**B.Pharm 8th Semester Examination**

**Subject- Advanced Instrumentation Techniques (BP811ET)**

**Full mark- 75 Time – 3 hours**

**Answer all the questions.**

**1. Answer all (10x2=20)**

**(I) Define chemical shift.**

**(ii) What are the basic components of mass spectrometer.**

**(iii) Define accuracy and precision.**

**(iv) What is process validation.**

**(v) Enlist parameters for calibration of IR Spectrophotometer**

**(vi) What is Hapten In RIA**

**(vii) Mention the factors affecting partition coefficient**

**(viii) What is separation factor in extraction technique**

**(ix) What is mean by hyphenated techniques ?**

**(x) How many types of mass spectrometers used in GC-MS work ?**

**2. Answer any two. (2 x 10=20)**

**(i) Give in detail the instrumentation of mass spectrometer. Mention various applications of mass spectrometer.**

**(II) What are the factors affecting on DSC instrumentation give a detail study.**

**(iii) Explain principle of XRD in terms of Bragg’s equation.**

**3. Answer any Seven Questions. (7x5=35)**

**(i) Give the purpose of validation of analytical methods.**

**(ii) Which parameters are performed for calibration of GC.**

**(iii) Explain the principle of RIA.**

**(iv) What is salting out effect.**

**(v) What is HPTLC-MS Interface.**

**(vi) What do you mean by shielding and deshielding of a nucleus.**

**(vii) Write down the principle of TGA.**

**(viii) What is powder diffraction method?**

**(ix) Give the general principle involved in the solid phase extraction.**