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S.P.G.Chidambara Nadar - C.Nagammal Campus
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Department of Mechatronics Engineering

Value Added Course

on

Robot Operating Systems (ROS)

05.01.2023 to 10.01.2023 (5 days)

VAC Coordinator

HoD/MTRE

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Department of Mechatronics Engineering

S.No.	Content checklist	Document
1	Academic Year	2022-23 Even
2	Regulation	KCET R2021
3	Department Name	Mechatronics Engineering
4	Name of the Value-added course	Robot Operating System (ROS)
5	No. of Credits	2
6	Category: Theory/Lab/Hands-on/Skill based etc	Hands-on &Skill based
7	Name and Details of the Joint-organization (industry/NGO etc) if any	RobotoAI Technologies, Coimbatore
8	Resource person details	Mr.S.Rubesh Thirumani, Co-founder, RobotoAI Technologies, COimbatore
9	Three Member Committee details	Dr.K.Kannan HoD/MTRE S.Wesley Moses Samdoss & S.David Blessley AP/MTRE
10	VAC Coordinator Details	S.David Blessley AP/MTRE
11	Duration (30 h mandatory)	35 hours
12	Period (From-To)	05.01.2023 to 10.01.2023
13	Venue	SMC Lab/Mechatronics

VAC Coordinator

HoD/MTRE

14/2/23

Dean (Academic Courses)

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S.P.G.Chidambara Nadar - C. Nagammal Campus,
S.P.G.C. Nagar, K. Vellakulam - 625 701, Near VIRUDHUNAGAR, Madurai District.
Accredited by NAAC with 'A' Grade

Submitted to the SECRETARY for approval through the PRINCIPAL

Book No. MTRE

SL No. 84

Date 17.12.2022

1) Name of the object / item / service : Requesting Permission to

2) Purpose (Replacement / upgradation / New) or (Participation / Presentation) or (Service / Renewal / New) : Conduct 5 days Value Added course on "ROS (Robot operating System)" for II year Mechatronics Engineering students.

3) Specifications :

4) Approx. Value per object / item (Min. Quote / Reasons for Higher Quote) :

Date : 05.01.2023 – 07.01.2023 and 09.01.2023 – 10.01.2023

5) No. of Quotations Received :

6) No. / Type of objects / items / service needed : 2 Experts from RobotAI Technologies, Coimbatore.

7) Total Value (incl. tax) : 59,000/- (Quotation Enclosed) + Tea, food and accomodation

17/12/22
Signature of Faculty

17/12/22
HOD

19/12/22
PRINCIPAL

OFFICE USE

1) Budget allotted : Value Added Course Expens.

2) Amount committed / Spent sofar :

3) Balance available :

OM

Secretary

Invoice

Invoice No # **INV22-23/08**

Invoice Date **January 10, 2023**

Description **Workshop - ROS - 30 Hrs (Robot Operating System)**

RobotoAI

Billed By

RobotoAI Technologies
No. 466, G V RESIDENCY, SOWRIPALAYAM (PO),
Coimbatore,
Tamil Nadu, India - 641028
GSTIN: 33ABBFR6328J1Z5
PAN: ABBFR6328J
Email: admin@robotoai.com

Billed To

Kamaraj College of Engineering and Technology
S.P.G.Chidambara Nadar – C.Nagammal Campus,
S.P.G.C.Nagar, K.Vellakulam - 625 701 Near
Virudhunagar, Madurai District.,
Madurai,
Tamil Nadu, India - 625 701
GSTIN: -
PAN: -

	Item	GST Rate	Rate	Quantity	Amount	CGST 9%	SGST	Total
1.	Workshop-ROS-30 Hrs	18%	₹50,000	1	₹50,000	₹4,500	₹4,500	₹59,000

Total (in words) : FIFTY NINE THOUSAND RUPEES ONLY

Amount	₹50,000
SGST	₹4,500
CGST 9%	₹4,500
Total (INR)	**₹59,000**

Bank Details

Account Name	ROBOTOAI TECHNOLOGIES
Account Number	39887155140
IFSC	SBIN0007231
Account Type	Current
Bank	State Bank of India

ROBOTOAI TECHNOLOGIES
No.466, G V Residency,
Masakalipalayam, Sowripalayam (Post),
Coimbatore - 641 028

Authorised Signatory

For any enquiry, reach out via email at **admin@robotoai.com**, call on **+91 76398 08033**

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DEPARTMENT OF MECHATRONICS ENGINEERING

CIRCULAR

02.01.2023

The Department of Mechatronics Engineering is organizing Value added course on "Robot Operating System (ROS)" for II-year Mechatronics Engineering Students. The details of the program are as follows:

Date : 05.01.2023 to 07.01.2023, 09.01.2023 & 10.01.2023
Resource Institute : RobotoAI Technologies, Coimbatore
Topic : Value Added Course on "ROS"
Relevance to PO : PO1, PO5, PO9
Relevance to PSO : PSO1
Event Outcome : This program enables the students to learn basics of ROS and to create, build and run ROS programs for various robot applications

Hence all II-year Mechatronics students are instructed to attend the program without fail.

VAC Coordinator

02/01/2023
HoD/MTRE

Copy to

1. Department Main Notice Board& Circular File
2. To be read in II Year Class Room.
3. To all II MTRE students through their official mail Id
4. All MTRE faculty through their official mail Id
5. IQAC

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Value Added Course on Robot Operating System (ROS)

Syllabus

Introduction to ROS Framework and Prerequisites (7)

Installation, Setting up the system and validation - Importance of ROS - Why ROS - Understanding communication in ROS (Final system level and Graph level)

ROS Ecosystem (7)

Getting started with ROS Programming, communication - ROS nodes, topics, messages - ROS Services

ROS Tools and Utilities (Mobile robot) (7)

URDF - Build robot using URDF and Visualize in RViz - Basic motions in ROS ROS Tools and Utilities (Manipulator) - Modelling and visualizing robots (Practical) - Solidworks to URDF

Robot Modelling (7)

Students will model their own mobile robot, Modelling the environment, Students will make their own custom environment and make it ready for the robot simulation

Robot Tele-Operation (7)

ROS Gazebo full simulation

Outcome

This program enables the students to learn basics of ROS and to create, build and run ROS program for various robot applications

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

OPEN ELECTIVE COURSES
(Offered by Mechatronics Engineering Department to other branches)

Semester V

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C	Offering To
1.	OMT151	Low Cost Automation	OE	3	3	0	0	3	ECE, EEE, EIE, MECH

Semester VII

Sl. No.	Course Code	Course Title	Category	Contact Periods	L	T	P	C	Offering To
1.	OMT171	Industrial Robotics	OE	3	3	0	0	3	AI & DS, CSE, ECE,EEE,EIE

The following suggestions were given by the BOS Members:

- Dr. T. Asokan & Dr.V.Santhanam suggested that in Professional Elective –IV the subject name Autonomous and Mobile Robot title is inappropriate and they given suggestions as Autonomous Mobile Robot.
- In Professional Elective-IV the members asked about the resources and research facilities available for the subject Synthesis and Characterization of Nano Materials. Dr.K.Kannan described the resources and research facilities available for that subject in other departments.

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

- Dr. N. Selvaraj suggested to rename the subject titled Principles of Management as Management Science and to follow the recent (after 2010 is recommended) editions of Text and Reference books.
- Members recommended the text book CAD/CAM by Mikell P.Groover and the reference book CAD/CAM by P.N.Rao for the subject Computed Aided Design and Manufacturing.
- Robotics and Machine Vision System the Members suggested harmonic drives topic is not fit for included in Unit-I. Dr.K.Kannan replied will add the topic of Introduction to Transmission & Drives. Unit III topics are very minimal. They asked to reframe the syllabus for this subject.
- Dr.T.Asokan Suggested that CAD/CAM Lab Experiment Number 2 can be renamed as Modeling and Assembling of Mechanical Systems.
- Dr. N. Selvaraj clarified about the Robot Operating Systems. Dr.V.Santhanam mentioned the ROS is not discussed in theory , so the members suggested that the provisions may given for the introduction to ROS in Lab Syllabus.
- Dr. N. Selvaraj suggested to ensure the Six-sigma topic in Total Quality Management.
- Dr.T.Askokan suggested to remove the repeated topics in Automation System Design.
- Dr. K. Kannan presented the Proposed Syllabus for open elective papers. Members suggested to revise the syllabus for industrial robotics.

BOS 004.04

Dr. K. Kannan presented the details of Value Added Course Conducted for II Year Mechatronics Engineering students.

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

Name of the Course	:Real Time applications and Developments using LabVIEW
Course Duration	: 6 days
Conducted dates	: 23.02.2022-25.02.2022, 28.02.2022, 01.03.2022, 02.03.2022
No. of Students attended	: 16 students from Mechatronics Engineering
Name of the External Institute	: Aadhyaa Skills Research and Development,Chennai

BOS 004.05

Dr. K. Kannan presented the details of Audit Course offered MTRE students

III Semester

Name of the Audit Course : Constitution of India

Course Duration : 45 Hours

IV Semester

Name of the Audit Course : Design Thinking

Course Duration : 45 Hours

BOS 004.06

Dr. K. Kannan presented the List of Recommended **NPTEL Courses to enroll by our students during VI & VII Semester under R2020.**

For Even Semester:

- Basics of Biology
- Computer Networks and Internet Protocol
- Block Chain and its applications`

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

- E-Business
- Six Sigma
- Principles of Industrial Engineering
- Product design and Manufacturing

For Odd Semester:

- Introduction to Industry 4.0 and Industrial Internet of Things
- Computer Vision
- Renewable Energy
- Industrial safety Engineering
- Operations and Supply chain management
- Work system Management
- Engineering Metrology

BOS 004.07

- **Dr. K. Kannan** presented the List of Open Elective Courses to be offered to other departments.

V Semester

Name of the Open Elective Course	: Low Cost Automation
Course Duration and Credit	: 45 Hours & 3 Credits
Will be offered to	: ECE, EEE, EIE and Mech

VII Semester

Name of the Audit Course	: Industrial Robotics
Course Duration and Credit	: 45 Hours & 3 Credits
Will be offered to	: AI&DS, CSE, IT, ECE, EEE and EIE

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

BOS 004.08

Dr. K. Kannan presented the conduct of Integrated Theory Cum Practical Courses - R2020

For Integrated Theory Cum Practical Courses - R2020

• Total Marks (100) Comprises of Internal (40) and External (60)
• Internal Mark for Theory(20) is based on the three cycle test
• Internal Mark for Practical (20) is based on End Semester Practical Examinations

BOS 004.09

Dr. K. Kannan presented the curriculum Framework for B.E Mechatronics Engineering R2021

Sl. No.	Category of Courses	Credits
1.	Foundation Courses	60 Credits
2.	Professional Core (PC)	60 Credits
3.	Professional Elective (PE)	18 Credits

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

4.	Open Elective (OE)	6 credits
5.	Employability Enhancement Courses (EE)	26 Credits
6.	Online Courses (OL)	6 credits
7.	Program specific Value added courses	4 Credits
8.	Audit Courses (AU)	2 courses

Category of Courses in B.E Mechatronics Engineering	
Semester	**Total Credits**
I	22
II	23
III	27
IV	25
V	25
VI	25
VII	25
VIII	8
Total	**180**

BOS 004.10

Dr. K. Kannan presented the credit Assignment for B.E Mechatronics Engineering – R2021

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DEPARTMENT OF MECHATRONICS ENGINEERING
Minutes of Meeting–BoS –19th March, 2022

Contact Period per week	Credits
1 Lecture (L) Period	1
1 Tutorial (T) Period	1
2 or 3 Laboratory (P) Periods (Laboratory / EM Courses like Seminar / Project work / Case Study etc.)	1
4 Laboratory (P) Periods (Laboratory / EM Courses like Seminar / Project work / Case Study etc.)	2

Duration of Industrial training / Internship	Credits
2 weeks	1
4 weeks	2
6 weeks	3

Note: One week = 40 internship hours

- **Assessment Procedure for awarding Marks -R2021**

S.No.	Category of Course	Marks	
		Continuous Assessments	End Semester Examination
1.	Theory Courses	40 %	60 %
2.	Laboratory Courses	50 %	50 %
3.	Theory Integrated with Laboratory Courses	Assessment through Theory – 20 % Assessment through Laboratory- 20 % Total – 40 %	Theory – 60 %
4.	Laboratory Integrated with Theory Courses	Assessment through Theory – 15 % Assessment through Laboratory - 35 % (Total – 50 %)	Laboratory – 50 %
5.	Project Work	60 %	40 %
6.	Other Employability Enhancement Courses	100 %	---

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DEPARTMENT OF MECHATRONICS ENGINEERING

Minutes of Meeting–BoS –19th March, 2022

Practical						
1	MT2451	Project Work	0	0	16	8
Total Credits			**0**	**0**	**16**	**8**

Members approved the proposed R2021 Curriculum.
Members suggested to include Machine Kinematics in Machine Dynamics for Mechatronics Engineering Course and to rename the course as Mechanism of Machines.

BOS 004.12

Dr. K. Kannan presented the III & IV Semester Syllabus of R2021 for discussion and approval.

Members discussed about the design thinking course in detail as it is moved from audit course to Core Course.
Dr.T.Asokan enquired about the contents of Mathematics Laboratory in detail.

