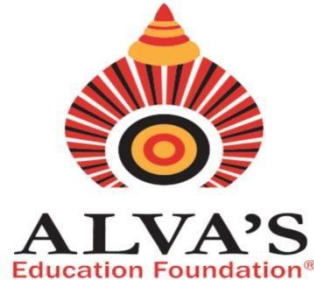


# **ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY**

Shobhavana Campus, Mijar – 574225, Moodbidri.

Dakshina Kannada Karnataka, India.



**Department of Information Science and Engineering**

**ONLINE CERTIFICATION COURSE**

**On**

**“Nanotechnology and its Applications”**

**ACADEMIC YEAR**

**2019-2020**

**Date: 3/07/2020**

**Place: AIET, Moodbidri.**

**APPROVAL LETTER**

To  
,  
The Principal,  
AIET,  
Moodbidri

Respected Sir,

**Sub: - Approval Letter for Organizing the Students Certification/Training  
Program on "Nanotechnology and its Applications"-Reg.**

With reference to the subject cited above, I would like to bring to your kind notice that, the Department is planning to host a Student Training Program/certification course on "**Nanotechnologies and its Applications**" from "**16<sup>th</sup> July 2019 to 20<sup>th</sup> July 2019**".

Resource person is Dr.Raju Hajare from

Kindly consider the above request and approve the same for further proceedings.

Thanking you Sir.



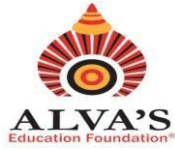
**Coordinator**  
**Mr. Nagesh U B**



**Head of the Department:**  
**Prof. Jayantkumar A Rathod**



**Principal**



# ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

Shobhavana Campus, Mijar, Moodbidri – 574 225

Phone: 08258-262725 Fax: 08258-262726

## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

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Dated 07/July/2020

### **CIRCULAR**

It is hereby informed to all the 4<sup>th</sup>, 6<sup>th</sup> and 8<sup>th</sup> semester students that department is organizing online certification program on **“Nanotechnology and its Applications “from 16<sup>th</sup> July 2020 to 20<sup>th</sup> July 2020.** All the students are hereby instructed to attend the same without fail.

A handwritten signature in black ink, appearing to be "R. S. S.", is written over a light blue rectangular background.

(HOD)



**ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY**

SHOBHAVANA CAMPUS, MIJAR, MOODBIDRI – 574 225

PHONE: 08258-262725 FAX: 08258-262726

**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING**

---

Date: 09/July/2020

**INVITATION LETTER**

To,

Dr. Raju Hajare  
Associate Professor  
BMSIT, Bangalore.

Dear Sir,

**Sub:** Invitation for conduction of online certification program.

With reference to the above subject and as per the telephonic conversation regarding conduction of online certification program to our students from 16/7/2020 to 20/7/2020, I would like to invite you as a resource person for this certification program.

Kindly accept our invitation and do the needful.

Thanking you sir,

**Mr. Nagesh U.B**  
Asst. Professor, ISE,  
Coordinator

**Prof. Jayantkumar A Rathod**  
Associate Prof. & Head

**Dr. Peter Fernandes**  
Principal, AIET

## Resource Person

**Dr. Raju Hajare**

Associate Professor, BMSITM Bangalore

[rajuhajare@bmsit.in](mailto:rajuhajare@bmsit.in)

## Convener:

**Prof. Jayantkumar A Rathod**

H.O.D Department of ISE,

AIET Moodbidri

## Coordinators:

**Mr. Nagesh U.B,**

**Dept. of ISE, AIET Moodbidri**

Mob: 9449954834

Email: [nageshub@aiet.org.in](mailto:nageshub@aiet.org.in)

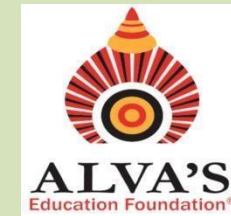
## ABOUT THE INSTITUTION

Alva's Education Foundation (AEF) established in 1995 with the vision of our Chairman Dr. M. Mohan Alva has succeeded in making Moodbidri, an Educational hub in the South Canara Region, with more than 25000 students pursuing various courses ranging from primary school to post-graduate courses in social sciences, pure sciences, engineering and management. There are 21 institutions functioning under the Alva's Education Foundation.

