



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

	InSem Examination- II Summer2024		
	Exam Seat No.:		
	Academic Year:2023-2024	Semester:IV	
	Name of Programme:B.Tech	Pattern:2022	
	Name of Course : Robot Operating System	Course Code: ROB222014	
	Max. Marks: 30 marks	Duration: 1 Hour	

	<p>Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.</p> <ol style="list-style-type: none">1. This question paper contains 02 page(s).2. Answer to each new question is to be started on a new page.3. Assume suitable data wherever required, but justify it.4. Draw the neat labelled diagrams, wherever necessary.5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.	
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Question No. 1 Attempt following Question

- a) What is mean by build system? Explain ROS build system in detail with neat diagram. (7) CO1, CO2

OR

- b) What is mean by ROS Actions? Explain ROS Action communication in detail with suitable diagram (7) CO1, CO2

- c) Write short note on: (8) CO1, CO2

1. ROS Meta operating system
2. ROS Ecosystem

OR

- d) What is mean by ROS Services? Explain ROS Service communication in detail with suitable diagram (8) CO1, CO2

Question No. 2 Attempt following Question

- a) What is ROS catkin? State and explain any 6 catkin commands in detail (7) CO1, CO2

OR

- b) What is tool? Write a short note on Any ROS visualisation tool in detail along with its command. (7) CO1, CO2

- c) What is ROS package? State and explain any 7 ROS package commands in detail. (8) CO1, CO2

OR

- d) What is mean by graphical user interface? Explain the terms by giving one example (8) CO1, CO2

1. Rqt graph
2. Rqt_plot
3. Rqt_image_view
4. Rqt_plugins

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