Rajiva Kumar

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3, May 2019

(B.Tech. ECE,4th Year)

COURSE TITLE: NETWORKED EMBEDDED CONTROL SYSTEMS

COURSE CODE: 18B1WEC831　　　　　　　Max. Marks: 35,　　　Max. Time: 2 Hrs

Note: Attempt all questions. All questions caries equal marks. Carrying of mobile phone in examination hall is punishable offense.

Q.1: With the help of Simulink, demonstrate the communication between two PCs through LAN. Where one PC is being treated as host PC and another PC is being treated as remote PC. (CO4)

Q.2: Propose an architecture of IoT based monitoring and control system for home automation. (CO4)

Q.3: Discuss the control of complex systems with the help of cloud control systems. (CO3)

Q.4: Give an architectural framework for the cloud based industrial automation. (CO2)

Q.5: Differentiate between embedded system and cyber-physical systems(CPS). Explain the features of CPS. Also explain the application of CPS in healthcare. (CO5)

Q.6: Derive a condition for the networked delay in a networked control systems such that given networked control sytem (NCS) should be stable. (CO3)

Q.7: Write short notes on the following: (CO1)

　　　　(a) Delay compensation using Smith Predictor

　　　　(b) Networked control systems vs. cloud control systems.

　　　　(c) Bandwidth allocation and scheduling in NCS