Alva's Institute of Engineering and Technology, Moodbidri is a Premier Engineering Institute of Alva's Education Foundation, established in the year 2008. The college is certified to the ISO 9001: 2008 standards. The institute offers top quality education in five under graduate programs in Engineering- Computer Science, Civil, Electronics & Communications, Information Science, and Mechanical Engineering- Three Post Graduate programs- Master of Technology in Thermal Power Engineering, Computer Science & Engineering, VLSI Design Embedded System and Master of Business Administration.



**Alva's Institute of Engineering  
and Technology, Moodbidri**



**5 Days Certification  
Program  
On**

**"Nanotechnology and its  
Applications"**

**From 16<sup>th</sup> July to 20<sup>th</sup> July  
2020**

***Organized by***

**Department of Information  
Science and Engineering**

## ABOUT THE DEPARTMENT

The Department was started in the year 2008 with an intake of 60 for the undergraduate program. The course has become popular among students due to their achievements and rigor. The department has well qualified, experienced and committed faculty to provide quality industry tuned education to the students. The faculty members regularly participate in Workshops, Faculty development programs and seminars to keep themselves updated with the cutting-edge technologies. Faculty members prolifically publish research papers in renowned journals and conferences. Department has well-equipped laboratories housing state of the art equipment including computer systems with the latest configurations, which are completely networked and the latest software for applications and development areas. The department is affiliated with Visvesvaraya Technological University (VTU), Belagavi.

## COURSE CONTENT

- Introduction to Nanotechnology
- Tools and Techniques
- Approaches Used
- Applications of Nanotechnology
- Pitfalls of Nanotechnology

## PROGRAM SCHEDULE

### VISION

To Impart quality learning and nurture students to become successful technocrats by achieving excellence in information science and engineering field for addressing the evolving needs of the industry as well as the society.

### MISSION

M1: To provide quality technical education and research training for preparing competent professionals in the Information technology field.

M2: To provide a suitable infrastructure and environment that inculcates the best engineering practices for the Socio-economic development of society.

M3: To foster the students to become successful technocrats to meet the global competency in the field of IT industry.

M4: To develop entrepreneurship skills with active research and innovation by inculcating ethical values among students.

### 16-July-2020

Inauguration:	09.00 am to 10:00 am
Keynote Address:	10.00 am to 11.00 am
Tea Break:	11.00 am to 11.15 am
Session 1:	11.15 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 2:	02:00 pm to 05:00 pm

### 17-July-2020

Session 3:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 4:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 5:	02:00 pm to 05:00 pm

### 18-July-2020

Session 6:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 7:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 8:	02:00 pm to 05:00 pm

### 19-July-2020

Session 9:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 10:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 11:	02:00 pm to 05:00 pm

### 20-July-2020

Session 12:	09.00 am to 11:00 am
Tea Break:	11.00 am to 11.20 am
Session 13:	11.20 am to 01.00 pm
Lunch Break:	01:00 pm to 02:00 pm
Session 14:	02:00 pm to 05:00 pm