BOS 004.13

The BoS Coordinator Mr.A.Arulkumar AP/MTRE Proposed the vote of thanks

23/03/22

(Dr.K.Kannan)
BoS Chairman – MTRE
HOD / MTRE

23/03/2022

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09.12.2022

Minutes of Meeting

As per the current needs in industry, we need to provide the Value-added course for 2021 – 2025 Batch Batch, II year UG candidates in 2022 – 2023 EVEN semester. In connection with this, the three member committee has been constituted to scrutinize the Value-added course evaluation, meeting has been convened on 09.12.2022 (1.30 PM to 02.30 PM) at SMC Centre for Excellence Lab, Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

The Three-member committee has recommended the Value-added course "Robot Operating System (ROS)" for 2021-2025 Batch

Members List

S.No.	Members	Category	Signature
1	Dr.K.Kannan, Prof. & Head/MTRE	Head	
2	Mr.S.Wesley Moses Samdoss, AP/MTRE	UG Coordinator	
3	Mr.S.David Blessley, AP/MTRE	VAC Incharge	

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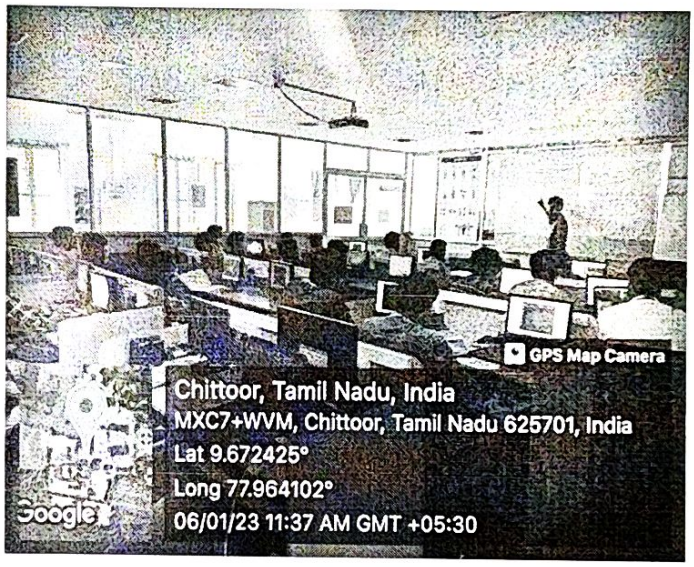
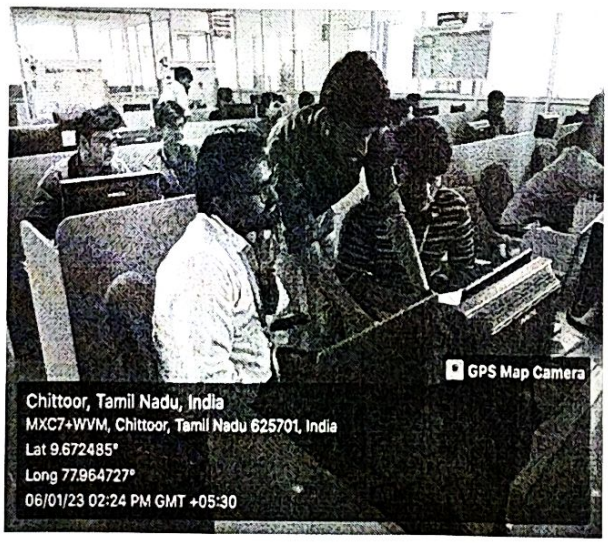
DEPARTMENT OF MECHATRONICS ENGINEERING
(Accredited by NBA, New Delhi)

Value Added Course on Robot Operating Systems (ROS)

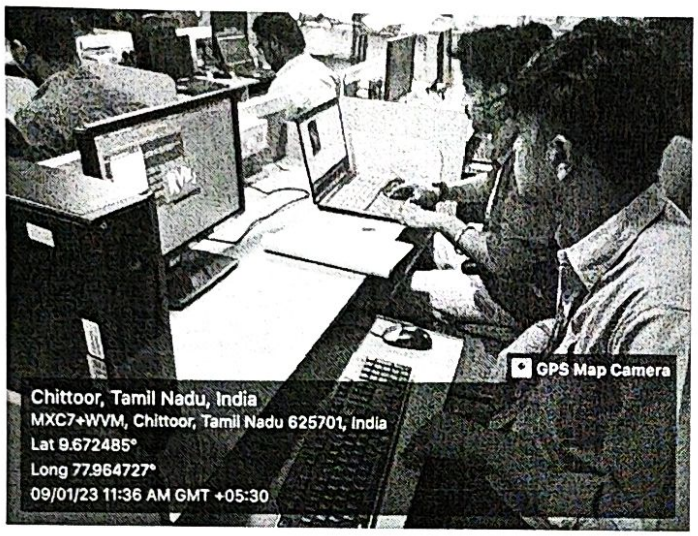
(for II year Mechatronics Engineering Students)

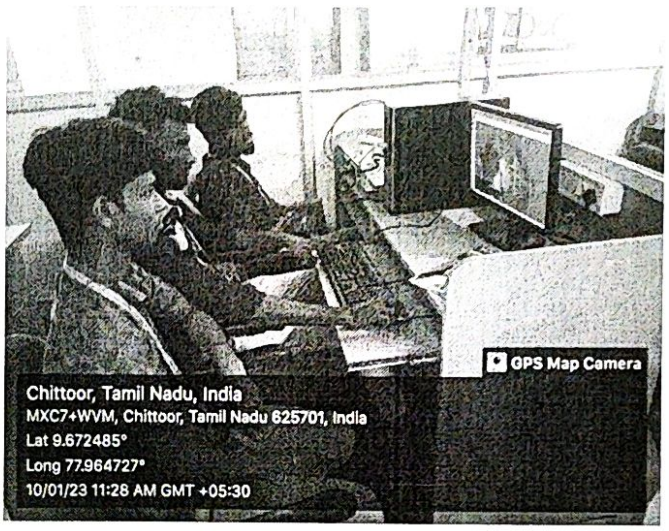


Introduction to ROS : ROS Tools & Utilities

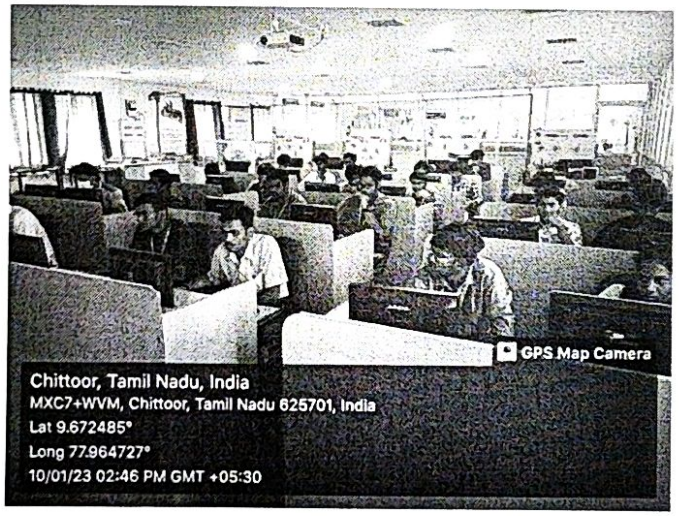


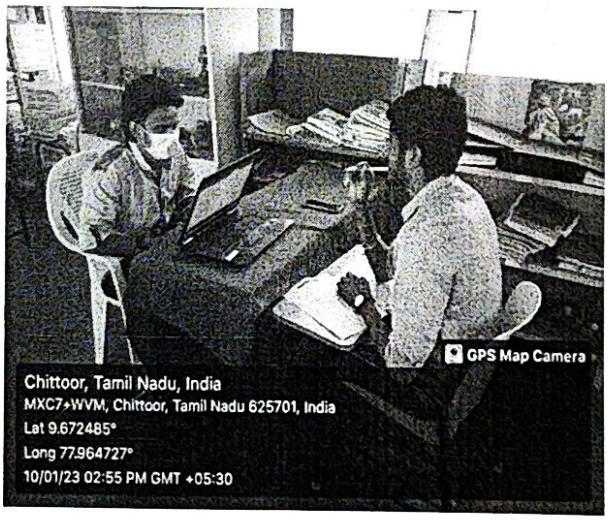
ROS Ecosystem : Communication in ROS





Robot Modelling & Gazebo Simulation





Assessment Test & Viva voce

VAC Coordinator

HoD/MTRE

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. ARSHAD PARWESH

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies** from **05-01-2023** to **10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: 76 %

CO-ORDINATOR
KAMARAJ COLLEGE OF
ENGG. & TECH

ACADEMIC DIRECTOR
ROBOTOAI TECHNOLOGIES

HOD
KAMARAJ COLLEGE OF
ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. KISHOURE KUMAR D

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: 89 %

CO-ORDINATOR	ACADEMIC DIRECTOR	HOD
KAMARAJ COLLEGE OF ENGG. & TECH	ROBOTOAI TECHNOLOGIES	KAMARAJ COLLEGE OF ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. SATHISH KUMAR K

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ....93.....%

CO-ORDINATOR
KAMARAJ COLLEGE OF
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ACADEMIC DIRECTOR
ROBOTOAI TECHNOLOGIES

HOD
KAMARAJ COLLEGE OF
ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. GOKILAN K G.

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ....79....%

CO-ORDINATOR
KAMARAJ COLLEGE OF
ENGG. & TECH

ACADEMIC DIRECTOR
ROBOTOAI TECHNOLOGIES

HOD
KAMARAJ COLLEGE OF
ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. ARUN PRATOP K

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ....85....%

CO-ORDINATOR
KAMARAJ COLLEGE OF
ENGG. & TECH

ACADEMIC DIRECTOR
ROBOTOAI TECHNOLOGIES

HOD
KAMARAJ COLLEGE OF
ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. DINESH K

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ...86.....%

CO-ORDINATOR
KAMARAJ COLLEGE OF
ENGG. & TECH

ACADEMIC DIRECTOR
ROBOTOAI TECHNOLOGIES

HOD
KAMARAJ COLLEGE OF
ENGG. & TECH

ROBOTOAI TECHNOLOGIES

COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. POISOLLAN G A

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: 92 %

CO-ORDINATOR
KAMARAJ COLLEGE OF
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ACADEMIC DIRECTOR
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COIMBATORE, TAMIL NADU - 641028

Value added course on Robot Operating System

CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY

Mr/~~Ms~~. KARUNA SAGAR T

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ...83.....%

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Mr/~~Ms~~. ARAVIND V

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ASSESSMENT MARKS: 84 %

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Mr/~~Ms~~. ARIVISHNU R .....

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ASSESSMENT MARKS: .....93.....%

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Mr/~~Ms~~. ESAKKI BALA KARTHIK K

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ASSESSMENT MARKS: 81 **%**

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Mr/~~Ms~~. MITHUN KUMAR G S

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ASSESSMENT MARKS: 90 %

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Mr/~~Ms~~. SUBASH CHANDRU P

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ASSESSMENT MARKS: 89 %

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Mr/~~Ms~~. ARAVINTHA KUMAR S

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ASSESSMENT MARKS: 92 %

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Mr/~~Ms~~. SIVANESAKARTHIC RA K

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: ...80.....%

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~~Mr~~/Ms. SANGEETHALAKSHMI M

for attending the five days value added course on **Robot Operating System** offered by **RobotoAI Technologies from 05-01-2023 to 10-01-2023** in association with the Department of Mechatronics Engineering, Kamaraj College of Engineering and Technology, Virudhunagar.

ASSESSMENT MARKS: 93 %

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Mr/~~Ms~~. LAKSHMAN HARI. C

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ASSESSMENT MARKS: ...88.....%

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Mr/~~Ms~~. MUTHU PANDI V

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ASSESSMENT MARKS: ...87.....%

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Mr/~~Ms~~. NILESH A

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ASSESSMENT MARKS: ...85....%

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Mr/~~Ms~~. SELVAMANI T

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ASSESSMENT MARKS: ...83.....%

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Mr/~~Ms~~. BHARATHI R

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ASSESSMENT MARKS: ...82....%

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Mr/~~Ms~~. SURYA VIGNESH. R

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ASSESSMENT MARKS: 89 %

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Mr/~~Ms~~. SAROJ KANNA

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ASSESSMENT MARKS: ....91.....%

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ASSESSMENT MARKS: 93 %

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ASSESSMENT MARKS: ...89.....%

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Mr/~~Ms~~. JEGADHISH PANDIARAJ T.S

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ASSESSMENT MARKS: .....91....%

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ASSESSMENT MARKS: ....93....%

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ASSESSMENT MARKS: ....89....%

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ASSESSMENT MARKS: ...92.....%

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Mr/~~Ms~~. GIRI.P

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ASSESSMENT MARKS: ....84....%

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WORKSHOP TENTATIVE SCHEDULE – ROBOT OPERATING SYSTEM (ROS) 30 Hrs		
Date	**Morning**	**Afternoon**
Day 1	**Introduction to ROS Framework and Prerequisites** • Installation, Setting up the system and validation • Importance of ROS • Why ROS?	**Understanding Communication in ROS** • Understanding communication in ROS (Final system level and Graph level)
Day 2	**ROS Ecosystem** • Getting started with ROS Programming, communication • ROS nodes, topics, messages • ROS Services	**ROS Ecosystem** • Getting started with ROS Programming, communication • ROS nodes, topics, messages • ROS Services
Day 3	**ROS Tools and Utilities (Mobile robot)** • URDF • Build robot using URDF and Visualize in RViz • Basic motions in ROS	**ROS Tools and Utilities (Manipulator)** • Modeling and visualizing robots • Solidworks to URDF
Day 4	**Robot Modeling** Students will model their own mobile robot	**Modeling the environment** Students will make their own custom environment and make it ready for the robot simulation
Day 5	**Robot Tele-Operation**	• **ROS Gazebo full simulation** • **Knowledge required to develop a real robot** • **Assessment & Viva voce**

ROS MCQ -

This form is designed to evaluate the understanding of the students attended the value added course on ROS.

