COURSE CODE (CREDITS): 18B1WEC737 (3)   MAX. MARKS: 15

COURSE NAME: Robotic Systems and Control

COURSE INSTRUCTORS: Mukund Mitra/ Dr. Emjee Puthooran   MAX. TIME: 1 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1.(a) Explain working of LiDAR sensor. Derive the basic mathematical formula on which LiDAR sensor works with a diagrammatic representation.   [CO2, 3M]

(b) Mention the significance of placing LiDAR sensor at appropriate height specific to wheeled mobile robot.   [CO2, 2M]

Q2.(a) What are serial and parallel robots? Give an example of serial and parallel robot with a schematic diagram for each.   [CO1, 3M]

(b) Which robot is extensively used in electronic assembly and with how many degrees of freedom?   [CO1, 2M]

Q3. How various controllers can be classified? Explain feedback control with the help of a block diagram.   [CO4, 5M]