This question paper contains **2** printed pages]

Y—187—2019

FACULTY OF SCIENCE

B.Sc. (Third Year) (Sixth Semester) (Backlog) EXAMINATION

OCTOBER/NOVEMBER, 2019

(CBCS Pattern)

ANALYTICAL CHEMISTRY

Paper XIV (DECCAC-VI)

(Modern Techniques in Chemical Analysis-II)

(Tuesday, 26-11-2019)   **Time : 10.00 a.m. to 12.00 noon**

Time—2 Hours   *Maximum Marks—40*

N.B. :— (*i*)   Attempt *All* questions.

(*ii*)   *All* questions carry equal marks.

(*iii*)   Figures to the right indicate full marks.

1.   Attempt any *four* of the following :   4×2=8

 (*a*)   What is conductance ? Define specific conductance.

 (*b*)   Define residual current and migration current.

 (*c*)   Give principle of size exclusion chromatography.

 (*d*)   Explain types of ion exchange chromatography.

 (*e*)   Write types of conductometric titrations.

 (*f*)   Explain ion exchange equilibria.

2.   Attempt any *two* of the following :   2×4=8

 (*a*)   Explain construction and working of Wheatstone bridge.

 (*b*)   Describe different types of reference electrodes.

 (*c*)   What are the advantages of amperometric titration.

3.   Attempt any *one* of the following :   1×8=8

 (*a*)   Explain different types of potentiometric titrations.

 (*b*)   Explain working of droping mercury electrode with schematic diagram.

P.T.O.

4. Attempt any *two* of the following : 2×4=8

   (*a*) Describe batch method of ion exchange chromatography.

   (*b*) Give any *four* applications of size exclusion chromatography.

   (*c*) What are ion exchangers ? Give their classification.

5. Attempt any *one* of the following : 1×8=8

   (*a*) Give application of ion exchange chromatography.

   (*b*) Give applications of supercritical fluid chromatography.