* Required

1. Select the below applications which can be developed using ROS *

Mark only one oval.

- ◯ Mobile robot
- ◯ Manipulators
- ◯ Drones
- ◯ All the above

2. The Unidirectional way of message communication is *

Mark only one oval.

- ◯ Service
- ◯ Action
- ◯ Pub & Sub
- ◯ None of the above

3. Which of the below can be used for executing a single node in ROS? *

Mark only one oval.

- ◯ rosrun
- ◯ roslaunch
- ◯ Both A & B
- ◯ None of the above

4. Select the correct syntax for executing a single node in ROS [Package name: demo_pkg, node name: pub.py] *

Mark only one oval.

- ◯ rosrun pub.py
- ◯ rosrun pub.py demo_pkg
- ◯ rosrun demo_pkg pub.py
- ◯ None of the above

5. The command used to know the active topics communicating with ROS Master *

Mark only one oval.

- ◯ rostopic list
- ◯ rostopic view
- ◯ rostopic echo
- ◯ rostopic hz

6. Which of the below is used for simulations in ROS? *

Mark only one oval.

- ◯ RViz
- ◯ rqt-graph
- ◯ Gazebo
- ◯ None of the above

7. The communication that terminates after successful request and response is *

Mark only one oval.

- ◯ Pub & Sub
- ◯ Service
- ◯ Action
- ◯ None of the above

8. All ROS packages have to be located inside the directory *

Mark only one oval.

- ◯ build
- ◯ devel
- ◯ src
- ◯ None of the above

9. URDF files provides information about *

Mark only one oval.

- ◯ sensors used in the robot
- ◯ links of the robot
- ◯ joints of the robot
- ◯ All the above

10. Which of the below is the odometry source connected to the wheel of a mobile robot *

Mark only one oval.

- ◯ IMU
- ◯ Encoder
- ◯ LIDAR
- ◯ None of the above

11. You are provided with a robot having IMU and LIDAR, Odometry source from motor drivers. You are asked to run all these sources at a single execution. which of the below command will you use? *

Mark only one oval.

- ◯ rosrun to execute all sources individually
- ◯ roslaunch
- ◯ Both A & B
- ◯ None of the above

12. For a data communication in publisher & subscriber has to be established, which of the below has to be same? *

Mark only one oval.

- ◯ Topic
- ◯ Data type
- ◯ Both A & B
- ◯ None of the above

13. URDF - Type of joint the wheels configured in the differential robot is *

Mark only one oval.

- fixed
- continuous
- floating
- None of the above

14. Can we bring in real time features as 3D models inside gazebo simulation? *

Mark only one oval.

- Yes
- No

15. To add new staircase, window, walls, which of the following option is used in Gazebo? *

Mark only one oval.

- Model Editor
- Building Editor
- Environment editor
- None of the above

16. The orientations with respect to Y, X, Z axes respectively are *

Mark only one oval.

- Pitch, roll, yaw
- roll, pitch, yaw
- yaw, pitch, roll
- yaw, roll, pitch

17. In ROS URDF, the units for * length (distance), mass, orientation (angle) respectively are

Mark only one oval.

- ◯ meter, kg, radian
- ◯ meter, kg, degrees
- ◯ millimeter, kg, degrees
- ◯ None of the above

18. According to REP 103 standards, which of the following rule is used for frame conversions. *

Mark only one oval.

- ◯ RIGHT HAND RULE
- ◯ LEFT HAND RULE
- ◯ THUMB FINGER RULE
- ◯ None of the above

19. In rospy, * a = 5, b = 10, c = "abcd", d = a + b You need to publish the addition of a & b. which of the following is used

Mark only one oval.

- ◯ pub.publish(a)
- ◯ pub.Publish(d)
- ◯ pub.publish(d)
- ◯ None of the above

20. Find out the ROS workspace structure. *

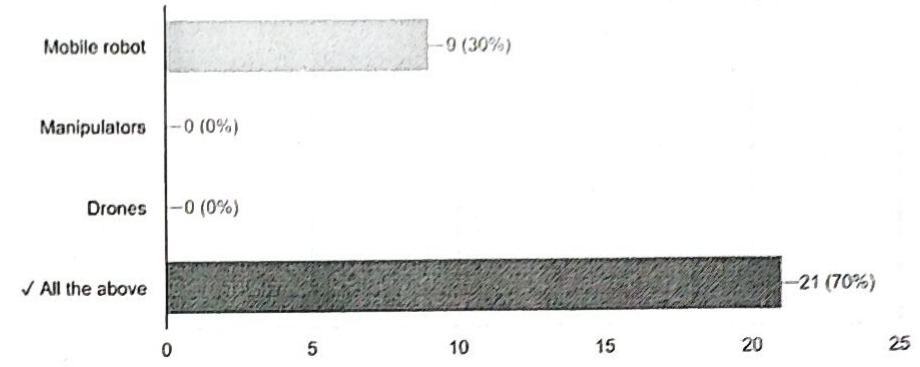
Mark only one oval.

- ◯ build, devel, src
- ◯ launch, src, pkgs
- ◯ build, urdf, pkgs
- ◯ None of the above

Value Added Course on ROS-Assessment
Answer Key

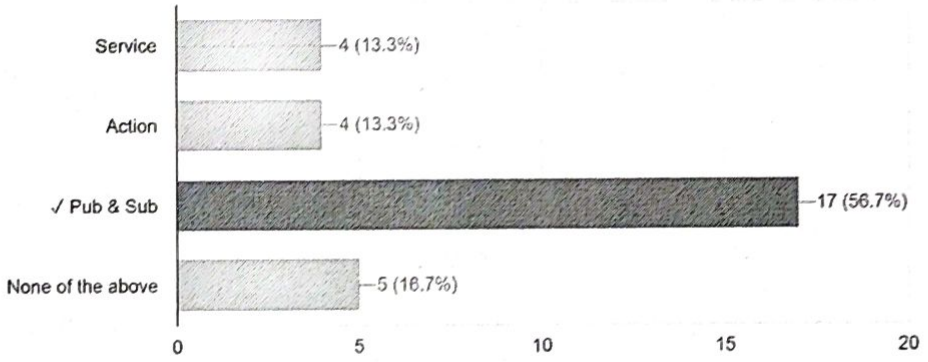
Select the below applications which can be developed using ROS

21 / 30 correct responses



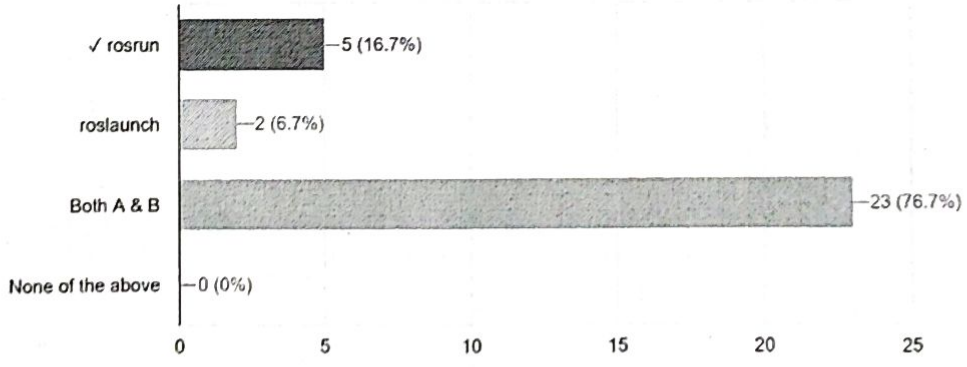
The Unidirectional way of message communication is

17 / 30 correct responses



Which of the below can be used for executing a single node in ROS?

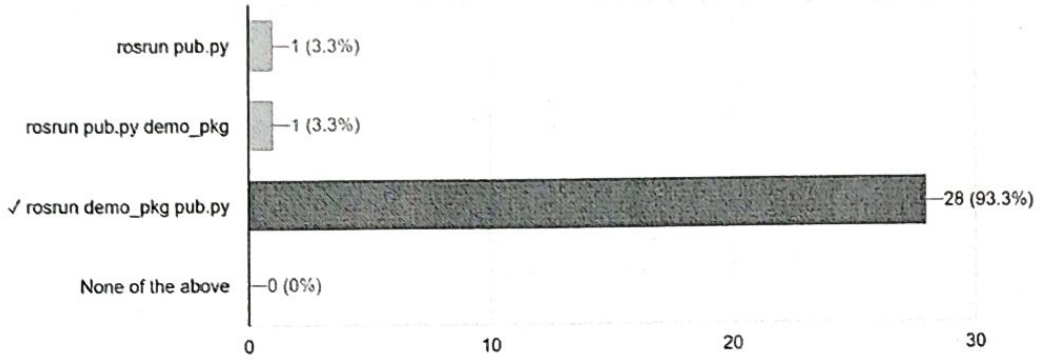
5 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

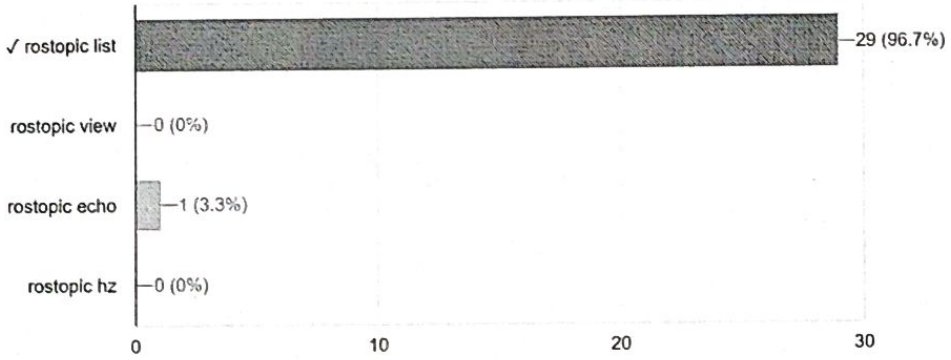
Select the correct syntax for executing a single node in ROS [Package name: demo_pkg, node name: pub.py]

28 / 30 correct responses



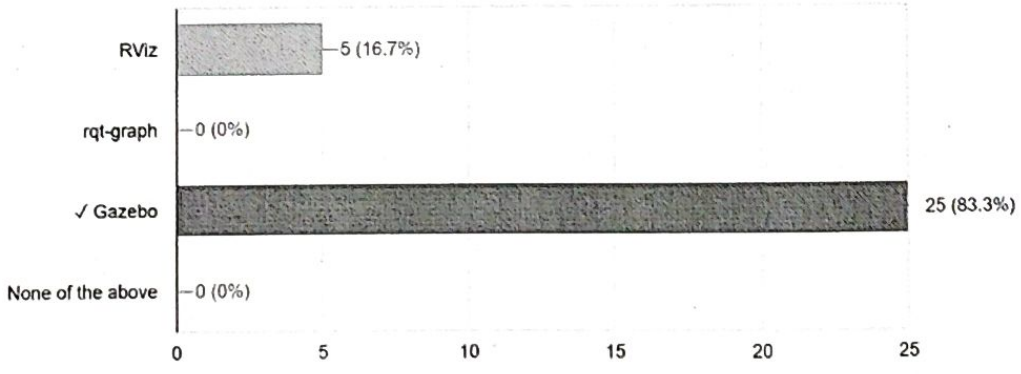
The command used to know the active topics communicating with ROS Master

29 / 30 correct responses



Which of the below is used for simulations in ROS?

