

# **Course: Bioengineering: An Interface with Biology and Medicine**

**Course Code:** noc20-bt09

**Session:** 2019-20

**Duration:** 8 Weeks

**Assessment procedures:** Weekly Assignment (25%) + proctored certification Exam (75%)

## **Curriculum of the Course:**

Week 1:

- Why biology for engineers: Part-I
- Why biology for engineers: Part-II
- Life processes & Cell
- Cell and its properties
- Clinician's Perspective-I

Week 2:

- DNA Tools-Gene cloning
- DNA Tools-Gene cloning-II
- DNA Tools & Biotechnology
- DNA Tools & Biotechnology-II

Week 3 :

- DNA Tools & Biotechnology-III
- DNA Tools & Biotechnology-IV
- DNA Tools & Biotechnology-V
- DNA Tools & Biotechnology-VI
- Clinician's Perspective-III

Week 4 :

- Genetics-I
- Genetics-II
- Genetics-III
- Genetics-IV
- Clinician's Perspective-IV

Week 5 :

- Chromosomal basis of inheritance
- Linkage
- Chromosomal disorders
- Classical Genetics experiments
- Bacteria and Viruses
- Clinician's Perspective-V

Week 6 :

- Cell cycle
- Cell cycle dysregulation & Cancer
- Developmental Biology
- Principles and application of Animal Cloning

- Evolution & Bioinformatics

Week 7 :

- Amino acids & proteins
- Proteins & Proteomics
- Techniques to Study Protein & Proteome-I,II,III

Week 8 :

- Techniques to Study Protein & Proteome-IV
- Protein Interactions & Microarrays
- Protein interactions & Systems biology
- Bioinformatics, Ethics in Research and Publications

### List of students enrolled

S. No	Name of Student
1	Dipesh singh
2	gari13
3	Yash Verma
4	LALIT MEENA
5	Shreya Meena
6	vishal singh