



Name :

Roll No. :

Invigilator's Signature :

CS/M.Tech (ECE)/SEM-3/MECE-301C/2010-11

2010-11

SMART ANTENNA

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer question no. 1 and any *four* from the rest.

1. Write short notes on the following :

a) Cellular telephoiness systems.

b) Broadband wireless systems.

c) MIMO. 5 + 5 + 4

2. Describe transmit and receive signal models. What is free space path loss gain ? Describe free space path loss for wireless communication. 7 + 3 + 4

3. Describe empirical path loss models. Describe types of the same. 4 + 10

40166

[Turn over



4. What is Shanon capacity ? Describe. What do you mean by time varying channels ? Describe. 7 + 7
5. What is a smart antenna ? Why is it called so ? What are the types of smart antennas ? With diagram, explain different types of smart antenna. 2 + 2 + 2 + 8
6. In switched beam system describe Butler matrix array and Blass array. 7 + 7
7. Write notes on the following : 7 + 7
- i) Wireless spectrum.
 - ii) Adaptive array system.
-