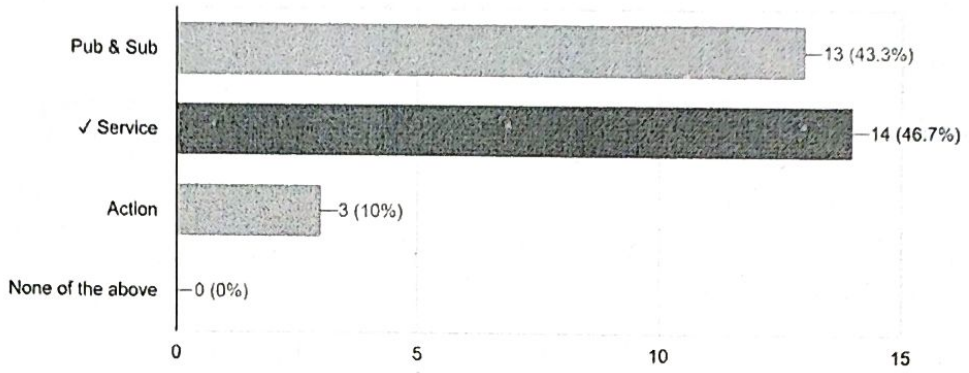
25 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

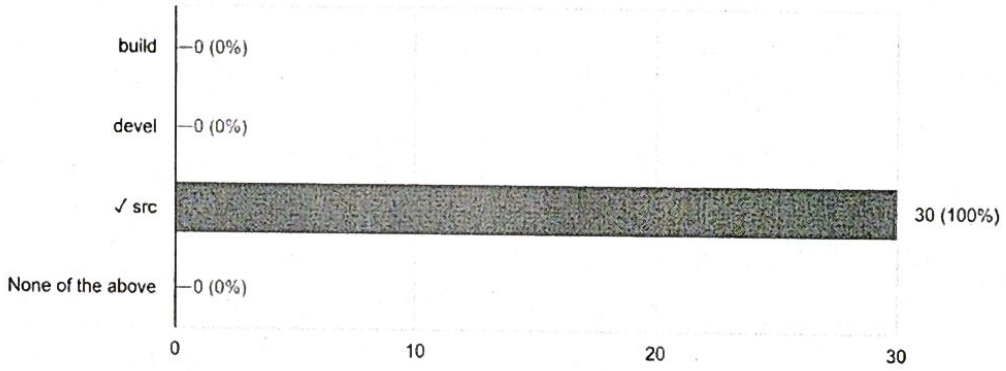
The communication that terminates after successful request and response is

14 / 30 correct responses



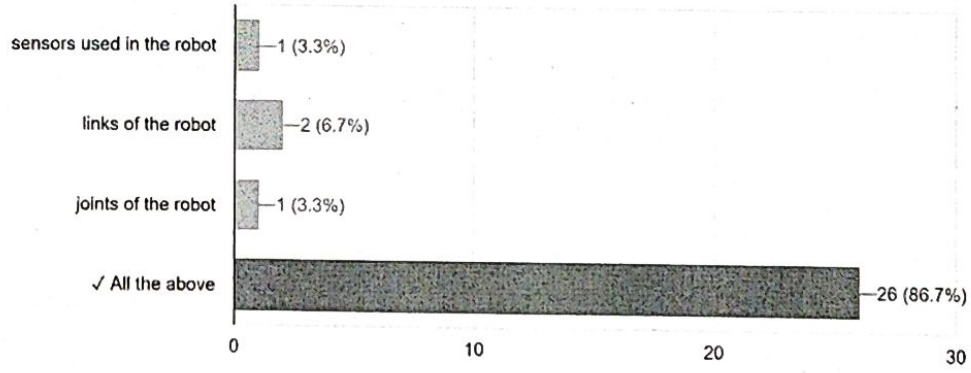
All ROS packages have to be located inside the directory

30 / 30 correct responses



URDF files provides information about

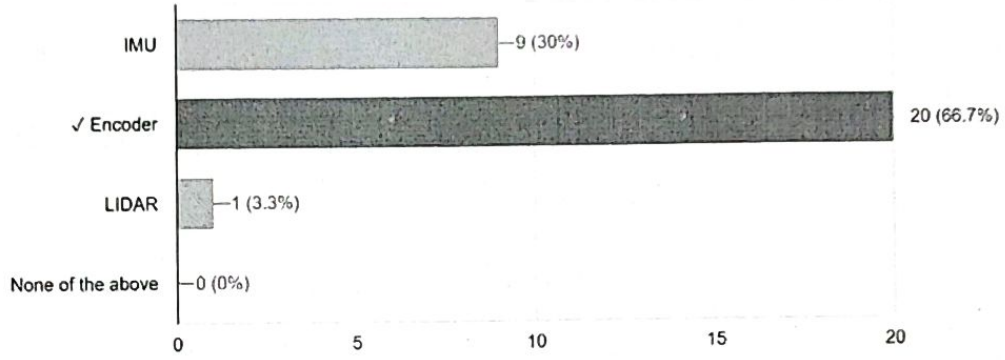
26 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

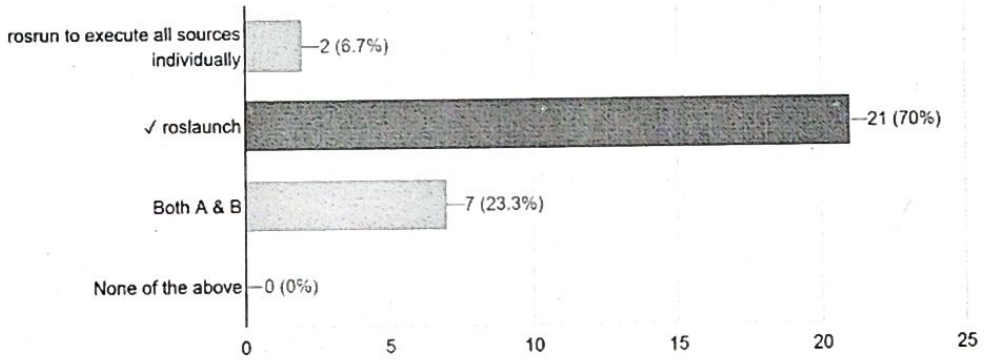
Which of the below is the odometry source connected to the wheel of a mobile robot

20 / 30 correct responses



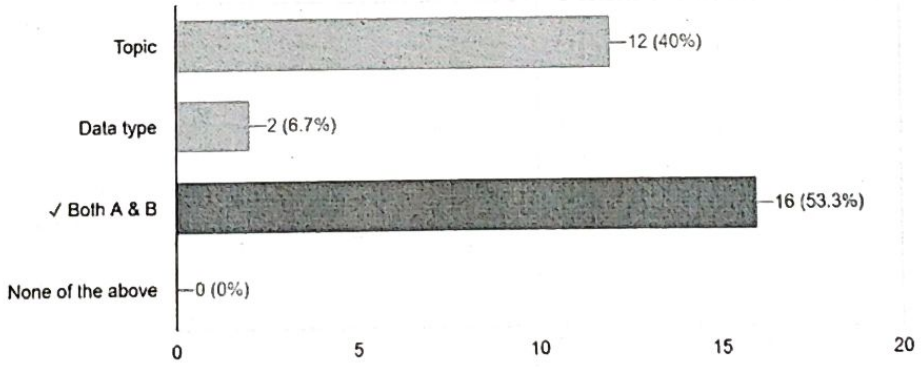
You are provided with a robot having IMU and LIDAR, Odometry source from motor drivers. You are asked to run all these sources at a single execution. which of the below command will you use?

21 / 30 correct responses



For a data communication in publisher & subscriber has to be established, which of the below has to be same?

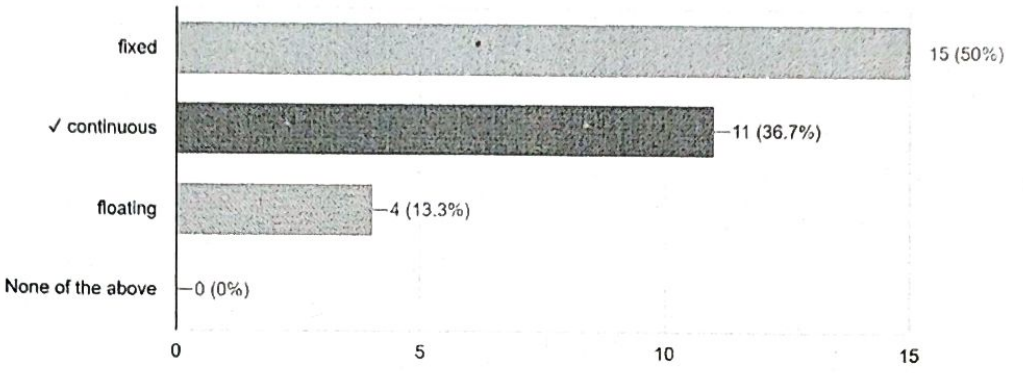
16 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

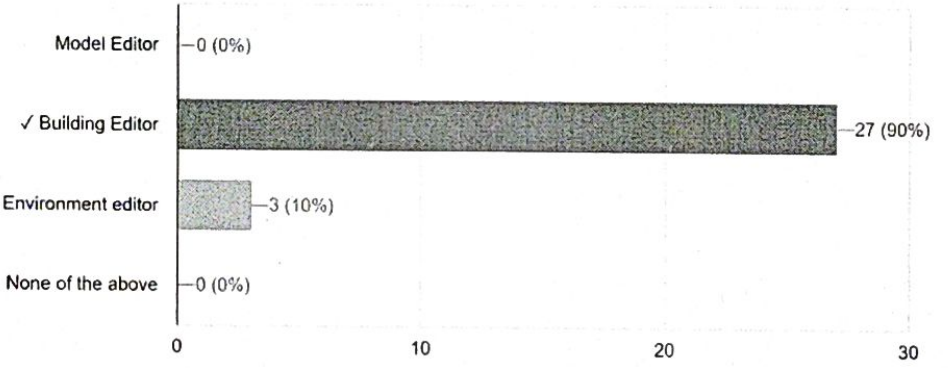
URDF - Type of joint the wheels configured in the differential robot is

11 / 30 correct responses



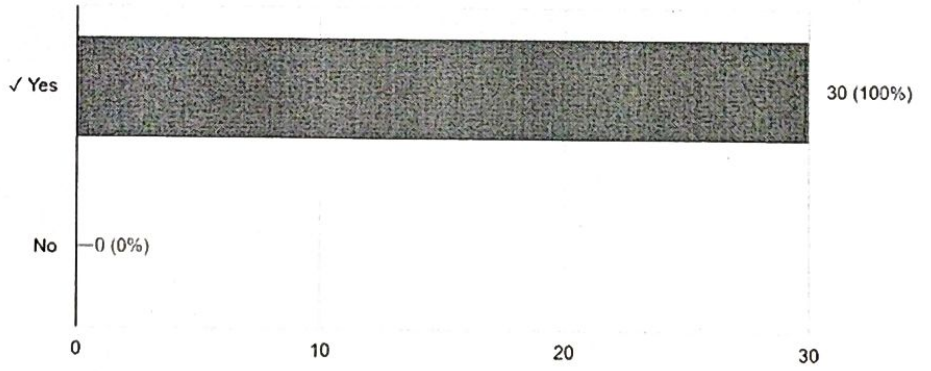
To add new staircase, window, walls, which of the following option is used in Gazebo?

27 / 30 correct responses



Can we bring in real time features as 3D models inside gazebo simulation?

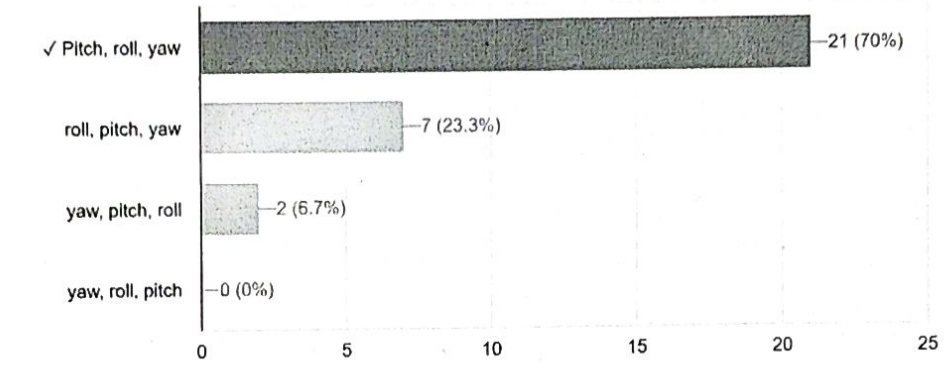
30 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

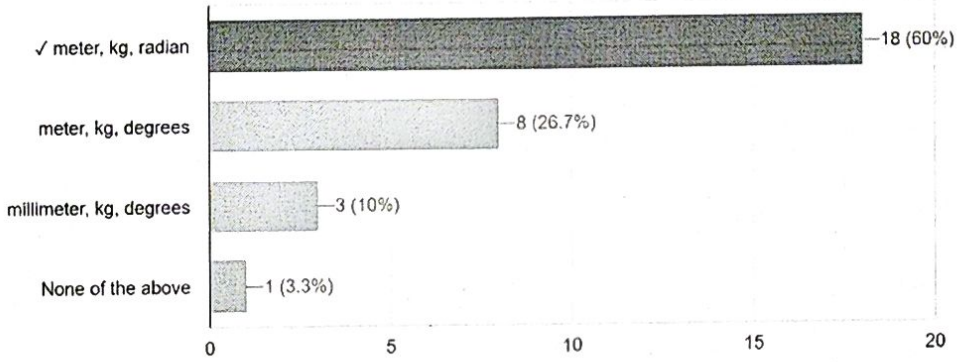
The orientations with respect to Y, X, Z axes respectively are

21 / 30 correct responses



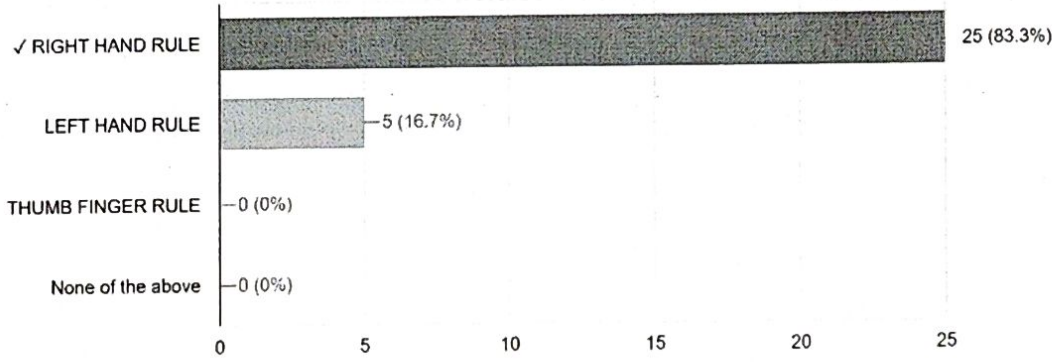
In ROS URDF, the units for length (distance), mass, orientation (angle) respectively are

18 / 30 correct responses



According to REP 103 standards, which of the following rule is used for frame conversions.

