Dr. Vivek Sehgal

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT TEST -2 EXAMINATION- April 2019

B.Tech CSE/IT/ECE VIII Semester

COURSE CODE: 15B1WCI832

MAX. MARKS: 25

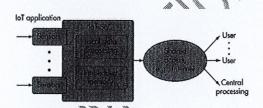
COURSE NAME: INTERNET OF THINGS ARCHITECTURE AND DESIGN (OE)

COURSE CREDITS: 03

MAX. TIME: 1.5Hr

Note: All questions are compulsory. Each question carries equal marks. Carrying of mobile phone during examinations will be treated as case of unfair means.

- 1. (a) Draw and explain the detailed architecture of Raspberry Pi -3
 - (b) List the compatible operating systems with Raspberry Ri 3. Give the procedure to install the operating system from stored Raspberry Pi image.
- 2. (a) Explain the three building blocks of sensors compatible with IoT applications



- (b) Draw and explain the Instrumentation amplifier interfaced with IoT sensors.
- 3. (a) What is Contiki? List the hardware platforms currently in the Contiki code tree.
 - (b) Explain the following features of Contiki:
 - i. Memory Allocation
 - ii. Full IP Networking
 - iii. Power Awareness
 - iv. Hardware Platforms
- 4. (a) Draw and explain the format of an IPv6 datagram.
 - (b) Explain the following Transition methods from IPv4 to IPv6
 - i. Dual stack
 - ii. Tunneling strategy
- 5. Write a short note on:
 - i. MEMS
 - ii. Cooja Network Simulator
 - iii. PuTTY, an open-source terminal emulator