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SHIVAJI UNIVERSITY, KOLHAPUR

December 2023 Examination

M.Tech (ETC) (Part-I) (Sem-I)

Advanced Wireless Communication

Subject Code :72042

10640

Day and Date : Monday, 01-01-2024 **Total Marks : 70**

Time : 10.30 a.m. to 01.30 p.m.

Instructions :

1. All questions are compulsory.
2. Figures to the right indicates full marks,
3. Draw diagrams wherever necessary.

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Q.1. Answer any Two **(Marks 12)**

a. Explain Physical modeling for wireless channels

b. Explain statistical models in wireless channel

c. Define diversity and explain time diversity

Q.2 Answer any Two **(Marks 12)**

a. What is frequency diversity? Explain single carrier with ISI equalization.

b. Explain the differences between single and multicarrier systems

c. Explain input/output model of wireless channel.

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Q.3 Answer any Two **(Marks 11)**

a. Explain selection parameters for modulation.

b. Explain OFDM with a neat block diagram.

c. Explain the differences between single and multicarrier systems.

Q.4 Answer any Two **(Marks 12)**

a. Discuss channel capacity in AWGN.

b. Explain capacity of fading channel.

c. Explain resources of AWGN channel.

Q.5 Answer any Two **(Marks 12)**

a. Discuss multiple antennas at transmitter and receiver (MIMO) system.

b. Discuss static channel capacity for MIMO channels.

c. Explain the system model with transmitter and receiver CS.

Q.6 Answer any Two **(Marks 11)**

a. Explain Uplink with multiple receive antenna.

b. Explain Downlink with multiple receive antennas

c. Explain MIMO diversity gain Space

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