



AJEENKYA
D Y PATIL UNIVERSITY
THE INNOVATION UNIVERSITY

School of
Engineering

Value added course in

INTRODUCTION TO SMART MATERIALS AND INTELLIGENT DESIGN

10 October, 2018

Mr. Manish Pandit
SPEAKER

Prof. Shital Solanki
CO-ORDINATOR

DR. BISWAJEET CHAMPATY
HEAD OF SCHOOL

CONTACT DETAILS

Prof. Shital Solanki
9422955881

Note : Certificate will be awarded for the participant having above 75% of attendance



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Name of Certificate: Introduction to Smart Materials and Intelligent system.

Certificate Course for B. Tech ALL Sem Students

Course Duration: 31 Hrs.

From: 10/10/2018 to 05/11/2018

Course Objectives:

- Overview to smart materials and its characteristics
- Smart structures and modeling Design of sensors and actuators using smart materials
- Energy harvesting using piezoelectric materials
- Vibration control using smart materials Electro rheological fluid and its applications
- Magneto rheological fluid and its applications

Course Outcomes:

- Students will get to know the different classes of materials used in engineering applications and would be able to choose the right materials for specific applications
- Students will get to know the different classes of materials used in engineering applications and would be able to choose the right materials for specific applications
- The students will be able to build the descriptive mathematical model of the physical system of interest and study the effect of changes in a system
- Students will learn the sample preparation methods and sample handling

Course Coordinator: Prof. Shital Solanki



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Ajeenkya D.Y. Patil University
Charholi Budruk, via Lohegaon,
Pune-412105

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🌐 www.adypu.edu.in



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Date: 1st OCT 2018

Circular

Dear all SOE students

For the Academic year 2022-2023, the school of Engineering to offer you innovative value added course which shall help you to excel in careers as well as equip yourself with new-age creative and technical skills essential to face new world.

Title of Certificate Course: Introduction to Smart Materials and Intelligent system

Details of Trainer: Mr. Manish Pandit

Name of Coordinator: Prof. Shital Solanki

Duration of Course: 31 Hrs.

Schedule: 10/10/2018 to 05/11/2018

Timing: 10:00 to 12 :30

Venue: School of Engineering

Evaluation Method: 75% Attendance & 60% marks to score in MCQ test is mandatory to get certified in this training program



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Certificate Course Smart Materials and Intelligent system

Syllabus

Session 1: Introduction to Smart Materials

Piezoelectric Material , Magnetostrictive Material, Active Smart
Polymer and Shape Memory Alloys

Session 2: Mechanics of Composite Materials

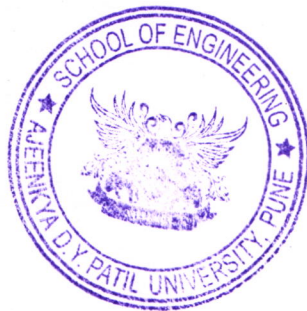
Introduction to composites, Classification Composites,
Micromechanics and Micromechanics of Composites

Session 3: Induced Strain Actuation

Modelling of piezoelectric material, Modelling of
Magnetostrictive materials

Session 4: Mechanisms Intelligent System Design

Smart Actuators, Smart Materials based MEMS



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Certificate Course Smart Materials and Intelligent system

Teaching Plan

Date	Topic to be Covered
10th October 2018	Introduction to Smart Materials: Characteristics and Overview
11th October 2018	Piezoelectric and Magneto strictive Materials: Energy Harvesting and Applications
12th October 2018	Smart Polymers and Shape Memory Alloys: Applications in Actuators
15th October 2018	Mechanics of Composite Materials: Introduction, Classification, and Properties
16th October 2018	Micromechanics of Composites: Understanding Composite Behavior
17th October 2018	Induced Strain Actuation: Modeling Piezoelectric and Magnetostrictive Materials
18th October 2018	Smart Actuators: Design and MEMS Applications Using Smart Materials
19th October 2018	Vibration Control: Applications of Smart Materials in Vibration Suppression
22nd October 2018	Electrorheological and Magnetorheological Fluids: Control Applications
23rd October 2018	Mechanisms in Intelligent System Design: Using Smart Materials for Intelligent Systems
24th October 2018	Hands-on Lab: Project on Smart Material-Based Sensors and Actuators
25th October 2018	Project Review and Presentations