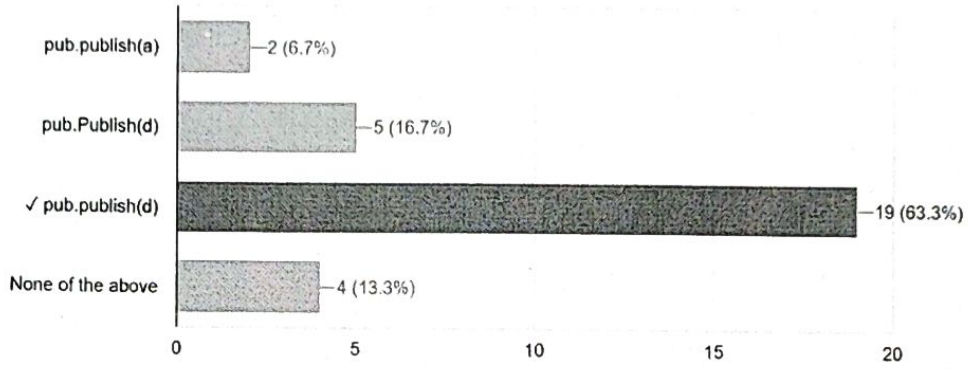
25 / 30 correct responses



Value Added Course on ROS-Assessment
Answer Key

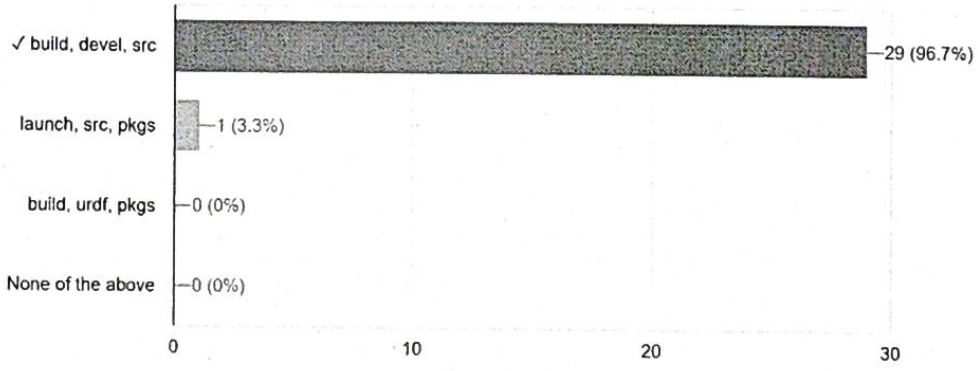
In rospy, a = 5, b = 10, c = "abcd", d = a + b You need to publish the addition of a & b. which of the following is used

19 / 30 correct responses



Find out the ROS workspace structure.

29 / 30 correct responses



ROS MCQ -

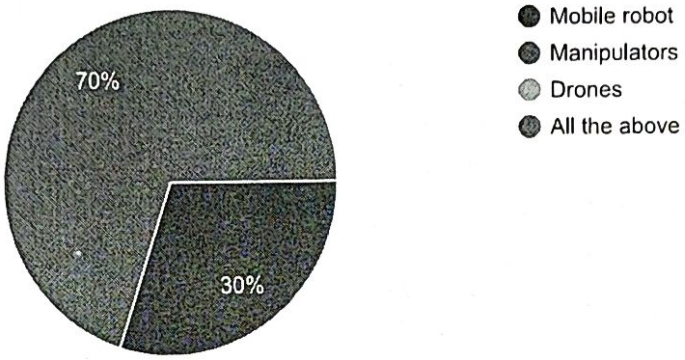
30 responses

Publish analytics

Select the below applications which can be developed using ROS

Copy

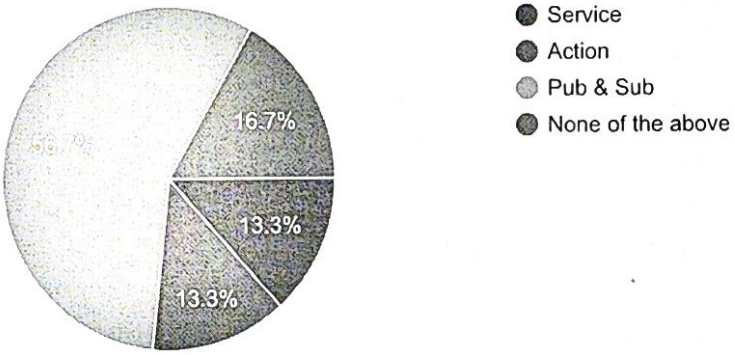
30 responses



The Unidirectional way of message communication is

Copy

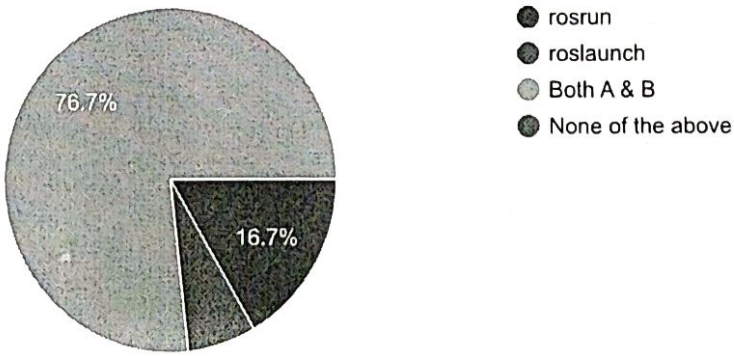
30 responses



Which of the below can be used for executing a single node in ROS?

Copy

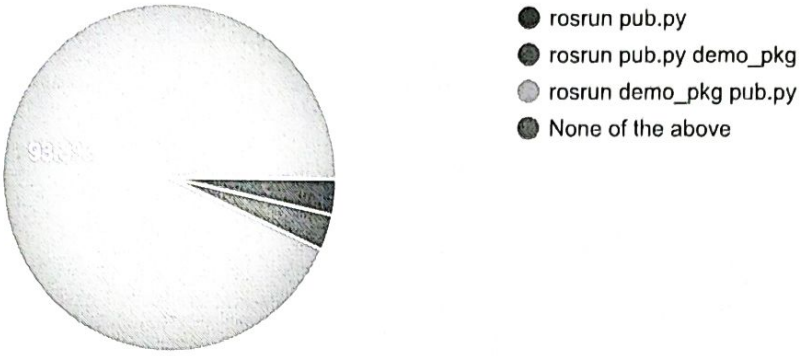
30 responses



Select the correct syntax for executing a single node in ROS [Package name: demo_pkg, node name: pub.py]

Copy

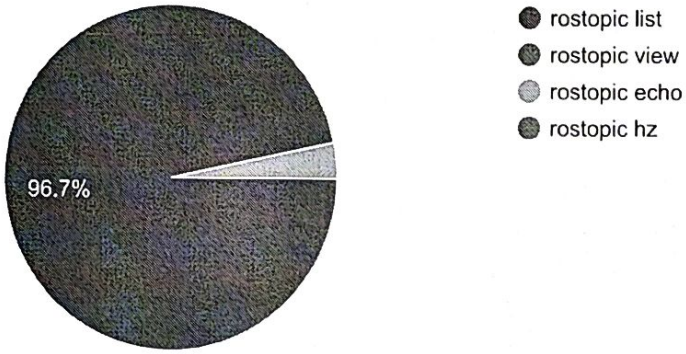
30 responses



The command used to know the active topics communicating with ROS Master

Copy

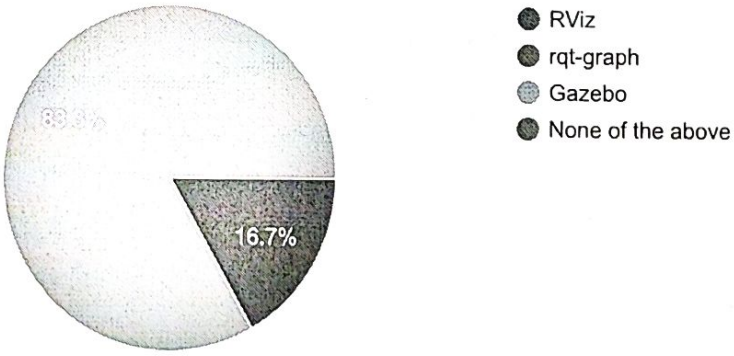
30 responses



Which of the below is used for simulations in ROS?

Copy

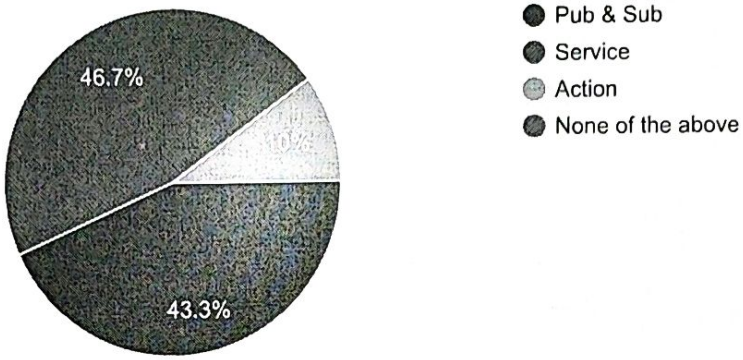
30 responses



The communication that terminates after successful request and response is

Copy

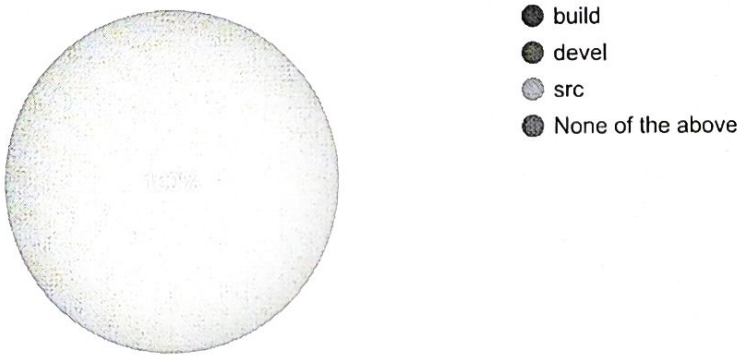
30 responses



All ROS packages have to be located inside the directory

Copy

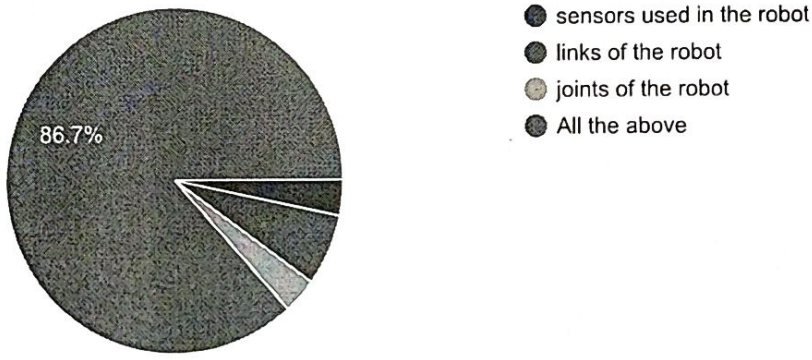
30 responses



URDF files provides information about

Copy

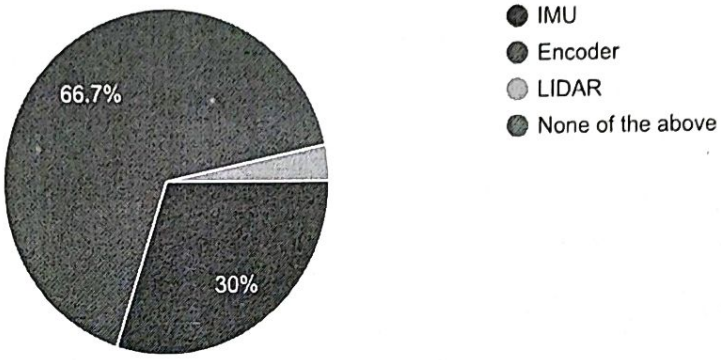
30 responses



Which of the below is the odometry source connected to the wheel of a mobile robot

Copy

30 responses



You are provided with a robot having IMU and LIDAR, Odometry source from motor drivers. You are asked to run all these sources at a single execution. which of the below command will you use?

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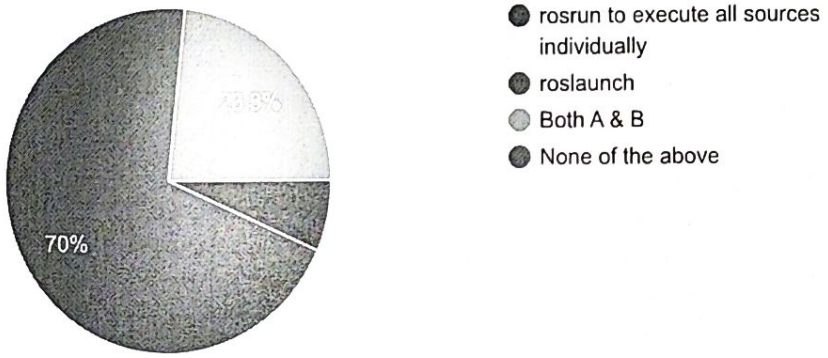

For a data communication in publisher & subscriber has to be established, which of the below has to be same?

