ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM
VII SEMESTER BIOTECHNOLOGY TIME: 2 Hrs/ Week
BTH 7753 (2) MICROBIOLOGY AND IMMUNOLOGY Max. Marks: 50 (Core course)
W.e.f 20AH Batch

OBJCECTIVE: To enable the students to

1. Able to locate and separate lymph organs
2. Determine blood group typing
3. Differentiate the blood samples with $\mathrm{Rh}+$ and $\mathrm{Rh}-$
4. Learn the skill of antiboby purification

## COURSE OUTCOMES: Students will

- CO1: Be able to list out different types of nurseries and beds
- CO2: Indentify the nursery tools, implements and containers.
- CO3: Develop skill on potting media preparation and plant production
- CO4: Learn the technique of establishing cutting, layering, grafting etc.


## PRACTICAL COURSE:

1. Isolation of thymus from mice
2. Separation of spleen from experimental mice
3. Bone marrow location and separation
4. Blood group typing
5. Identification of Rh factor
6. Serum separation
7. Enumeration of microbial cells by hemocytometer
8. Separation and Quantification of microbial biomass from fermented media

## REFERENCES

1. Microbiology: concepts and Applications. Michael J. Pelczar, Jr., E.C.S., Chan, Noel R. Krieg, 1993. Me. Graw Hill, Inc.
2. Introductory Microbiology. 1995, by Trevor Gross.
3. Fundamentals of Microbiology. 4ltled. 1994. I.E.AIcamo. Scientific Publication,
4. Microbiology, 1990. 4th Ed.B.D. Davis, R. Dulbeco, H.N. Eisen and H.S. Ginsberg and J.B. Lippincott Company.
5. Fundamental Principles of Bacteriology. 1994. A.J. Sake. Tata McGraw Hill.
6. Laboratory Experiments in Microbiology. 3rd ed. Brief Version. 1992. T.R. Johnson and C.L. Case. Addision Wesley International Publications. PP 350.
7. Essentials of Immunology by Roit (ELBS).
8. Immunology by Roit et.al (Harper Row).
9. Text book of Immunology by S.T,Barrot (Mosby).
10. Immunology by Kubay.
