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Reg. No. :

Question Paper Code: 55R11

M.E. DEGREE EXAMINATION, NOV 2019

Elective

Computer Science and Engineering

15PCS511 - ROBOTICS

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Write in detail about wheeled mobile robot with their geometry.   CO1- U   (20)

Or

(b) Explain in detail about Mobile Robot Locomotion.   CO1- U   (20)

2. (a) Discuss in detail about sensors for mobile Robots.   CO2- U   (20)

Or

(b) Explain the working principle of CCD and CMOS camera.   CO2- U   (20)

3. (a) Apply probability theory for mobile robot localization.   CO3-App   (20)

Or

(b) Apply Markov localization technique for mobile robot localization.   CO3-App   (20)

4. (a) Explain in detail about graph based SLAM.   CO4- U   (20)

Or

(b) Discuss in detail about mathematical concepts behind simultaneous local CO4- U   (20)
    and Mapping problem.

5. (a) With an illustration explain road map approach to path planning.   CO5- U   (20)

Or

(b) Draw and explain navigation architecture for tired mobile robot.   CO5- U   (20)

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