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Certificate Course Smart Materials and Intelligent system

Time table

Date	Time	Topic to be Covered
10th October 2018	10:00 AM - 12:30 PM	Introduction to Smart Materials: Overview and Characteristics
11th October 2018	10:00 AM - 12:30 PM	Piezoelectric and Magneto strictive Materials: Energy Harvesting and Applications
12th October 2018	10:00 AM - 12:30 PM	Smart Polymers and Shape Memory Alloys: Applications in Actuators
15th October 2018	10:00 AM - 12:30 PM	Mechanics of Composite Materials: Introduction, Classification, and Properties
16th October 2018	10:00 AM - 12:30 PM	Micromechanics of Composites: Understanding Composite Behaviour
17th October 2018	10:00 AM - 12:30 PM	Induced Strain Actuation: Modelling Piezoelectric and Magneto strictive Materials
18th October 2018	10:00 AM - 12:30 PM	Smart Actuators: Design and MEMS Applications Using Smart Materials
19th October 2018	10:00 AM - 12:30 PM	Vibration Control: Applications of Smart Materials in Vibration Suppression
22nd October 2018	10:00 AM - 12:30 PM	Electrorheological and Magnetorheological Fluids: Control Applications
23rd October 2018	10:00 AM - 12:30 PM	Mechanisms in Intelligent System Design: Using Smart Materials for Intelligent Systems
24th October 2018	10:00 AM - 12:30 PM	Hands-on Lab: Project on Smart Material-Based Sensors and Actuators
25th October 2018	10:00 AM - 12:30 PM	Project Review and Presentations



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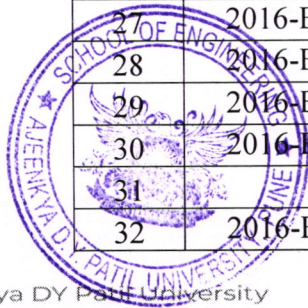


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Certificate Course Smart Materials and Intelligent system

List of Students

Sr	URN	Name of Student
1	2016-B-28121998	Akshay bharat bankar
2	2016-B-02031998	Anushka Kumar
3	2016-B-28121997	Aqib Kapoor
4	2016-B-18071997	Aquib Ali
5	2016-B-13121997	Avadhoot Bhaskar Shejwalkar
6	2016-B-17011999	Bhavil Nagar
7	2016-b-26121998	Bhushan Belanekar
8	2016-B-22111998	Dhanjay Krishna
9	2016-B-11111997	Eshwar Deepak Dhat
10	2016-B-22051998	Hrishikesh Pravin Shinde
11	2016-B-23041999	Kshitij Avinash Raje
12	2016-B-13121996	Kshitij Madhukar Jagtap
13	2016-B-08061997	Kunj Manish Vachhani
14	2016-B-08061997	Neeraj Sanjay Mogal
15	2016-B-28061997	Nirmal Mourya
16	2016-B-15041998	Pranshu Prashant Tople
17	2016-B-14101998	prasana prafful sancheti
18	2016-B-29071998	Rohit Srinivas Reddy
19	2016-B-27081998	Sankalp Sunil Sahu
20	2016-B-27021998	Shashwat shrivastava
21	2016-B-25111997	Shubham Dipankar Nandi
22	2016-B-19051998	Sneha Agrawal
23	2016-B-19011998	Viraj Vasant Wadikar
24	2016-B-28021998	Vishal Vikas Mahadik
25	2016-B-04081998	Yatish Chhoturam Kumavat
26	2016-B-27111998	Komal Babulal Meena
27	2016-B-04091996	Raushan Kumar
28	2016-B-29041998	Adwait Sunil Natu
29	2016-B-01801997	Pramil Singh
30	2016-B-18101997	Sathan Singh
31		Nishit Kumar
32	2016-B-04031998	Aditi Joshi