# 4<sup>th</sup> Semester Student List

SN	USN	NAME	Dates				
			16/7	17/7	18/7	19/7	20/7
1	4AL17IS013	DEEKSHA	1	2	3	4	5
2	4AL17IS029	NAMITHA D	1	2	3	4	5
3	4AL17IS046	SHREYAS R SHETTY	1	2	3	4	5
4	4AL16IS043	RAMYA V	1	2	3	4	5
5	4AL17IS018	JAI SUBHASH B	1	2	3	4	5
6	4AL17IS020	JOHNSON CRASTHA B	1	2	3	4	5
7	4AL17IS042	SAIKUMAR S	1	2	3	4	5
8	4AL18IS001	A V SHIVANI	1	2	3	4	5
9	4AL18IS002	ABHIMAN H R	1	2	3	4	5
10	4AL18IS003	AMARJIT YANGLEM	1	2	3	4	5
11	4AL18IS004	ASHMITHA V MENDON	1	2	3	4	5
12	4AL18IS005	BHUVAN S T	1	2	3	4	5
13	4AL18IS006	CHINMAYI M K	1	2	3	4	5
14	4AL18IS007	DEEPTHI	1	2	3	4	5
15	4AL18IS008	DHANANJAY KUMAR P S	1	2	3	4	5
16	4AL18IS009	DHANUSHA	1	2	3	4	5
17	4AL18IS010	DHANYA LAXMAN BYNDOOR	1	2	3	4	5
18	4AL18IS011	K SHIRISHA SHETTY	1	2	3	4	5
19	4AL18IS012	MAHANTESH GIDADAMANI	1	2	3	4	5
20	4AL18IS013	MANASA B	1	2	3	4	5
21	4AL18IS015	NIKHIL S ACHARYA	1	2	3	4	5
22	4AL18IS016	P POOJA	1	2	3	4	5
23	4AL18IS017	POOJA K G	1	2	3	4	5
24	4AL18IS019	RANJAN KUMAR	1	2	3	4	5
25	4AL18IS020	RANJITHA	1	2	3	4	5
26	4AL18IS021	SACHIN G RAO	1	2	3	4	5
27	4AL18IS022	SHETTY RAMYASHREE SHASHIDHAR	1	2	3	4	5
28	4AL18IS025	VAIBHAVI V BHAT	1	2	3	4	5
29	4AL18IS026	VEDANTH M	1	2	3	4	5

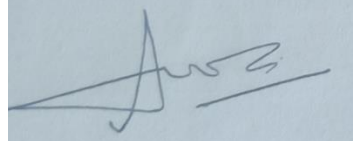
Ans.  
coordinator

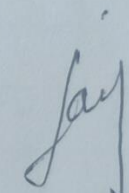
jay  
HOD

# 6<sup>th</sup> Semester Student List

SN	USN	NAME	Date				
			16/7	17/7	18/7	19/7	20/7
1	4AL15IS014	MANTHAN A.B	1	2	3	4	5
2	4AL15IS028	PRATHIKSHA PATKAR	1	2	3	4	5
3	4AL15IS034	REKHA HALLI	1	2	3	4	5
4	4AL16IS004	ANJU D R	1	2	3	4	5
5	4AL16IS022	KEERTHANA S	1	2	3	4	5
6	4AL16IS058	VARADA	1	2	3	4	5
7	4AL16IS064	MAHIMA R	1	2	3	4	5
8	4AL17IS001	AHIMSA JAIN	1	2	3	4	5
9	4AL17IS002	AKSHATA L HEGDE	1	2	3	4	5
10	4AL17IS003	AKSHATHA A M	1	2	3	4	5
11	4AL17IS004	AKSHITA A POOJARY	1	2	3	4	5
12	4AL17IS005	ALBIN GEORGE	1	2	3	4	5
13	4AL17IS006	AMIN VISHAK DINESH	1	2	3	4	5
14	4AL17IS007	ANJALI C J	1	2	3	4	5
15	4AL17IS009	ASHWINI	1	2	3	4	5
16	4AL17IS010	ASHWITHA R SALIAN	1	2	3	4	5
17	4AL17IS012	DANUSH KUMAR	1	2	3	4	5
18	4AL17IS014	DIKSHIT GOVIND KOTIAN	1	2	3	4	5
19	4AL17IS015	DIVYASHREE	1	2	3	4	5
20	4AL17IS016	GANGOTHRI N V	1	2	3	4	5
21	4AL17IS021	KARUNA N	1	2	3	4	5
22	4AL17IS022	KAVYASHREE S	1	2	3	4	5
23	4AL17IS023	KSHAMA	1	2	3	4	5
24	4AL17IS024	KUNDER MAYURESH RAGHUNATHA	1	2	3	4	5
25	4AL17IS025	LOKESH P	1	2	3	4	5
26	4AL17IS026	MANISH R	1	2	3	4	5
27	4AL17IS027	MELODY NAOREM	1	2	3	4	5
28	4AL17IS028	METHISH R	1	2	3	4	5
29	4AL17IS030	NANDA KISHORE V	1	2	3	4	5
30	4AL17IS031	NAVYA POOJARY	1	2	3	4	5
31	4AL17IS032	NIKITHA SHETTY	1	2	3	4	5