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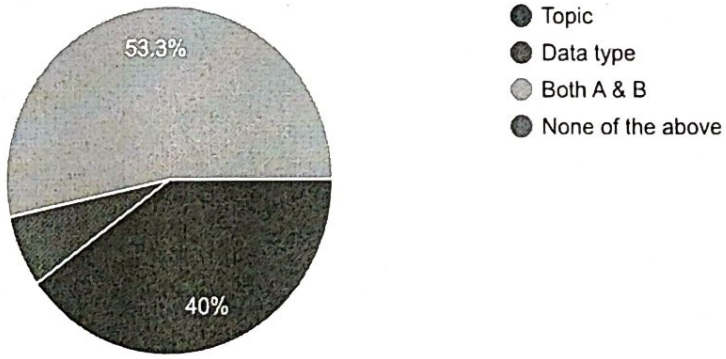
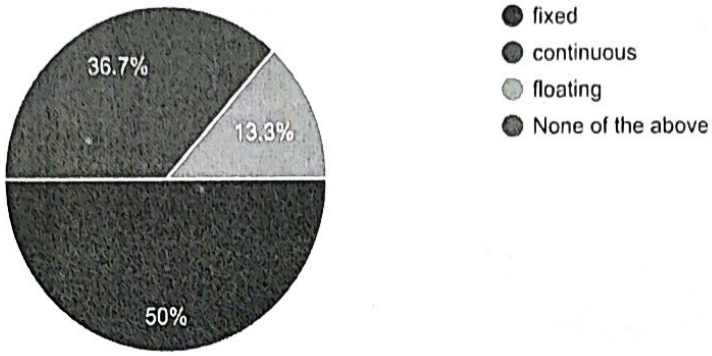
30 responses



URDF - Type of joint the wheels configured in the differential robot is

Copy

30 responses



Can we bring in real time features as 3D models inside gazebo simulation?

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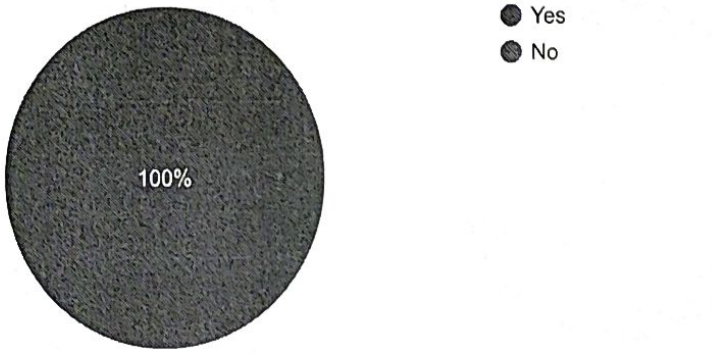

To add new staircase, window, walls, which of the following option is used in Gazebo?

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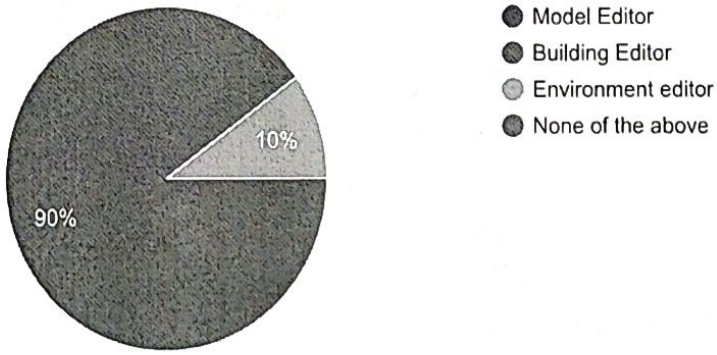

The orientations with respect to Y, X, Z axes respectively are

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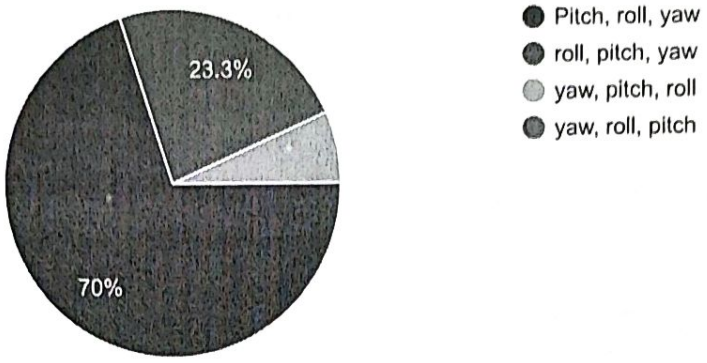

In ROS URDF, the units for
length (distance), mass, orientation (angle) respectively are

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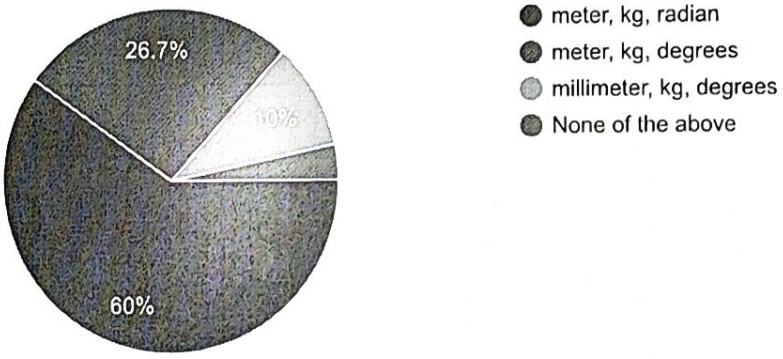

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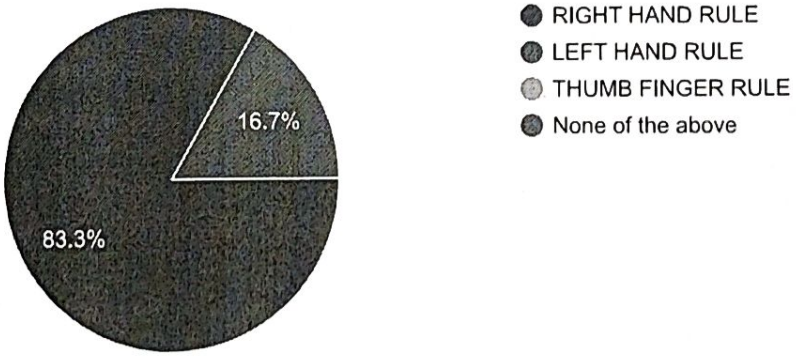


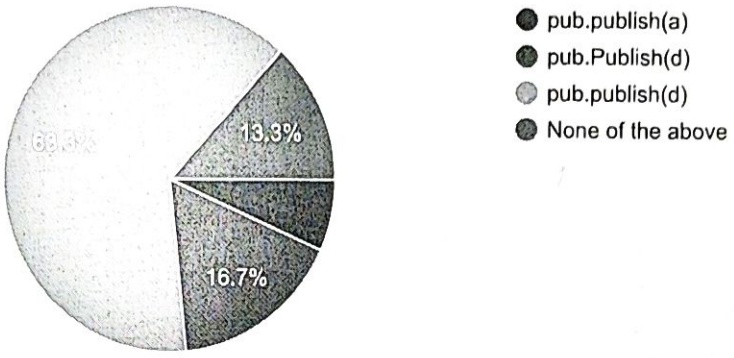
In rospy,

Copy

a = 5, b = 10, c = "abcd", d = a + b

You need to publish the addition of a & b. which of the following is used

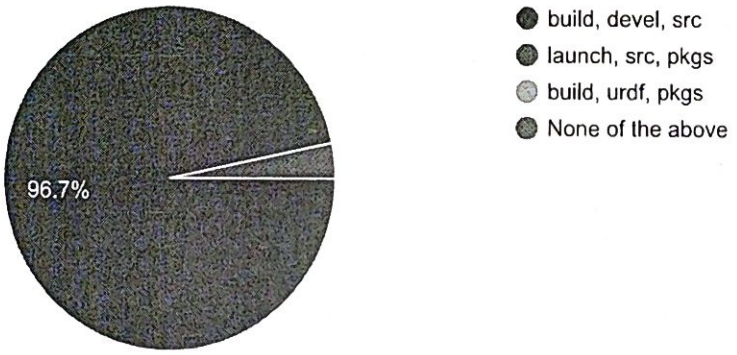
30 responses



Find out the ROS workspace structure.

Copy

30 responses



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DEPARTMENT OF MECHATRONICS ENGINEERING

Attendance Sheet

Value Added Course on "ROS" - 06.01.2023 (Day 2)

S.No.	Roll Number	Name	Signature		
			Session I (9.00-10.50)	Session II (11.10-12.50)	Session III (01.30-04.00)
1	21UMT001	JEGADHISH PANDIARAJ T.S			
2	21UMT002	ARAVINDH AARYA.G			
3	21UMT003	SRI RAMACHANDRAN K			
4	21UMT004	PARVATHARAJAN.B			
5	21UMT006	GIRI.P			
6	21UMT007	SELVAMANI.T			
7	21UMT009	BHARATHI.R			
8	21UMT012	SURYAVIGNESH.R	AB	AB	AB
9	21UMT013	SAROJ KANNA			
10	21UMT014	MOHAMMED AMMAR.S			
11	21UMT015	HARIHARAN.B			
12	21UMT016	SUBASH CHANDRU.P			
13	21UMT017	ARAVINTHA KUMAR.S			
14	21UMT018	SIVANESAKARTHIC.RA.K			
15	21UMT019	SANGEETHALAKSHMI.M			
16	21UMT020	LAKSHMAN HARI.C			
17	21UMT021	MUTHU PANDI.V			
18	21UMT022	NILESH.A			
19	21UMT023	POISOLLAN G.A			
20	21UMT024	KARUNA SAGAR.T			
21	21UMT025	ARAVIND.V			
22	21UMT026	ARIVISHNU.R			
23	21UMT027	ESAKKI BALA KARTHIK.K			
24	21UMT028	MITHUN KUMAR G.S			
25	21UMT029	ARSHAD PARWESH			
26	21UMT030	KISHOURE KUMAR.D			
27	21UMT031	SATHISH KUMAR.K			
28	21UMT032	GOKILAN.K.G			
29	21UMT033	ARUN PRATOP.K			
30	21UMT034	DINESH.K			

VAC Coordinator

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DEPARTMENT OF MECHATRONICS ENGINEERING

Attendance Sheet

Value Added Course on "ROS" - 07.01.2023 (Day 3)

S.No.	Roll Number	Name	Signature		
			Session I (9.00-10.50)	Session II (11.10-12.50)	Session III (01.30-04.00)
1	21UMT001	JEGADHISH PANDIARAJ T.S			
2	21UMT002	ARAVINDH AARYA.G			
3	21UMT003	SRI RAMACHANDRAN K			
4	21UMT004	PARVATHARAJAN.B			
5	21UMT006	GIRI.P			
6	21UMT007	SELVAMANI.T			
7	21UMT009	BHARATHI.R			
8	21UMT012	SURYAVIGNESH.R			
9	21UMT013	SAROJ KANNA			
10	21UMT014	MOHAMMED AMMAR.S			
11	21UMT015	HARIHARAN.B			
12	21UMT016	SUBASH CHANDRU.P			
13	21UMT017	ARAVINTHA KUMAR.S			
14	21UMT018	SIVANESAKARTHIC.RA.K			
15	21UMT019	SANGEETHALAKSHMI.M			
16	21UMT020	LAKSHMAN HARI.C			
17	21UMT021	MUTHU PANDI.V			
18	21UMT022	NILESH.A			
19	21UMT023	POISOLLAN G.A			
20	21UMT024	KARUNA SAGAR.T			
21	21UMT025	ARAVIND.V			
22	21UMT026	ARIVISHNU.R			
23	21UMT027	ESAKKI BALA KARTHIK.K			
24	21UMT028	MITHUN KUMAR G.S			
25	21UMT029	ARSHAD PARWESH			
26	21UMT030	KISHOURE KUMAR.D			
27	21UMT031	SATHISH KUMAR.K			
28	21UMT032	GOKILAN.K.G			
29	21UMT033	ARUN PRATOP.K			
30	21UMT034	DINESH.K			

VAC Coordinator

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DEPARTMENT OF MECHATRONICS ENGINEERING

Attendance Sheet

Value Added Course on "ROS"-05.01.2023 (Day 1)

S.No.	Roll Number	Name	Signature		
			Session I (9.00-10.50)	Session II (11.10-12.50)	Session III (01.30-04.00)
1	21UMT001	JEGADHISH PANDIARAJ T.S	AB		
2	21UMT002	ARAVINDH AARYA.G			
3	21UMT003	SRI RAMACHANDRAN K	AB		
4	21UMT004	PARVATHARAJAN.B			
5	21UMT006	GIRI.P			
6	21UMT007	SELVAMANI.T			
7	21UMT009	BHARATHI.R			
8	21UMT012	SURYAVIGNESH.R	AB		
9	21UMT013	SAROJ KANNA	J.Saroj Kanna.	J.Saroj Kanna.	J.Saroj Kanna.
10	21UMT014	MOHAMMED AMMAR.S			
11	21UMT015	HARIHARAN.B			
12	21UMT016	SUBASH CHANDRU.P	AB		
13	21UMT017	ARAVINTHA KUMAR.S			
14	21UMT018	SIVANESAKARTHIC.RA.K	AB		
15	21UMT019	SANGEETHALAKSHMI.M			
16	21UMT020	LAKSHMAN HARI.C			
17	21UMT021	MUTHU PANDI.V			
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22	21UMT026	ARIVISHNU.R			
23	21UMT027	ESAKKI BALA KARTHIK.K			
24	21UMT028	MITHUN KUMAR G.S			
25	21UMT029	ARSHAD PARWESH			
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29	21UMT033	ARUN PRATOP.K			
30	21UMT034	DINESH.K			

