

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: M.TECH
BRANCH: IS/IT

SEMESTER : I
SESSION : MO/18

SUBJECT: EC548 INTRODUCTION TO WIRELESS COMMUNICATION
TIME: 3.00 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Give Comparisons between GSM, IS-136 and IS-95. [5]
Q.1(b) Describe wireless local loop and RFID system. [5]
- Q.2(a) Prove that the co-channel reuse ratio is given by $Q=\sqrt{3N}$ where $N= i^2 + ij + j^2$ [5]
Q.2(b) Briefly describe Hand-off strategies in cellular system. [5]
- Q.3(a) Explain different types of small-scale fading. [5]
Q.3(b) Find median path loss using Okumura's model for $d = 50$ Km, $h_{te}=100$ m, $h_{re} = 10$ m. if EIRP from base station is 1 KW at 900 MHZ, find received power. Take A_{mu} (900 MHz (50 Km)) = 43 dB and $G_{AREA} = 9$ dB [5]
- Q.4(a) Explain in detail Wi-Max technology. [5]
Q.4(b) Describe about Short-Range Wireless Network Standards [5]
- Q.5(a) Compare TDMA, FDMA and CDMA techniques. [5]
Q.5(b) Explain: I-persistent CSMA, non-persistent CSMA, p-persistent CSMA [5]

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