



**Final Practical Examination, 4<sup>th</sup> Stage Students, 2<sup>nd</sup> Semester 2020-2021**

Maximum Marks: 100

**Q1) Answer the following branches: (25 Marks)**

- A) Why should be careful with the Phenol, Acrylamide, and Ethidium bromide?
- B) Count the five piston positions of the micropipette?

**Q2) Answer the following branches: (30 Marks)**

- A) Count the 3 stage process of DNA delivery to host cell?
- B) What are the parameters which DNA delivery to host cell depends on it?
- C) What are the advantages of Liposome and lipoplex method of DNA delivery in mammalian cells?

**Q3) Answer the following branches: (15 Marks)**

- A) What is the drawback of calcium-phosphate method of DNA delivery in mammalian cells?
- B) Why prefer to use bacteria at log phase for making competent cells for transformation?
- C) What is the significance of a helper plasmid in virus mediated DNA delivery in mammalian cells?

**Q4) Answer two (2) of the following diagrams: (30 Marks)**

- A) Draw the diagram of principle steps in the transformation?
- B) Draw the diagram of transfection of animal cell with transfectin (polyplexes)?
- C) Draw the diagram of proposed mechanism of DNA-lipid complexes in mammalian cells?

***ALL THE BEST***

***Mr. Hemin Hussein Ali***

***Practical Lecturer***