

Classes from 16th – 31st march, 2020

[IV.6.3 Flow of information in living systems]

Dear Students, We will continue our teaching learning process through online resources only for the time being, so that all of us remain safe in this crucial pandemic situation developed due to COVID-19.

We will be continuing our Whatsapp group “Biology group (18-22)” and the google group, where I will keep on sharing some online material to go through for the class. Also, I will be mailing/uploading the tutorials, research papers for project work and youtube links, which you may go through especially for learning the engineering kitchen activities. As already discussed in class, we will be continuing with our weekly assignments for the internal assessment and project part. Also, I am pasting the syllabus of this course once again for all of you to go through once again to have a look on the pending topics, which will be covered in the coming classes.

IV.6.3 Flow of information in living systems [Theory + Project] [Semester IV] [4]

Nature of genetic material – Process of information transfer (Replication, Transcription and translation machinery) – Energetics and accuracy of information transfer – Problems of information transfer (DNA damage and repair) – Regulation of informational transfer (transcription factors, operon) – DNA packaging and chromatin structure.

Engineering Kitchen Activity [Laboratory]:

Agarose Gel Electrophoresis

SDS-PAGE Electrophoresis

Polymerase Chain Reaction (PCR)

Primer design

Spectrometry

Analysis of growth curve, molar extinction coefficient, absorption maxima

Biochemical assays

Restriction digestion

Introductory Gene Cloning (Transformation to Ligation).

Wish you all the very best for this new experience of life. Hope, all of you would utilize this opportunity to do some constructive work.

Best wishes

Mahima Kaushik

