BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: IMSC   SEMESTER: V
BRANCH: CHEMISTRY   SESSION: MO/2022

SUBJECT: CH303 ANALYTICAL METHODS IN CHEMISTRY

TIME: 2 HOURS   FULL MARKS: 25

INSTRUCTIONS:
1. The total marks of the questions are 25.
2. Candidates attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

				CO	BL
Q1	(a)	Human error can be both *determinate* as well as *indeterminate*. Elaborate.	[2]	CO1	Analysis
Q1	(b)	Outline the concept of *sample spiking technique* of third-party inspection. Elaborate with example of your choice.	[3]	CO1	Comprehension
Q2	(a)	Flame photometry technique cannot be applied to estimation of transition metals. Elaborate.	[2]	CO2	Analysis
Q2	(b)	Outline the Silver diethyldithiocarbamate based method of estimation of As (III) and As (V) in a water sample.	[3]	CO2	Knowledge
Q3	(a)	Explain the DSC of polymer.	[2]	CO3	Comprehension
Q3	(b)	Discuss the principle and instrumentation of TGA.	[3]	CO3	Knowledge
Q4	(a)	Discuss the factors affecting thermometric titration.	[2]	CO3	Knowledge
Q4	(b)	Discuss the various interferences in Flame photometry.	[3]	CO2	Comprehension
Q5	(a)	Differentiate between DTA and TGA with example.	[2]	CO3	Analysis
Q5	(b)	Discuss the types of DSC with diagram.	[3]	CO3	Analysis