Unique Paper Code : **61018519**

Name of the Course : **B. Voc.**

Name of the Paper : **(GEC 5.3) Robotics**

Semester : **V**

Duration : **3 Hours**

Maximum Marks : **50**

Students admitted in the year : or before

Instructions for Candidates:

Attempt any Four out of Six questions.

All questions carry equal marks.

1. iPhone have drastically affected the human living. Can an iPhone be considered as Robot? Justify your answer. Is it necessary for robots to have specific Operating System for operations?
2. While operating a robot using a wireless remote, it was identified that the remote needs to be present in front of the robot and within the range of 10 metres. What kind of short communication waves was getting used in the case? What protocol does these waves use for short communication? Briefly describe the working of this protocol.
3. Robots are sometimes categorized on the basis of the coordinate axes? Explain different categories available along with their degrees of freedom. Illustrate with the help of diagram for each category.
4. A robot was found following a white straight line track path making buzzing sound after every 05 seconds. Write down the coding program for the given case.
5. Robots are capable of moving in a straight line and as well as following an arbitrary path if already defined on surface. That task is done with accuracy. Explain the ways to achieve that accuracy? What kind of architecture can be used by the robot? Support your answer with facts.
6. How does ability to move autonomously affect the performance of robots? Describe the possible moves that a robot is able to perform.