Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

DEPARTMENT OF INFORMATION AND COMMUNICATION TECHNOLOGY

I SEMESTER M.TECH. (COMPUTER NETWORKING AND ENGINEERING)

END SEMESTER EXAMINATIONS, FEBRUARY 2022

SUBJECT: MOBILE COMPUTING [ICT 5173]

REVISED CREDIT SYSTEM

(11/02/2022)

Time: 75 + 10 Minutes MAX. MARKS: 20

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitably assumed.

1A Illustrate the dynamic adaption in *International Business Machines* transcoding proxy and its functionality. **5**

1B Consider a system with 20 location registrars of flat organization and the cost of accessing all the location registrars is approximately the same. The system maintains 4 replicas for each mobile node. The update operation that starts at the randomly selected location registrar 8 (LR8). Calculate the location registrars at a stride in a wrap-around fashion and list the other location registrar where the replica of LR8 is stored. **3**

1C What happens if none of the routers in the one-hop neighbourhood is an edge router? **2**

2A Which are the issues faced in a hybrid network of WiMAX and Wi-Fi? How can these issues be resolved? **5**

2B Consider a base station communicating to the subscriber, with the channel bandwidth of 5 MHz, 10% of guard band, and capacity of the channel is 25 resource blocks. Assume that the subscriber is in a poor signal to the noise ratio, the base station uses the coding rate of 0.877 and BPSK modulation schemes to transmit the data packets to a subscriber. Calculate the throughput of the LTE system. **3**

2C Why do primary users agree to allow the secondary users to employ their spectrum in the cognitive radio networks? **2**