5/1/23
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DEPARTMENT OF MECHATRONICS ENGINEERING

Attendance Sheet

Value Added Course on "ROS" - 10.01.2023 (Day 5)

S.No.	Roll Number	Name	Signature		
			Session I (9.00-10.50)	Session II (11.10-12.50)	Session III (01.30-04.00)
1	21UMT001	JEGADHISH PANDIARAJ T.S			
2	21UMT002	ARAVINDH AARYA.G			
3	21UMT003	SRI RAMACHANDRAN K			
4	21UMT004	PARVATHARAJAN.B			
5	21UMT006	GIRI.P			
6	21UMT007	SELVAMANI.T			
7	21UMT009	BHARATHI.R			
8	21UMT012	SURYAVIGNESH.R			
9	21UMT013	SAROJ KANNA			
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24	21UMT028	MITHUN KUMAR G.S			
25	21UMT029	ARSHAD PARWESH			
26	21UMT030	KISHOURE KUMAR.D			
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29	21UMT033	ARUN PRATOP.K			
30	21UMT034	DINESH.K			

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DEPARTMENT OF MECHATRONICS ENGINEERING

Attendance Sheet

Value Added Course on "ROS" - 09.01.2023 (Day 4)

S.No.	Roll Number	Name	Signature		
			Session I (9.00-10.50)	Session II (11.10-12.50)	Session III (01.30-04.00)
1	21UMT001	JEGADHISH PANDIARAJ T.S			
2	21UMT002	ARAVINDH AARYA.G			
3	21UMT003	SRI RAMACHANDRAN K			
4	21UMT004	PARVATHARAJAN.B			
5	21UMT006	GIRI.P			
6	21UMT007	SELVAMANI.T			
7	21UMT009	BHARATHI.R			
8	21UMT012	SURYAVIGNESH.R			
9	21UMT013	SAROJ KANNA			
10	21UMT014	MOHAMMED AMMAR.S			
11	21UMT015	HARIHARAN.B			
12	21UMT016	SUBASH CHANDRU.P			
13	21UMT017	ARAVINTHA KUMAR.S			
14	21UMT018	SIVANESAKARTHIC.RA.K			
15	21UMT019	SANGEETHALAKSHMI.M			
16	21UMT020	LAKSHMAN HARI.C			
17	21UMT021	MUTHU PANDI.V			
18	21UMT022	NILESH.A			
19	21UMT023	POISOLLAN G.A			
20	21UMT024	KARUNA SAGAR.T			
21	21UMT025	ARAVIND.V			
22	21UMT026	ARIVISHNU.R			
23	21UMT027	ESAKKI BALA KARTHIK.K			
24	21UMT028	MITHUN KUMAR G.S			
25	21UMT029	ARSHAD PARWESH			
26	21UMT030	KISHOURE KUMAR.D			
27	21UMT031	SATHISH KUMAR.K			
28	21UMT032	GOKILAN.K.G			
29	21UMT033	ARUN PRATOP.K			
30	21UMT034	DINESH.K			

VAC Coordinator

HoD/MTRE

ROS MCQ -

This form is designed to evaluate the understanding of the students attended the value added course on ROS.

Email *

21umt032@kamarajengg.edu.in

Select the below applications which can be developed using ROS *

- (●) Mobile robot
- ( ) Manipulators
- ( ) Drones
- ( ) All the above

The Unidirectional way of message communication is *

- ( ) Service
- ( ) Action
- (●) Pub & Sub
- ( ) None of the above

Which of the below can be used for executing a single node in ROS? *

- ○ rosrun
- ○ roslaunch
- ◉ Both A & B
- ○ None of the above

Select the correct syntax for executing a single node in ROS [Package name: demo_pkg, node name: pub.py] *

- ○ rosrun pub.py
- ○ rosrun pub.py demo_pkg
- ◉ rosrun demo_pkg pub.py
- ○ None of the above

The command used to know the active topics communicating with ROS Master *

- ◉ rostopic list
- ○ rostopic view
- ○ rostopic echo
- ○ rostopic hz

Which of the below is used for simulations in ROS? *

- ○ RViz
- ○ rqt-graph
- ◉ Gazebo
- ○ None of the above

The communication that terminates after successful request and response is *

- ◉ Pub & Sub
- ○ Service
- ○ Action
- ○ None of the above

All ROS packages have to be located inside the directory *

- ○ build
- ○ devel
- ◉ src
- ○ None of the above

URDF files provides information about *

- ○ sensors used in the robot
- ○ links of the robot
- ◉ joints of the robot
- ○ All the above

Which of the below is the odometry source connected to the wheel of a mobile robot *

- ○ IMU
- ○ Encoder
- ◉ LIDAR
- ○ None of the above

You are provided with a robot having IMU and LIDAR, Odometry source from motor drivers. You are * asked to run all these sources at a single execution. which of the below command will you use?

- ○ rosrun to execute all sources individually
- ◉ roslaunch
- ○ Both A & B
- ○ None of the above

For a data communication in publisher & subscriber has to be established, which of the below has to be same? *

- ○ Topic
- ○ Data type
- ◉ Both A & B
- ○ None of the above

URDF - Type of joint the wheels configured in the differential robot is *

- ◉ fixed
- ○ continuous
- ○ floating
- ○ None of the above

Can we bring in real time features as 3D models inside gazebo simulation? *

- ◉ Yes
- ○ No

To add new staircase, window, walls, which of the following option is used in Gazebo? *

- ○ Model Editor
- ◉ Building Editor
- ○ Environment editor
- ○ None of the above

The orientations with respect to Y, X, Z axes respectively are *

- ◉ Pitch, roll, yaw
- ○ roll, pitch, yaw
- ○ yaw, pitch, roll
- ○ yaw, roll, pitch

In ROS URDF, the units for *
length (distance), mass, orientation (angle) respectively are

- ○ meter, kg, radian
- ○ meter, kg, degrees
- ◉ millimeter, kg, degrees
- ○ None of the above

According to REP 103 standards, which of the following rule is used for frame conversions. *

- ○ RIGHT HAND RULE
- ◉ LEFT HAND RULE
- ○ THUMB FINGER RULE
- ○ None of the above

In rospy, *

a = 5, b = 10, c = "abcd", d = a + b

You need to publish the addition of a & b. which of the following is used

- ◉ pub.publish(a)
- ○ pub.Publish(d)
- ○ pub.publish(d)
- ○ None of the above

Find out the ROS workspace structure. *

- ◉ build, devel, src
- ○ launch, src, pkgs
- ○ build, urdf, pkgs
- ○ None of the above

ROS MCQ -

This form is designed to evaluate the understanding of the students attended the value added course on ROS.

Email *

21umt024@kamarajengg.edu.in

Select the below applications which can be developed using ROS *

- ○ Mobile robot
- ○ Manipulators
- ○ Drones
- ◉ All the above

The Unidirectional way of message communication is *

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- ○ LIDAR
- ○ None of the above

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- ○ Environment editor
- ○ None of the above

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- ○ Pitch, roll, yaw
- ◉ roll, pitch, yaw
- ○ yaw, pitch, roll
- ○ yaw, roll, pitch

In ROS URDF, the units for *
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- ◉ meter, kg, radian
- ○ meter, kg, degrees
- ○ millimeter, kg, degrees
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a = 5, b = 10, c = "abcd", d = a + b
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- (●) pub.publish(a)
- ( ) pub.Publish(d)
- ( ) pub.publish(d)
- ( ) None of the above

Find out the ROS workspace structure. *

- (●) build, devel, src
- ( ) launch, src, pkgs
- ( ) build, urdf, pkgs
- ( ) None of the above

TEST REPORT

Timestamp	Username	Total score
2023/01/10 2:51:14 pm GMT+5:30	21umt001@kamarajengg.edu.in	32.00 / 40
2023/01/10 2:48:30 pm GMT+5:30	21umt002@kamarajengg.edu.in	34.00 / 40
2023/01/10 2:53:49 pm GMT+5:30	21umt003@kamarajengg.edu.in	30.00 / 40
2023/01/10 3:04:05 pm GMT+5:30	21umt004@kamrajengg.edu.in	32.00 / 40
2023/01/10 3:01:51 pm GMT+5:30	21umt006@kamarajengg.edu.in	26.00 / 40
2023/01/10 2:57:05 pm GMT+5:30	21umt007@kamarajengg.edu.in	26.00 / 40
2023/01/10 2:48:54 pm GMT+5:30	21umt009@kamarajengg.edu.in	24.00 / 40
2023/01/10 2:54:17 pm GMT+5:30	21umt012@kamarajengg.edu.in	30.00 / 40
2023/01/10 2:49:03 pm GMT+5:30	21umt013@kamarajengg.edu.in	32.00 / 40
2023/01/10 2:51:35 pm GMT+5:30	21umt014@kamarajengg.edu.in	34.00 / 40
2023/01/10 2:54:17 pm GMT+5:30	21umt015@kamarajengg.edu.in	30.00 / 40
2023/01/10 2:58:48 pm GMT+5:30	21umt016@kamarjengg.edu.in	30.00 / 40
2023/01/10 3:04:15 pm GMT+5:30	21umt017@kamarajengg.edu.in	34.00 / 40
2023/01/10 2:59:23 pm GMT+5:30	21umt018@kamarajengg.edu.in	22.00 / 40
2023/01/10 2:51:55 pm GMT+5:30	21umt019@kamarajengg.edu.in	34.00 / 40
2023/01/10 2:58:51 pm GMT+5:30	21umt020@kamarajengg.edu.in	30.00 / 40
2023/01/10 3:01:53 pm GMT+5:30	21umt021@kamarajemgg.edu.in	28.00 / 40
2023/01/10 3:02:31 pm GMT+5:30	21umt022@kamarajengg.edu.in	26.00 / 40
2023/01/10 2:51:02 pm GMT+5:30	21umt023@kamarajengg.edu.in	34.00 / 40
2023/01/10 3:01:12 pm GMT+5:30	21umt024@kamarajengg.edu.in	24.00 / 40
2023/01/10 2:51:14 pm GMT+5:30	21umt025@kamarajengg.edu.in	24.00 / 40
2023/01/10 2:58:07 pm GMT+5:30	21umt026@kamarajengg.edu.in	34.00 / 40
2023/01/10 3:02:20 pm GMT+5:30	21umt027@kamarajengg.edu.in	26.00 / 40
2023/01/10 2:50:53 pm GMT+5:30	21umt028@kamarajengg.edu.in	32.00 / 40
2023/01/10 2:58:26 pm GMT+5:30	21umt029@kamarajengg.edu.in	18.00 / 40
2023/01/10 2:52:04 pm GMT+5:30	21umt030@kamarajengg.edu.in	30.00 / 40
2023/01/10 2:54:46 pm GMT+5:30	21umt031@kamarajengg.edu.in	34.00 / 40
2023/01/10 2:51:13 pm GMT+5:30	21umt032@kamarajengg.edu.in	22.00 / 40
2023/01/10 2:56:04 pm GMT+5:30	21umt033@kamarajengg.edu.in	26.00 / 40
2023/01/10 2:50:46 pm GMT+5:30	dineshmech2001@gmail.com	26.00 / 40

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

DEPARTMENT OF MECHATRONICS ENGINEERING

10.01.2023

Value Added Course on "Robot Operating System (ROS)"

Project Demonstration marks

S. No.	Roll Number	Name	Project Demonstration				Total (60)
			Presentation (10)	Knowledge Acquired (20)	Creativity (20)	Viva & Result (10)	
1	21UMT001	JEGADHISH PANDIARAJ T.S	10	20	20	9	59
2	21UMT002	ARAVINDH AARYA.G	10	20	19	10	59
3	21UMT003	SRI RAMACHANDRAN K	10	20	20	9	59
4	21UMT004	PARVATHARAJAN.B	10	20	20	10	60
5	21UMT006	GIRI.P	10	19	19	10	58
6	21UMT007	SELVAMANI.T	10	19	19	9	57
7	21UMT009	BHARATHI.R	10	20	19	9	58
8	21UMT012	SURYAVIGNESH.R	10	20	19	10	59
9	21UMT013	SAROJ KANNA	10	20	19	10	59
10	21UMT014	MOHAMMED AMMAR.S	10	20	19	10	59
11	21UMT015	HARIHARAN.B	10	20	20	9	59
12	21UMT016	SUBASH CHANDRU.P	10	20	19	10	59
13	21UMT017	ARAVINTHA KUMAR.S	10	20	19	9	58
14	21UMT018	SIVANESAKARTHIC.RA.K	10	20	19	9	58
15	21UMT019	SANGEETHALAKSHMI.M	10	20	20	9	59

			10	20	20	10	
16	21UMT020	LAKSHMAN HARI.C	10	19	20	9	58
17	21UMT021	MUTHU PANDI.V	10	20	20	9	59
18	21UMT022	NILESH.A	10	20	20	9	59
19	21UMT023	POISOLLAN G.A	10	20	19	9	58
20	21UMT024	KARUNA SAGAR.T	10	20	20	9	59
21	21UMT025	ARAVIND.V	10	20	20	10	60
22	21UMT026	ARIVISHNU.R	10	19	20	10	59
23	21UMT027	ESAKKI BALA KARTHIK.K	10	19	18	8	55
24	21UMT028	MITHUN KUMAR G.S	10	19	19	10	58
25	21UMT029	ARSHAD PARWESH	10	20	19	9	58
26	21UMT030	KISHOURE KUMAR.D	10	20	20	9	59
27	21UMT031	SATHISH KUMAR.K	10	20	19	9	58
28	21UMT032	GOKILAN.K.G	10	19	19	9	57
29	21UMT033	ARUN PRATOP.K	10	20	19	10	59
30	21UMT034	DINESH.K	10	20	20	10	60

