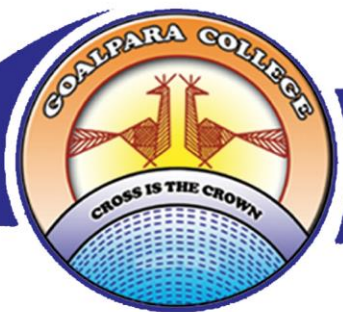


OFFICE OF THE PRINCIPAL
GOALPARA COLLEGE, GOALPARA



An ISO 9001:2015 Certified Institution

Affiliated to Gauhati University, Guwahati, Assam

The College is covered under Section 2(f) and 12(B) of the UGC Act, 1956

P.O. : Goalpara, Dist. : Goalpara, (Assam) Pin : 783101

Dr. Subhash Barman, M.A. Ph.D
Principal & Secretary
Goalpara College, Assam

Phone No : 03663-240046
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No : GC/

Date :

Certificate course on
Basics of Nanoscience

Organized Jointly by
Department of Chemistry

&

Department of Physics

Date: 21 October 2019 to 26 October 2019

Contact Hours-30

Brief Report

Department of Physics and Department chemistry of Goalpara College jointly organized a 30 hour long certificate course from 21/10/2019 to 26/10/2019 namely “Basics of nanoscience” . The program was inaugurated by Dr. Subhash Barman, Principal, Goalpara College in presence of faculties of various departments of the college. The inauguration program was presided over by Dr. Basanti Roy Dutta, HoD, Department of Chemistry. Dr. Basanti Roy Dutta, HoD, Department of Chemistry, Dr. Manjit Borah, Asst. Professor, Department of Physics, Dr. A H Khan, Asst. Professor, Department of Chemistry were the resource persons of the course. Dr. Hemanta Deka, Postdoctoral Researcher, Schulish Faculty of Chemistry, Technion-Israel Institute of Technology, Haifa, Israel was also specially invited for the course as resource person.

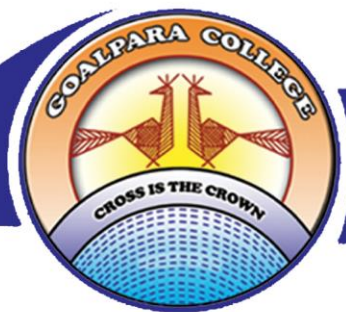
Course objectives:

Nanotechnology has greatly contributed to major advances in computing and electronics, leading to faster, smaller, and more portable systems that can manage and store larger and larger amounts of information. That's why, department of Physics and Chemistry decided to organize the certificate course on basics of nanotechnology to make students acquainted with the role of nanoscience played in every aspects of life. This course is designed in such a way that students became familiarizes with various aspects of nanotechnology and its wide range of applications. The course can educate the students synthesis of nanomaterials and how chemical, biological, physical and electrochemical applications works. It also gives deep insights in to different types of nanomaterial also.

Course Outline:

The theory class of the course is broadly divided into three part viz: 1. Introduction to nanotechnology, 2. Overview of Nanomaterial characterization techniques and 3. Nanomaterials and properties. The course details are given below.

1. Introduction to nanotechnology: This course introduces students to the field of Nano Science and nanotechnology. This includes nanofabrication techniques both bottom up and top down method, the interdisciplinary nature of nanotechnology and nanoscience (including areas of chemistry, material science, physics, and molecular biology) (10 hrs)



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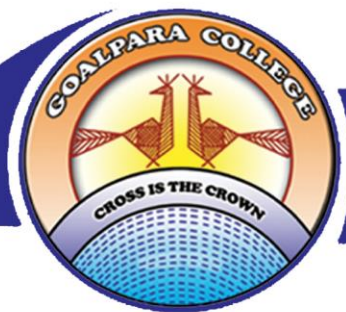
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2. Overview of Nanomaterial characterization techniques: Principles, instrumentation, design and application of different characterization tools such as UV, visible and IR spectroscopy. X-ray diffraction, SEM and TEM analysis. Thermal analysis including DTA, DSC and TGA (10 hrs).

3. Some well-known Nanomaterials and properties: Carbon nanotubes, Types of nanocrystals (1D), (2D), (3D) nanostructured materials, Quantum dots, Quantum wires, and Quantum shells, Metals and Metal Oxides (Au, Ag, TiO₂, ZnO) (10 hrs)

Students were also given hands on practice of synthesis of one metal nanoparticles (Silver) and semiconductor nanoparticle (CdS). The nanoparticles were characterize by UV visible spectrophotometer, which is available in the college campus.



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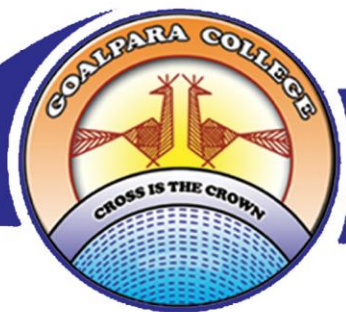
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Banner of the course


Certificate course on
Basics of Nanoscience
Jointly Organized
by
Department of Physics
&
Department of Chemistry
Date: 21 October 2019 to 26 October 2019
Contact Hours-30
For registration contact Dept. of Chemistry or Dept. of Physics



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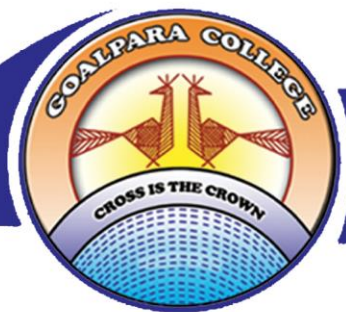
Glimpses from the course



Dr. Manjit Borah, Assistant Professor, Dept. of Physics, delivering lecture on introduction to Nanoscience



Dr. Dr. Hemanta Deka, Postdoctoral Researcher, Schulich Faculty of Chemistry, Technion-Israel Institute of Technology, Haifa, Israel, delivering lecture on the course



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Certificate of the Course


**CERTIFICATE OF
COMPLETION**

This is to certify that Mr./Ms..... of department of has participated and successfully completed the Certificate course on **Basics of Nanoscience** held from 21st October 2019 to 26th October 2019 organized jointly by Department of Chemistry & Department of Physics of Goalpara College. We wish him/her all success in life.

<p>(Dr. Subhash Barman) Principal Goalpara College</p>	<p>(Dr. B R Dutta) Head, Dept. of Chemistry Goalpara College</p>	<p>(Mr. G C Sarma) Head, Dept. of Physics Goalpara College</p>
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