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Descriptive Questions and Submission Link

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Questions No. 1 (Marks: 3)

1. What are the roles of Robotics in 4IR? Explain in details.

Questions No. 2 (Marks: 3)

2. There are mainly three paradigms of robotics based on sense-plan-act. Explain briefly about Hierarchical/deliberative paradigm.

Questions No. 3 (Marks: 2+2 = 4)

Suppose you are developing a small quadcopter that will be used for remote exploring an uncharted area of the Sundarbans. It will also be used for taking photos of the animals living in that area (some of the animals can camouflage well to avoid detection and some are even nocturnal).

1. For taking photos of the animals living in that area what kind of imaging sensors and cameras (mention appropriate shuttering method alongside focusing method) should be used? Explain your reasons to the point.
2. To map the uncharted areas, what kind of sensor should be used? Briefly explain their working procedure.

Question 4 (Marks: 2)

Briefly explain the differences between Forward Kinematics and Inverse Kinematics.

Question 05 (Marks: 03)

(Marks: 3)

Suppose LOKI from Marvel Universe brings extraterrestrial troops named "Chitauri" to destroy Dhaka City. Now DMP (Dhaka Metropolitan Police) needs to save Dhaka City.

What kind of robot do they need? What kind of robot he might need to solve this problem? What kind of sensor does it need? What will be the features of the robot? Describe the details of the robot. Rough Sketching of the robot is encouraged.

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