 2013

**SPREAD SPECTRUM COMMUNICATIONS**

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

\*\*\*\*\*

- 1 (a) Define spread spectrum. Explain different types of spread spectrum.  
(b) Explain baseband modulation techniques.
- 2 (a) Write the properties of PN sequences.  
(b) What is partial co-relation? Write about partial co-relation of PN signals.
- 3 Explain interference rejection in a frequency hopping receiver.
- 4 (a) Write a brief note on discrete frequency synthesizers.  
(b) Write about charge coupled devices.
- 5 (a) Explain the analysis of delay lock loop.  
(b) What do you mean by Tau-Dither loop?
- 6 (a) Explain about acquisition using cell by cell searching.  
(b) Write short notes on matched filters for frequency hopped signals.
- 7 (a) What are the general capabilities of spread spectrum?  
(b) Explain about selective calling and identification.
- 8 (a) Explain cellular radio concept.  
(b) Give few examples of CDMA digital cellular systems and explain any one of them in detail.

\*\*\*\*\*