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## **UNIVERSITY OF THE PUNJAB**

B.S. 4 Years Program / Eighth Semester - Spring 2023

Paper: Analytical Chemistry (Sp. Theory-I) Course Code: CHEM-431

Roll No. ......
Time: 3 Hrs. Marks: 60

### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

#### Q.1. Answer the following short questions. (15x2=30)i. What are the advantages of polarography?. ii. What is effect of dilution of solution on specific conductance?. iii. Write down the at least Four advantages of DME. iv. What are sources of Electric Arc? Describe auxiliary electrode ٧. vi. Why electroanalytical techniques are superior than analytical methods. vii. Write down the limitations of Amperometery. viii. What do you mean by diffusion current in voltametery. Describe the migration as a mode of mass transport in voltametery.? ix. Differentiate between migration current and residual current. x. xi. How sputtering takes place at in Glow discharge? xii. What do you mean by cyclic voltammetry. xiii. What are polarizable and non-polarizable electrodes? xiv. What is specific Conductance? How conductometry used in precipitation titrations? XV.

#### Answer the following questions.

(3x10=30)

- Q.2(a) Discuss the types of electrodes in Polarography.
- (b)-. Write a note on Automation.
- Q.3(a) Discuss anodic stripping voltametery.
- (b) Discuss different kinds of currents contributing to polarographic waves.
- Q.4(a) Discuss biosensors using amperometric transducers
- (b)- Write a note on conductometric titrations of strong acid with strong base as well weak base.