

QUESTION BANK

BP 701T: INSTRUMENTAL METHODS OF ANALYSIS

**UNIT 2: IR SPECTROSCOPY, FLAME PHOTOMETRY, ATOMIC ABSORPTION
SPECTROSCOPY, NEPHELOTURBIDOMETRY**

S.NO	QUESTION TYPE	QUESTIONS	MAPPING TO TNMGRMU, GPAT, NIPER, VARIOUS PHARMA COMPANY WITH YEAR	BLOOM'S TAXONOMY
1	2-Marks	What is the fingerprint region in IR spectroscopy?	TNMGRMU (Oct 2022, Mar 2023, Oct 2024), GPAT (2022, 2023, 2024), NIPER (2022, 2023, 2024), Glenmark 2023	Remembering
2	2-Marks	Mention two light sources used in IR spectroscopy.	TNMGRMU (May 2022), GPAT (2022, 2024), NIPER (2022, 2024), Aurobindo 2022	Remembering
3	2-Marks	Name two detectors used in IR spectroscopy.	TNMGRMU (Dec 2023), GPAT (2023, 2024), NIPER (2023, 2024), Lupin 2023	Remembering
4	2-Marks	List two applications of Flame Photometry.	TNMGRMU (Aug 2023, Oct 2024), GPAT (2023, 2024), NIPER (2023, 2024), Sun Pharma 2023	Remembering
5	2-Marks	What is the light source used in Atomic Absorption Spectroscopy?	TNMGRMU (Dec 2021), GPAT (2021, 2023), NIPER (2021, 2023), Dr. Reddy's 2021	Remembering
6	2-Marks	Define phosphorescence.	TNMGRMU (Oct 2022), GPAT (2022, 2024),	Remembering

			NIPER (2022, 2024), Cipla 2022	
7	2-Marks	What are the two main types of interferences in Atomic Absorption Spectroscopy?	TNMGRMU (Oct 2022), GPAT (2022, 2023), NIPER (2022, 2023), Mylan 2022	Remembering
8	2-Marks	What is the principle of Nepheloturbidometry?	TNMGRMU (Dec 2021), GPAT (2021, 2023), NIPER (2021, 2023), Freedom Pharma 2021	Remembering
9	2-Marks	Name two factors affecting vibrational frequencies in IR spectroscopy.	TNMGRMU (Mar 2023), GPAT (2023, 2024), NIPER (2023, 2024), Maiva 2023	Remembering
10	2-Marks	What is a Golay cell?	TNMGRMU (Aug 2023), GPAT (2023), NIPER (2023), Abbott 2023	Remembering
11	5-Marks	Discuss the different regions of the IR spectrum and types of stretching and bending vibrations.	TNMGRMU (Dec 2021, Oct 2022, May 2024), GPAT (2021, 2022, 2024), NIPER (2021, 2022, 2024), Glenmark 2024	Understanding
12	5-Marks	Explain the principle and instrumentation of Nepheloturbidometry.	TNMGRMU (Dec 2021, May 2022, Mar 2023), GPAT (2021, 2022, 2023), NIPER (2021, 2022, 2023), Lupin 2022	Understanding
13	5-Marks	Describe the construction and working of a hollow cathode lamp with a neat diagram.	TNMGRMU (May 2022, Dec 2023), GPAT (2022, 2023), NIPER (2022, 2023), Aurobindo 2023	Understanding
14	5-Marks	Write a note on interferences in Flame Photometry and their control methods.	TNMGRMU (Dec 2023, Oct 2024), GPAT (2023, 2024), NIPER (2023, 2024), Sun Pharma 2024	Applying

15	5-Marks	Explain the sampling techniques for solids in IR spectroscopy.	TNMGRMU (May 2022, Aug 2023), GPAT (2022, 2023), NIPER (2022, 2023), Dr. Reddy's 2023	Understanding
16	5-Marks	Write a note on the applications of Atomic Absorption Spectroscopy.	TNMGRMU (Dec 2021), GPAT (2021, 2024), NIPER (2021, 2024), Cipla 2021	Applying
17	5-Marks	Explain the principle and instrumentation of Flame Photometry.	TNMGRMU (Dec 2021), GPAT (2021, 2023), NIPER (2021, 2023), Mylan 2021	Understanding
18	10-Marks	Explain the principle and instrumentation involved in Flame Emission Spectroscopy with a neat diagram.	TNMGRMU (Mar 2023, May 2024, Dec 2023), GPAT (2023, 2024), NIPER (2023, 2024), Glenmark 2023	Understanding
19	10-Marks	Describe the principle, instrumentation, and applications of Atomic Absorption Spectroscopy.	TNMGRMU (Aug 2023), GPAT (2023, 2024), NIPER (2023, 2024), Aurobindo 2024	Understanding
20	10-Marks	Explain the principle, instrumentation, and applications of Nepheloturbidometry.	TNMGRMU (Oct 2022, Oct 2024), GPAT (2022, 2024), NIPER (2022, 2024), Lupin 2024	Understanding
21	10-Marks	Discuss the fundamental modes of vibrations in polyatomic molecules and the applications of IR spectroscopy.	TNMGRMU (Dec 2023), GPAT (2023, 2024), NIPER (2023, 2024), Sun Pharma 2023	Analyzing
22	10-Marks	Explain the interferences in Flame Photometry and Atomic Absorption Spectroscopy and their mitigation strategies.	GPAT (2024, 2025), NIPER (2024, 2025), Dr. Reddy's 2024	Analyzing

