

M. Sc DEGREE END SEMESTER EXAMINATION - JULY 2021**SEMESTER 2 : ENVIRONMENTAL SCIENCE****COURSE : 16P2EVST05 : TECHNIQUES IN RESEARCH***(For Regular - 2020 Admission and Supplementary 2019/2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

PART A**Answer any 10 (2 marks each)**

1. Why is the substage condenser lens important in microscopes?
2. What are grids in electron microscope?
3. Write the principle of chromatography in brief.
4. Describe reversed phase HPLC.
5. What do you mean by the processing of gel after electrophoresis?
6. Write a short note on ESR Spectroscopy.
7. Define analytical and preparative centrifugation.
8. Comment on GM counter.
9. Comment on RIA.
10. Define pH.
11. Comment on infiltration.
12. Comment on sputter coating

(2 x 10 = 20)**PART B****Answer any 5 (5 marks each)**

13. Write the advantages of TLC over paper chromatography.
14. Explain the working principle of PAGE.
15. Explain the principle and applications of ESR spectroscopy
16. Differentiate between analytical and preparative centrifugation.
17. Highlight the working of GM counters.
18. Write down the applications of nanosensors
19. Explain the principle and types of ELISA
20. Explain the preparation of smears and squashes.

(5 x 5 = 25)**PART C****Answer any 2 (15 marks each)**

21. Write an essay on confocal microscope.
22. Explain in detail the principle, procedure and applications of agarose gel electrophoresis.
23. Give an account on the principle, working and applications of ESR and mass spectroscopy.
24. Elaborate the procedure of specimen preparation for electron microscopy

(15 x 2 = 30)