

# WORKSHOP BY PROTEIN CLONING AND EXPRESSION FACILITY

## RECOMBINANT DNA TECHNOLOGY: An Introduction to plasmid cloning and genome analysis

Monday (19<sup>th</sup> March, 2018)

Theory: Gene characterization & DNA sequence analysis

- Databases
- Gene architecture and sequence analysis
- PCR
  - Primer design
  - PCR from cDNA
  - PCR from genomic DNA

Venue and timings:

Theory: **Level 9** meeting room from **13:00 hr to 16:00 hr**

Tuesday (20<sup>th</sup> March, 2018)

Theory: Plasmids and Cloning

- Plasmid characteristic
  - Types
  - Amplification

*Practical: Bacterial transformation and culturing bacteria*

Venue and timings:

Theory: **Level 10** meeting room from **13:00 hr to 16:00 hr**

Practical: **Level 10** near PEF bench

Wednesday (21<sup>st</sup> March, 2018)

*Practical: PCR and restriction digestion*

- PCR
- Plasmid Isolation

- Agarose gel electrophoresis
- Restriction digestion
- Colony

Venue and timings:

Practical: **Level 10** near PEF bench from **13:00 hr to 17:00 hr**

## Thursday (22<sup>nd</sup> March, 2018)

Theory: Recombinant plasmid generation

- Restriction digestion
- Agarose gel electrophoresis
- Cloning methods
  - Ligation cloning
    - Sub-cloning
    - PCR cloning
  - Ligation independent cloning

*Practical: Ligation and transformation*

Venue and timings:

Theory: **Level 10** meeting room from **12:00 hr to 14:00 hr**

Practical: **Level 10** near PEF bench

## Friday (23<sup>rd</sup> March, 2018)

*Practical: Extract plasmid and diagnostic check of the clones*

Venue and timings:

Practical: **Level 10** near PEF bench from **13:00 hr to 16:00 hr**