32	4AL17IS033	PAVAN Y N	1	2	3	4	5
33	4AL17IS034	PRASHANTH REDDY C	1	2	3	4	5
34	4AL17IS035	PRIYA	1	2	3	4	5
35	4AL17IS036	RACHANA SHETTY	1	2	3	4	5
36	4AL17IS037	RACHITHA SHETTY	1	2	3	4	5
37	4AL17IS040	ROOPASHREE J	1	2	3	4	5
38	4AL17IS043	SHETTY RACHANA CHANDRASHEKAR	1	2	3	4	5
39	4AL17IS045	SHREYAS H E	1	2	3	4	5
40	4AL17IS048	SRIHARI B	1	2	3	4	5
41	4AL17IS050	T K HARSHITH PRASAD	1	2	3	4	5
42	4AL17IS051	THANGSABAM BIKUMAR SINGH	1	2	3	4	5
43	4AL17IS053	ZEENAL MANOLA LOBO	1	2	3	4	5
44	4AL17IS054	CHAITANYA B N	1	2	3	4	5
45	4AL17IS055	NAGASHREE S	1	2	3	4	5
46	4AL17IS056	MELISHA D SOUZA	1	2	3	4	5


  
Coordinator

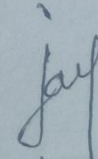
  
HoD

## 8<sup>th</sup> Semester Student List

Sl.No	USN	NAME OF THE STUDENT	Date				
			16/7	17/7	18/7	19/7	20/7
1	4AL15IS002	AISHWARYA M B	1	2	3	4	5
2	4AL15IS003	AKSHAY SHENOY	1	2	3	4	5
3	4AL15IS004	AKSHAYA SHENOY	1	2	3	4	5
4	4AL15IS010	H M MILANA	1	2	3	4	5
5	4AL15IS021	PAVAN R	1	2	3	4	5
6	4AL16IS002	AMULYA	1	2	3	4	5
7	4AL16IS005	ANKITHA P	1	2	3	4	5
8	4AL16IS006	ANUSHA	1	2	3	4	5
9	4AL16IS007	APARNASHREE R	1	2	3	4	5
10	4AL16IS008	APOORVA R	1	2	3	4	5
11	4AL16IS009	CHANDANA N S	1	2	3	4	5
12	4AL16IS012	DARSHAN P B	1	2	3	4	5
13	4AL16IS013	DHEERAJ SHETTY	1	2	3	4	5
14	4AL16IS014	GAGANA G R N	1	2	3	4	5
15	4AL16IS015	GIRIJA R	1	2	3	4	5
16	4AL16IS016	GOWTHAMI H R	1	2	3	4	5
17	4AL16IS017	HANVITAA G	1	2	3	4	5
18	4AL16IS018	HEGDE AKSHAY R	1	2	3	4	5
19	4AL16IS021	K S VEDA	1	2	3	4	5
20	4AL16IS023	KRITHI K SHETTY	1	2	3	4	5
21	4AL16IS024	LIKITHA P	1	2	3	4	5
22	4AL16IS026	M RAMAKRISHNA	1	2	3	4	5
23	4AL16IS027	MANOHAR M GOWDA	1	2	3	4	5
24	4AL16IS029	MEGHANA NAIK	1	2	3	4	5
25	4AL16IS030	MOULYA M	1	2	3	4	5
26	4AL16IS031	NAGENDRA PRASAD S	1	2	3	4	5
27	4AL16IS033	NIKSHITA	1	2	3	4	5
28	4AL16IS034	PARINITHA K P	1	2	3	4	5
29	4AL16IS035	POOJA N	1	2	3	4	5
30	4AL16IS036	PRATHIKSHA	1	2	3	4	5
31	4AL16IS037	PRATHVI P SHETTY	1	2	3	4	5

