Genetics Practical Paper – 1

Course title	**Cell Biology**
Course Code	**24IGT1(P)**
Course credits	**2**
Total contact hours	**42 Hours**
Duration of ESA	**3 Hours**
Formative assessment marks	**10 Marks**
Summative assessment marks	**40 Marks**

Cell Biology

Practical Content	15 units
1. Demonstration of optical components of microscope and calculation of numerical aperture.	**1 unit.**
2. Demonstration experiments: Dissection microscope, Binocular microscope, Stereo microscope.	**1 unit.**
3. Measurement of cells using Micrometer (plant / animal cells).	**2 units.**
4. Observation of permanent slides to study various stages of mitosis.	**1 unit.**
5. Study of different stages of mitosis from Temporary squash preparation of onion root tips.	**2 units.**
6. Observation of permanent slides to study stages of meiosis.	**1 unit.**
7. Study of different stages of meiosis from temporary squash preparation of Onion flower bud/ Grasshopper Testis.	**2 units.**
8. Temporary squash preparation of salivary gland of *Drosophila* to study Polytene chromosome.	**3 units.**
9. Vital staining of yeast cells to study mitochondria.	**1 unit.**
10. Study of the cells using Gram's staining/Giemsa staining/toluidine blue /methyl green pyronin staining.	**1 unit.**

References

1 Karp, G. (2009). Cell and molecular biology: concepts and experiments. John Wiley & Sons.

2 Russell, P. J., Hertz, P. E., McMillan, B., & Benington, J. (2020). Biology: the dynamic science. Cengage Learning.

3 Roberts, K., Alberts, B., Johnson, A., Walter, P., & Hunt, T. (2002). Molecular biology of the cell. New York: Garland Science.

4 Cooper, G. M., Hausman, R. E., & Hausman, R. E. (2007). The cell: a molecular approach (Vol. 4). Washington, DC: ASM press.

5 Snustad, D. P., & Simmons, M. J. (2015). Principles of genetics. John Wiley & Sons.

6 Singh, S. P., & Tomar, B. S. (2008). Cell biology. Rastogi Publications, Meerut, India.

7 Gupta, P.K. (2010). Cytogenetics. Rastogi Publications, Meerut, India.

8. Veerakumari. L. (2019). Bioinstrumentation. MJP Publishers, Chennai-600005.