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SEAT No. :

PB-619

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[6269]-451

T.E. (E & TC Engineering) (Honor's) (Insem.)

ROBOTICS

Robot Programming & Simulation

(2019 Pattern) (Semester - II) (304183 HR)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4.
- 2) Figures to the right side indicate full marks.
- 3) Assume suitable data, if necessary.

- Q1)** a) What is meant by ROS? Why it is good for ROBOTICS? [5]
b) What is difference between ROS and other meta Operating Systems? [5]
c) ROS for robotics software development : Pros and Cons? Explain [5]

OR

- Q2)** a) Why should we use Robot OS? [5]
b) What are features of ROS? [5]
c) Write a short note on ROS framework: Operating system and its various releases? [5]

- Q3)** a) Explain in brief about of robot level programming languages? [5]
b) What is Online and Offline Robot Programing? [5]
c) Explain with typical Programming example such as Palletizing? [5]

OR

- Q4)** a) Explain Robot Programming technique as a Path in Space? [5]
b) What are various Textual Robot Languages? [5]
c) Explain with typical Programming Examples of Loading a Machine? [5]

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