32	4AL16IS038	PRIYANKA	1	2	3	4	5
33	4AL16IS039	PRIYANKA N	1	2	3	4	5
34	4AL16IS041	RAKESH KUMAR S R	1	2	3	4	5
35	4AL16IS042	RAKESH M R	1	2	3	4	5
36	4AL16IS046	SAILEELA R	1	2	3	4	5
37	4AL16IS047	SAMRUDDI SHETTY	1	2	3	4	5
38	4AL16IS048	SANJANA S SHETTY	1	2	3	4	5
39	4AL16IS050	SHETTY ASHIKA C	1	2	3	4	5
40	4AL16IS051	SHETTY TANVI S	1	2	3	4	5
41	4AL16IS052	SHREESHA BHAT	1	2	3	4	5
42	4AL16IS053	SUSHANTH S	1	2	3	4	5
43	4AL16IS054	TANAZ J SHAIKH	1	2	3	4	5
44	4AL16IS056	THARUNYA U P	1	2	3	4	5
45	4AL16IS057	TRUPTHI C	1	2	3	4	5
46	4AL16IS059	M MANJUSHA	1	2	3	4	5
47	4AL16IS060	NITHIN M	1	2	3	4	5
48	4AL16IS061	RACHANA T	1	2	3	4	5
49	4AL16IS062	TANUJA H B	1	2	3	4	5
50	4AL16IS063	MOUNA R	1	2	3	4	5
51	4AL17IS400	SAINATH B ACHARYA	1	2	3	4	5

  
Coordinator

  
HOD

**Feedback Form**

**Resource Person Name: Dr. Raju Hajare**

1. The resource person was well prepared and knowledgeable.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

2. The resource person was presented in a clear and well organised manner.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

3. The resource person answered to questions in an informative, appropriate and satisfactory manner.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

4. The resource person covered all the topics as per the schedule.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

5. The content covered will be useful for my future knowledge.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

6. The activities and assignment were relevant to the course content and learning objectives.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

7. The resource person has encouraged participant's interaction.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

8. The resource person kept me engaged and interacted.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

9. Overall, the sessions were informative and valuable.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

- Q10. The certification course objective were met.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

If any other remarks or comments or suggestions you would like to make.

*Content of course was up to my expectation*

**Feedback Form**

**Resource Person Name: Dr. Raju Hajare**

1. The resource person was well prepared and knowledgeable.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

2. The resource person was presented in a clear and well organised manner.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

3. The resource person answered to questions in an informative, appropriate and satisfactory manner.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

4. The resource person covered all the topics as per the schedule.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

5. The content covered will be useful for my future knowledge.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

6. The activities and assignment were relevant to the course content and learning objectives.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

7. The resource person has encouraged participant's interaction.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

8. The resource person kept me engaged and interacted.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

9. Overall, the sessions were informative and valuable.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

- Q10. The certification course objective were met.

Strongly Disagree-1	Disagree-2	Agree-3	Strongly Agree-4
---------------------	------------	---------	------------------

If any other remarks or comments or suggestions you would like to make.