Trainer

VAC Coordinator

HoD/MTRE

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Mark Statement

Department : Mechatronics Engineering — Regulation : KCET R21

Year : II — Semester : IV

S.No.	Roll No.	Reg. No.	Student Name	Internal Marks (60)	External Marks (40)	Total (100)
1	21UMT001	92041115006	JEGADHISH PANDIARAJ T.S	59	32	91
2	21UMT002	92041115001	ARAVINDH AARYA.G	59	34	93
3	21UMT003	92041115018	SRI RAMACHANDRAN K	59	30	89
4	21UMT004	92041115012	PARVATHARAJAN.B	60	32	92
5	21UMT006	92041115004	GIRI.P	58	26	84
6	21UMT007	92041115016	SELVAMANI.T	57	26	83
7	21UMT009	92041115003	BHARATHI.R	58	24	82
8	21UMT012	92041115020	SURYAVIGNESH.R	59	30	89
9	21UMT013	92041115015	SAROJ KANNA	59	32	91
10	21UMT014	92041115009	MOHAMMED AMMAR.S	59	34	93
11	21UMT015	92041115005	HARIHARAN.B	59	30	89
12	21UMT016	92041115019	SUBASH CHANDRU.P	59	30	89
13	21UMT017	92041115002	ARAVINTHA KUMAR.S	58	34	92
14	21UMT018	92041115017	SIVANESAKARTHIC.RA.K	58	22	80
15	21UMT019	92041115014	SANGEETHALAKSHMI.M	59	34	93
16	21UMT020	92041115008	LAKSHMAN HARI.C	58	30	88
17	21UMT021	92041115010	MUTHU PANDI.V	59	28	87
18	21UMT022	92041115011	NILESH.A	59	26	85
19	21UMT023	92041115013	POISOLLAN G.A	58	34	92
20	21UMT024	92041115007	KARUNA SAGAR.T	59	24	83
21	21UMT025	920421115301	ARAVIND.V	60	24	84
22	21UMT026	920421115302	ARIVISHNU.R	59	34	93
23	21UMT027	920421115306	ESAKKI BALA KARTHIK.K	55	26	81
24	21UMT028	920421115309	MITHUN KUMAR G.S	58	32	90
25	21UMT029	920421115303	ARSHAD PARWESH	58	18	76
26	21UMT030	920421115308	KISHOURE KUMAR.D	59	30	89
27	21UMT031	920421115310	SATHISH KUMAR.K	59	34	93
28	21UMT032	920421115307	GOKILAN.K.G	57	22	79
29	21UMT033	920421115304	ARUN PRATOP.K	59	26	85
30	21UMT034	920421115305	DINESH.K	60	26	86

VAC Coordinator

HoD/MTRE

Dean (Academic Courses)

14/4/2023

View results

Respondent

3 NILESH.A

02:08

Time to complete

1. Your name *

NILESH A

2. Roll Number *

920421umt022

3. Registration Number *

920421115011

4. Department *

MECHATRONICS ENGINEERING

5. Year *

II

6. Were objectives of the Event met? *

- Completely agree
- Strongly agree
- Agree
- Partly agree
- Disagree

7. Was the program sequence well planned? *

- Completely agree
- Strongly agree
- Agree
- Partly agree
- Disagree

8. Were the lectures clear and easy to understand? *

- Completely agree
- strongly agree
- Agree
- Partly agree
- Disagree

9. Whether the instructor encouraged the interaction *

- Completely agree
- Strongly agree
- Agree
- Partly agree
- Disagree

10. The information presented at this event was highly beneficial *

- Completely agree
- Strongly agree
- Agree
- Partly agree
- Disagree

11. Organization of the Event was good *

- Completely agree
- Strongly agree
- Agree
- Partly agree
- Disagree

12. Comments/Suggestions

THE SESSION WAS GOOD

View results

Respondent

4 ARUN PRATOP.K

34:52

Time to complete

1. Your name *

arun pratop.k

2. Roll Number *

21umt033

3. Registration Number *

9210421115304

4. Department *

MECHATRONICS

5. Year *

II

6. Were objectives of the Event met? *

- Completely agree
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- Agree
- Partly agree
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- Disagree

12. Comments/Suggestions

i like this class

Feedback for 5 days Value Added Course on "Robot Operating System (ROS) "

Your response deadline is 1/10/2023. Send reminder to people who have not responded.

Remind them

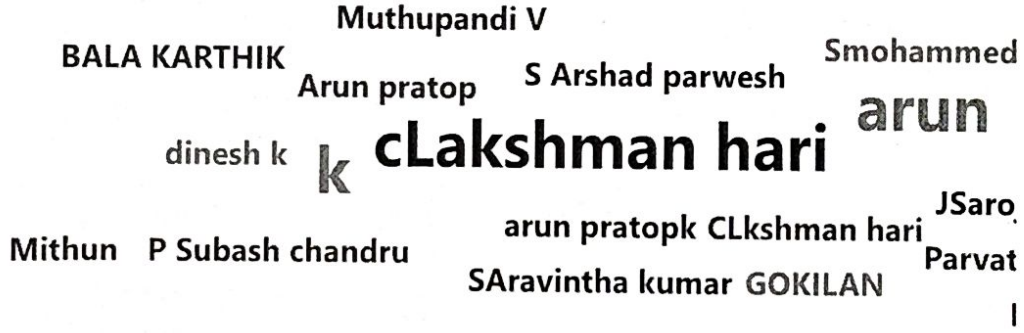
30	02:50	Active
Responses	Average time to complete	Status

1. Your name

30
Responses

Latest Responses
"M.Sangeethalakshmi"
"Giri P"
"Sangeethalakshmi.M"

2 respondents (**7**%) answered **cLakshman hari** for this question.

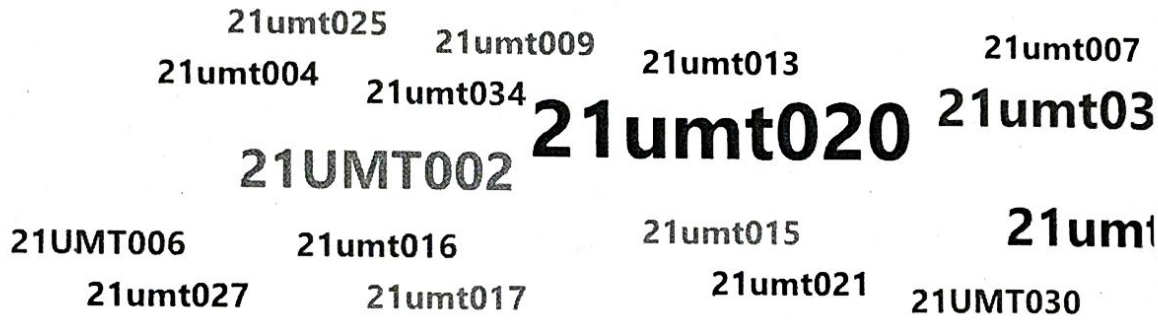


2. Roll Number

30
Responses

Latest Responses
"21umt019"
"21UMT006"
"21umt002"

3 respondents (**10%**) answered **21umt020** for this question.

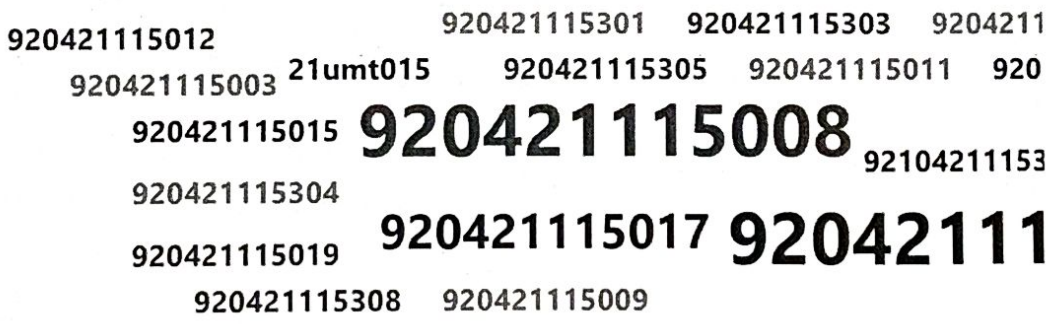


3. Registration Number

30
Responses

Latest Responses
"920421115014"
"920421115004"
"920421115001"

3 respondents (**10%**) answered **920421115008** for this question.



4. Department

30
Responses

Latest Responses
"Mechatronics "
"Mechatronics Engineering "
"Mechatronics engineering "

9 respondents (**30**%) answered **MECHATRONICS engineering** for this question.

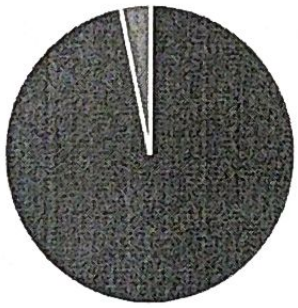
BE **Mtr** **Mechatroi**

MECHATRONICS engine

Mechanics Engineering **Mechatronics en**

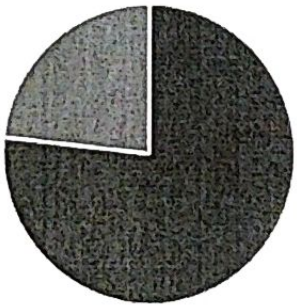
5. Year

II	29
III	1
IV	0



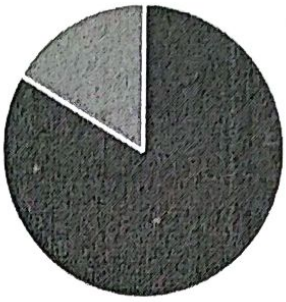
6. Were objectives of the Event met?

Completely agree	23
Strongly agree	7
Agree	0
Partly agree	0
Disagree	0



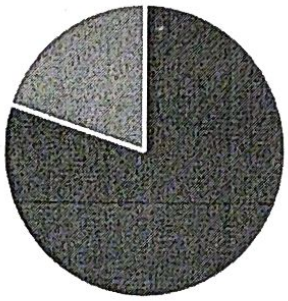
7. Was the program sequence well planned?

Completely agree	25
Strongly agree	5
Agree	0
Partly agree	0
Disagree	0



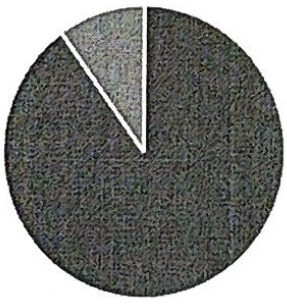
8. Were the lectures clear and easy to understand?

Completely agree	24
strongly agree	6
Agree	0
Partly agree	0
Disagree	0



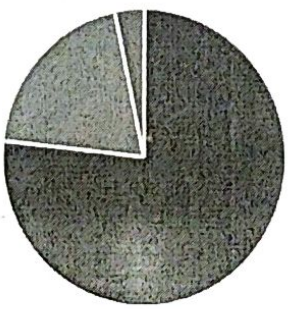
9. Whether the instructor encouraged the interaction

Completely agree	27
Strongly agree	3
Agree	0
Partly agree	0
Disagree	0



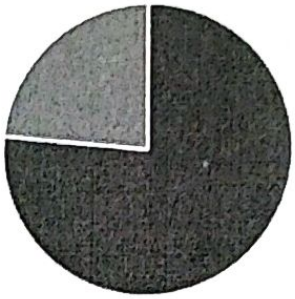
10. The information presented at this event was highly beneficial

Completely agree	23
Strongly agree	6
Agree	1
Partly agree	0
Disagree	0



11. Organization of the Event was good

Completely agree	23
Strongly agree	7
Agree	0
Partly agree	0
Disagree	0



12. Comments/Suggestions

14
Responses

Latest Responses
"Good"

Update

3 respondents (**21**%) answered **SESSION** for this question.

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

DEPARTMENT OF MECHATRONICS ENGINEERING

(Accredited by NBA, New Delhi)

Report on "Value Added Course on Robot Operating System (ROS)"

11.01.2023

Department of Mechatronics Engineering, Kamaraj College of Engineering & Technology organized 5-day Value added course on "Robot Operating System (ROS)" for II year Mechatronics Engineering students from 05.01.2023 to 10.01.2023. Er. S. Rubesh Thirumani from RobotoAI Technologies, Coimbatore, handled the sessions and trained our students during the entire program. The main purpose of this event is to equip our budding Mechatronics engineers with the knowledge of Robot modelling through hands on sessions and make them industry ready. The program began with a formal welcome address by Dr.K.Kannan HoD/MTRE. The Trainer provided hands on training on programming using ROS tools and utilities and integrate them to create custom environment.

Topics Covered

1. ROS framework
2. Communication in ROS
3. ROS nodes
4. Build robot using URDF and visualize in RViz
5. Own robot modelling and custom environment creation
6. ROS Gazebo simulation

At the end of the course, students presented their project and an assessment test was conducted to evaluate the performance of the individuals. A total of 30 students attended the program and get benefitted. Finally, the program ends with a formal vote of thanks by Mr.Nilesh of II Mechatronics Engineering.

Co-Ordinator **HoD/MTRE**