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D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1
SEMESTER EXAMINATIONS
NOVEMBER - 2017
ELECTIVE I : INSTRUMENTAL METHODS OF ANALYSIS

15CCH5D

Time : 3 Hrs

Max.Marks : 75

SECTION-A (10 x 2 =20)

Answer ALL the questions.

1. What are significant figures? Find the significant figures in 0.00432.
2. Differentiate between precision and accuracy.
3. What are the applications of thermometric titrations?
4. How DTA differs from TGA?
5. What is meant by solvent extraction?
6. Define sublimation.
7. Define the term chromatography.
8. Define R_f value. Write the factors affecting R_f value.
9. What are the principle of polarography?
10. Write the advantages of amperometric titrations.

SECTION-B (5 x 5 =25)

Answer any FIVE of the following questions.

11. Give an account on specific and selective precipitants.
12. Discuss the factors that affecting TGA and DTA curves.
13. Explain steam distillation process with an example.
14. Explain the principle and working of TLC.
15. Define residual and migration current.
16. Give an account on ion exchange resins.
17. What are the advantages of dropping mercury electrode?
18. Explain the principle and experimental procedure in soxhlet extraction.

SECTION-C (3 x 10 =30)

Answer ALL the questions.

19. (a) Write notes on post and co-precipitation.

(Or)

- (b) a) Describe the homogeneous precipitation in gravimetric estimation with an example. How is it superior to conventional methods?
b) Describe any two methods of minimizing direct errors.

20. (a) i) Explain the principle and experimental procedure of fractional crystallization.
ii) Discuss the principle and experimental techniques of HPLC.

(Or)

- (b) i) Discuss how liquids are purified by fractional distillation methods.
ii) Explain the principle and experimental procedure of column chromatography.

21. (a) i) Give an account of the applications of TGA and DTA.

ii) Describe briefly the techniques of polarography.

(Or)

(b) i) What are the types of error encountered in analytical measurements.

ii) What the difference between adsorption chromatography and partition chromatography.

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