*The certification course was very informative & interesting.*

## **REPORT ON**

### **Nanotechnology and its Applications**

The Department organized a 5 days Online Certification program on “**Nanotechnology and its Applications**” from **16<sup>th</sup> July to 20<sup>th</sup> July 2020**. The certification course was inaugurated by the resource person, Dr. Raju Hajare, Head of the Department Prof. Prof Jayantkumar A Rathod and Program coordinator Prof. Nagesh U.B. A total of **126 students** participated in this certification course program.

The resource person covered various topics with respect to Nanotechnology and its applications to our students. He focused on carbon nanotubes, nanorods and also on different approaches used. He explained about the various applications of nanotechnology like military, healthcare, drugs electronics and computers etc. the students got benefited from his certification program and got exposure in the field of nanotechnology. We are grateful that you have shared some of your precious time with us. We look forward for your participation on future events. We would like to thank the resource person on behalf of entire college and department.



**Coordinator**



**HOD**

**Test Question Paper**

**Marks: 1 \* 15**

1. The size of nanoparticles is between \_\_\_\_\_ nm. (C)  
a) 100 to 1000      b) 0.1 to 10      c) 1 to 100      d) 0.01 to 1
2. Who coined the word 'nanotechnology'? (A)  
a) Eric Drexler      b) Richard Feynmann      c) Sumio Tijima      d) Richard Smalley
3. According to the definition by CRN, nanotechnology is. (B)  
a) Mechanical Engg      b) Atomic Engg      c) Newtonian Mechanics      d) Micro-electronics
4. Greeks and Romans had used nanoparticles in the manufacture of... (D)  
a) Cosmetics for eyes      b) Medicines      c) Metalarticles      d) Hair-dye
5. \_\_\_\_\_ contains nanoparticles prepared by using biologically processed metal ores. (D)  
a) Homeopathic medicines      b) Modern antibiotics  
c) Ayurvedic 'Bhasmas'      d) Modern cosmetics
6. Which ratio decides the efficiency of nan substances? (D)  
a) Weight/volume      b) Surface area/volume      c) Volume/weight      d) Pressure/volume
7. The two important properties of nano substances are... (D)  
a) Pressure and Friction      b) Sticking and Friction  
c) Sticking and Temperature      d) Temperature and Friction
8. Nano particles target the rare \_\_\_\_\_ causing cells and remove them from blood. (A)  
a) Tumour      b) Fever      c) Infection      d) Cold
9. Coating the nano crystals with the ceramics is carried that leads to \_\_\_\_\_ (B)  
a) Corrosion      b) Corrosion resistance      c) Wear and tear      d) Soft
10. By nano scale distribution of the \_\_\_\_\_ in matrix improves the life and performance. (B)  
a) Carbide      b) Tungsten      c) Hydrides      d) Nitrites
11. The extensively used nano particles as catalyst is \_\_\_\_\_ (C)  
a) Silver      b) Copper      c) Gold      d) Cerium
12. Who prepared and explained nanotubes for the first time? (A)  
a) Sumio Tijima      b) Richard Smalley      c) Eric Drexler      d) Richard Feynmann
13. Fabrics are extensively made out of nano materials like \_\_\_\_\_ (B)  
a) Carbon nano tubes      b) Fullerenes      c) Mega tubes      d) Polymers
14. With the help of \_\_\_\_\_, Robert F. Curl and others discovered fullerene. (D)  
a) Electron microscope      b) magnetic resonance  
c) Condensation technique      d) mass spectrograph
15. DNA detection through the \_\_\_\_\_ by using the oligonucleotide functionalised gold nano crystals is developed. (A)  
a) Colorimetric      b) Diathermy      c) Electro therapy      d) Treatment tables



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Shobhavana Campus, Mijar, Moodbidri, D.K – 574225  
Phone: 08258-262725, Fax: 08258-262726