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33	2016-B-21021998	Etisha Shantaram Gurav
34	2016-B-27041998	Lina Digamber Phadte
35	2016-B-16051997	Minerva Sarma
36	2016-B-04021998	Mohammed Shafi KP
37	2016-B-22071999	Nadeem majid lone
38	2016-B-27051997	Prabhukalyana nayak
39	2016-B-11101998	Raj Sanjay Thakare
40	2016-B-23051998	Rashni Biswas
41	2016-B-25011998	Leandra Nadan Joseph
42	2016-B-02081996	Anshu Singh
43	2016-B-02041998	Diksha Zitshi
44	2016-B-12101997	harshada pawar
45	2016-B-08041998	Jayee Vinod Sapatnekar
46	2016-B-15111998	Mohammed Kazim Aliraza Muk
47	2016-B-13031997	Shivani Deepak Gupta
48	2016-B-09111998	Swarnendu Ghosh
49	2016-B-16091998	tanya bera
50	2016-B-27041997	VAISHNAVI GUPTA
51	2016-M-10081993	AdityaLiladharTalele
52	2016-M-18021994	Ajay Upadhayay
53	2016-M-20101994	Medijala Santosh kumar
54	2016-M-08121994	Nilesh Tukaram Khairnar
55	2016-M-01061992	Nirvay Kumar
56	2016-M-23091993	Sidharth Sharma
57	2016-M-16011995	supinder Singh Gill
58	2016-M-03051989	Nupur Chachra Sharma



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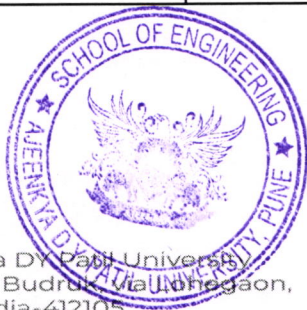
Certificate Course in Smart Materials and Intelligent system

Students Attendance

Sr	URN	Name of Student	10-Oct	12-Oct	15-Oct	17-Oct	19-Oct	22-Oct	24-Oct	26-Oct	29-Oct	31-Oct	02-Nov	05-Nov
1	2016-B-28121998	akshay bharat bankar	1	1	1	1	1	1	1	1	1	1	1	1
2	2016-B-02031998	Anushka Kumar	A	1	1	1	1	1	1	1	1	1	1	1
3	2016-B-28121997	Aqib Kapoor	1	A	1	1	1	1	1	1	1	1	1	1
4	2016-B-18071997	Aquib Ali	1	1	A	1	1	1	1	1	1	A	1	1
5	2016-B-13121997	Avadhoot Bhaskar Shejwalkar	1	1	1	1	1	1	1	1	1	1	1	1
6	2016-B-17011999	Bhavil Nagar	1	1	1	1	1	1	A	1	1	1	1	1
7	2016-b-26121998	Bhushan Belanekar	1	1	1	1	1	1	A	1	1	1	1	1
8	2016-B-22111998	Dhananjay Krishna Birmole	1	1	A	1	1	1	1	1	1	1	1	1
9	2016-B-11111997	Eshwar Deepak Dhat	1	1	1	1	1	1	1	1	1	1	1	1
10	2016-B-22051998	Hrishikesh Pravin Shinde	1	A	1	1	1	1	1	1	1	1	1	1
11	2016-B-23041999	Kshitij Avinash Raje	1	1	A	1	1	A	1	1	1	1	1	1
12	2016-B-13121996	Kshitij Madhukar Jagtap	1	1	1	1	A	1	1	1	1	1	1	1
13	2016-B-08061997	Kunj Manish Vachhani	1	1	1	1	1	1	1	1	1	1	1	1
14	2016-B-28061997	Neeraj Sanjay Mogal	1	1	1	1	1	1	A	1	1	1	1	1
15	2016-B-15041998	Nirmal Mourya	1	1	A	1	1	1	1	1	1	1	1	1
16	2016-B-14101998	Pranshu Prashant Tople	1	1	1	1	1	1	1	1	1	1	1	1
17	2016-B-29071998	prasana prafful sancheti	1	1	1	1	1	1	1	1	1	1	1	1
18	2016-B-27081998	Rohit Srinivas Reddy	1	1	1	1	1	1	1	1	1	1	1	1
19	2016-B-27021998	Sankalp Sunil Sahu	1	1	1	1	1	1	1	1	1	1	1	1
20	2016-B-25111997	Shashwat shrivastava	1	1	1	1	1	1	1	1	1	1	1	A
21	2016-B-12071998	Shubham Dipankar Nandi	A	1	1	1	1	1	1	1	1	1	1	1
22	2016-B-19051998	Sneha Agarwal	1	1	1	1	1	1	1	1	1	1	1	1
23	2016-B-19011998	Viraj Vasant Wadikar	1	1	1	1	1	1	1	1	1	1	1	1
24	2016-B-28021998	Vishal Vikas Mahadik	1	1	1	1	1	1	1	1	1	A	1	1
25	2016-B-04081998	Yatish Chhoturam Kumavat	1	1	1	1	1	1	1	1	1	1	1	1
26	2016-B-27111998	Komal Babul Meena	1	1	A	1	1	1	1	1	1	1	1	A



