20P2015

Reg. No ..... Name .....

M. Sc DEGREE END SEMESTER EXAMINATION - MARCH 2020

SEMESTER 2 : ENVIRONMENTAL SCIENCE

COURSE : **16P2EVST05 : TECHNIQUES IN RESEARCH**

(For Regular - 2019 Admission & Supplementary 2018/2017/2016 Admissions)

Time : Three Hours Max. Marks: 75

Section A

Answer any 10 (2 marks each)

1. Comment on Differential Interference Contrast microscope?
2. Write in brief the principle of phase contrast microscope.
3. Write a short note on the stationary phase used in TLC.
4. Mention the types of ion exchange chromatography.
5. What is gel electrophoresis?
6. What is rotational spectroscopy?
7. What are micro centrifuges?
8. What are ionisation chambers?
9. Comment on RIA.
10. Comment on the calibration of pH meter.
11. Defferentiate temporary and permanent slides.
12. What is freeze etching.

(2 x 10 = 20)

Section B

Answer any 5 (5 marks each)

13. Explain the mechanism of separation of compounds in a mixture through HPLC.
14. Differentiate between SDS and non-SDS PAGE.
15. Explain the principle and applications of NMR spectroscopy
16. Explain differential centrifugation.
17. Explain the principle of ionisation chambers.
18. Write a note on nanosensors.
19. Explain briefly the different types of ELISA
20. What is the significance of dehydration in graded alcohol series in histochemistry?.

(5 x 5 = 25)

Section C

Answer any 2 (15 marks each)

21. Highlight the principle and applications of electron microscope.
22. Give an account on the principle, types and applications of various electrophoretic techniques.
23. Discuss the principle and applications of colorimetry and spectrophotometry.
24. Explain in detail the processes involved in tissue preparation for permanent slide preparation.

(15 x 2 = 30)