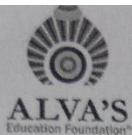
Dhanya L. Byndoor  
4AL18ISO10

**Test Question Paper**

Marks: 1 \* 15

1. The size of nanoparticles is between \_\_\_\_\_ nm.  
a) 100 to 1000    b) 0.1 to 10    c) 1 to 100    d) 0.01 to 1
2. Who coined the word 'nanotechnology'?  
a) Eric Drexler    b) Richard Feynmann    c) Sumio Tijima    d) Richard Smalley
3. According to the definition by CRN, nanotechnology is.  
a) Mechanical Engg    b) Atomic Engg    c) Newtonian Mechanics    d) Micro-electronics
4. Greeks and Romans had used nanoparticles in the manufacture of...  
a) Cosmetics for eyes    b) Medicines    c) Metalarticles    d) Hair-dye
5. \_\_\_\_\_ contains nanoparticles prepared by using biologically processed metal ores.  
a) Homeopathic medicines    b) Modern antibiotics    c) Ayurvedic 'Bhasmas'    d) Modern cosmetics
6. Which ratio decides the efficiency of nano substances?  
a) Weight/volume    b) Surface area/volume    c) Volume/weight    d) Pressure/volume
7. The two important properties of nano substances are.  
a) Pressure and Friction    b) Sticking and Friction    c) Sticking and Temperature    d) Temperature and Friction
8. Nano particles target the rare \_\_\_\_\_ causing cells and remove them from blood.  
a) Tumour    b) Fever    c) Infection    d) Cold
9. Coating the nano crystals with the ceramics is carried that leads to \_\_\_\_\_.  
a) Corrosion    b) Corrosion resistance    c) Wear and tear    d) Soft
10. By nano scale distribution of the \_\_\_\_\_ in matrix improves the life and performance.  
a) Carbide    b) Tungsten    c) Hydrides    d) Nitrites
11. The extensively used nano particles as catalyst is \_\_\_\_\_.  
a) Silver    b) Copper    c) Gold    d) Cerium
12. Who prepared and explained nanotubes for the first time?  
a) Sumio Tijima    b) Richard Smalley    c) Eric Drexler    d) Richard Feynmann
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Ramyashree Suetty

4 AUG 15 2022

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SHOBHAVANA CAMPUS, MIJAR, MOODBIDRI – 574 225

PHONE: 08258-262725 FAX: 08258-262726

Department of Information Science Engineering

# Certificate OF PARTICIPATION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

**Ms. Shetty Ramyashree Shashidhar**

For successfully completing the certification program on the topic  
“Nanotechnology and its Applications”, organized by the department of  
Information Science Engineering from 16th July to 20th July 2020.

Mr.Nagesh U.B  
Convenor

Dr.Raju Hajare  
Resource Person,  
BMSIT, Bengaluru

Prof. Jayantkumar A  
Rathod  
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Dr.Peter Fernandes  
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# ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

SHOBHAVANA CAMPUS, MLIAR, MOODBIDRI – 574 225

PHONE: 08258-262725 FAX: 08258-262726

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

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Date: 21/July/2020

## APPRECIATION LETTER

To,

Dr. Raju Hajare

Associate Professor

BMSIT, Bangalore.

Dear Sir,

I would like to take this opportunity to express my heartfelt thanks to you on behalf of Management, Principal and Department for delivering an informative and thought provoking talk on “ Nanotechnology and its Applications” under certification program conducted for students from 16/7/2020 to 20/7/2020.

It was really a splendid presentation which exposed the students in the field of Nanotechnology. All the participants appreciated and got benefitted from your views on this subject.

We are grateful that you have shared some of your precious time with us. We look forward for your participation on future events.

Thanking you sir,

Mr. Nagesh U.B  
Asst. Professor, ISE,  
Coordinator

Prof. Jayantkumar A Rathod  
Associate Prof. & Head

Dr. Peter Fernandes  
Principal, AIET