27	2016-B-04091996	Raushan Kumar	1	1	1	1	1	1	1	1	1	1	1	1
28	2016-B-29041998	Adwait Sunil Natu	1	A	1	1	1	1	1	1	1	1	1	1
29	2016-B-09091996	Pramil Singh	1	1	A	1	1	1	1	1	1	1	1	1
30	2016-B-18101997	Shaitan Singh Parmar	1	1	1	A	1	1	1	1	1	1	A	1
31		Nishit Kumar	1	1	1	1	1	1	1	1	1	1	1	1
32	2016-B-04031998	Aditi Joshi	1	1	1	1	1	1	1	A	1	1	1	1
33	2016-B-21021998	Etisha Shantaram Gurav	1	1	1	1	1	1	1	A	1	1	1	1
34	2016-B-27041998	Lina Digamber Phadte	1	1	1	1	1	1	1	1	1	1	1	1
35	2016-B-16051997	Minerva Sarma	1	1	1	1	1	1	1	1	1	1	1	1
36	2016-B-04021998	Mohammed Shafi KP	1	1	1	1	1	1	1	A	1	1	1	1
37	2016-B-22071999	Nadeem majid lone	1	1	1	A	1	1	1	1	1	1	1	1
38	2016-B-27051997	Prabhukalyana nayak	1	1	1	1	1	1	1	1	1	1	1	1
39	2016-B-11101998	Raj Sanjay Thakare	1	1	A	1	1	1	1	1	1	1	1	1
40	2016-B-23051998	Rashni Biswas	1	1	1	A	1	1	A	1	1	1	1	1
41	2016-B-25011998	Leandra Nadan Joseph	1	1	1	1	1	A	1	1	1	1	1	1
42	2016-B-02081996	Anshu Singh	1	1	1	1	1	1	1	1	1	1	1	1
43	2016-B-02041998	Diksha Zitshi	1	1	1	1	1	1	1	A	1	1	1	1
44	2016-B-12101997	harshada pawar	1	1	1	A	1	1	1	1	1	1	A	1
45	2016-B-08041998	Jayee Vinod Sapatnekar	1	1	1	1	1	1	1	1	A	1	1	1
46	2016-B-15111998	Mohammed Kazim Aliraza Muk	1	A	1	1	1	1	1	1	1	A	1	1
47	2016-B-13031997	Shivani Deepak Gupta	A	1	1	1	1	1	1	1	1	1	1	1
48	2016-B-09111998	Swarnendu Ghosh	1	A	1	1	1	1	1	1	1	1	1	1
49	2016-B-16091998	tanya bera	1	1	1	A	1	1	1	1	1	1	1	1
50	2016-B-27041997	VAISHNAVI GUPTA	1	1	1	1	1	1	1	1	1	1	1	1
51	2016-M-10081993	Aditya Liladhar Talele	1	1	A	1	1	1	1	1	1	1	1	1
52	2016-M-18021994	Ajay Upadhayay	1	1	1	A	1	1	A	1	1	1	1	1
53	2016-M-20101994	Medijala Santosh kumar	1	1	1	1	1	A	1	1	1	1	1	1
54	2016-M-08121994	Nilesh Tukaram Khairnar	1	1	1	1	1	1	1	1	1	1	1	1
55	2016-M-01061992	Nirvay Kumar	1	1	1	1	1	1	1	A	1	1	1	1
56	2016-M-23091993	Sidharth Sharma	1	1	1	1	A	1	1	1	1	1	1	1
57	2016-M-16011995	Supinder Singh Gill	1	1	1	1	1	1	1	1	1	1	1	1
58	2016-M-03051989	Nupur Chachra Sharma	1	1	1	1	1	1	A	1	1	1	1	1





