

Please check whether you have got the right question paper

- N.B :**
1. Question No. 1 is compulsory.
 2. Attempt any three questions from the remaining five questions.
 3. Figures to the right indicate full marks.

1. Answer the following : 20
 - (a) Explain interference filters used in absorption instruments.
 - (b) State the advantages of solid state detectors.
 - (c) Sketch a typical NMR spectrum.
 - (d) Give the list of sample handling systems in mass spectrometry.
 2.
 - (a) State and prove Beer Lamberts law. 10
 - (b) Explain the different types of monochromators used in absorption instruments. 10
 3.
 - (a) Explain the principle of ESR spectrometer and compare with NMR spectrometer. 10
 - (b) What is meant by Raman effect ? What are the properties of Raman lines ? 10
 4.
 - (a) Explain 'Time of flight' mass spectrometer with neat diagram. 10
 - (b) With a neat schematic diagram explain the working of (Geiger Mueller) GM counter. 10
 5.
 - (a) With a neat block diagram explain an atomic absorption spectrophotometer. 10
 - (b) What is chromatograph ? Explain the construction and working of Gas chromatograph. 10
 6. Write short note on any two :- 20
 - (a) X-ray spectrometer
 - (b) Double beam densitometer
 - (c) Gas density analyser
 - (d) Oxygen analyser.
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