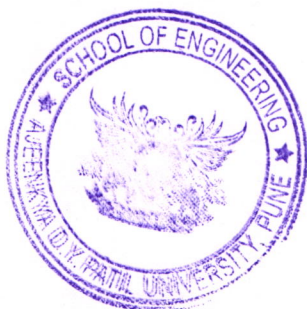
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Certificate Course in Smart Materials and Intelligent system

Evaluation Plan

- 75 % attendance is mandatory for this training program.
- Student should get a minimum 60% score on the Multiple-Choice Questions Test.

Certificate Grade	Percentage of Attendance
A	80% +
B	60 to 79.9
C	50 % to 59.9%
D	40% to 49.9%
Get Participation Certificate	35 % to 40%



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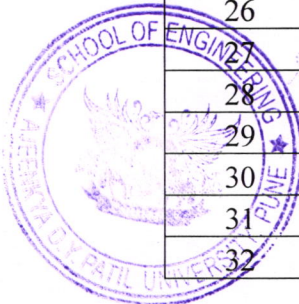


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Certificate Course in Smart Materials and Intelligent system

List of Students to Whom Certificates are Distributed

Sr	Name of Students
1	Akshay bharaat bankar
2	Anushka Kumar
3	Aqib Kapoor
4	Aquib Ali
5	Avadhoot Bhaskar Shejwalkar
6	Bhavil Nagar
7	Bhushan Belanekar
8	Dhanjay Krishna
9	Eshwar Deepak Dhat
10	Hrishikesh Pravin Shinde
11	Kshitij Avinash Raje
12	Kshitij Madhukar Jagtap
13	Kunj Manish Vachhani
14	Neeraj Sanjay Mogal
15	Nirmal Mourya
16	Pranshu Prashant Tople
17	prasana prafful sancheti
18	Rohit Srinivas Reddy
19	Sankalp Sunil Sahu
20	Shashwat shrivastava
21	Shubham Dipankar Nandi
22	Sneha Agrawal
23	Viraj Vasant Wadikar
24	Vishal Vikas Mahadik
25	Yatish Chhoturam Kumavat
26	Komal Babulal Meena
27	Raushan Kumar
28	Adwait Sunil Natu
29	Pramil Singh
30	Sathan Singh
31	Nishit Kumar
32	Aditi Joshi

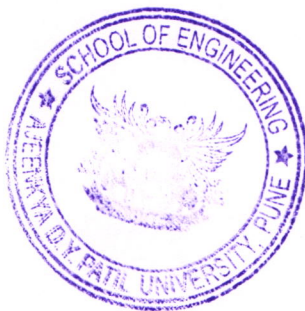


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34	Lina Digamber Phadte
35	Minerva Sarma
36	Mohammed Shafi KP
37	Nadeem majid lone
38	Prabhukalyana nayak
39	Raj Sanjay Thakare
40	Rashni Biswas
41	Leandra Nadan Joseph
42	Anshu Singh
43	Diksha Zitshi
44	harshada pawar
45	Jayee Vinod Sapatnekar
46	Mohammed Kazim Aliraza Muk
47	Shivani Deepak Gupta
48	Swarnendu Ghosh
49	tanya bera
50	VAISHNAVI GUPTA
51	AdityaLiladharTalele
52	Ajay Upadhayay
53	Medijala Santosh kumar
54	Nilesh Tukaram Khairnar
55	Nirvay Kumar
56	Sidharth Sharma
57	supinder Singh Gill
58	Nupur Chachra Sharma



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