

Course: PYL725 (Surface Physics and Analysis), IInd Sem., 2017-2018

Minor-I: Wednesday, 4.00 – 5.00 PM, Date: 07/02/2018, Total marks = 20.

(Note: Attempt all the questions, marks are given in parentheses.)

- Q.1: How to define the surface and why is it important to study? Give examples. (3)
- Q.2(a) Explain the basic principle of photoemission. (3)
- Q.2(b) Explain different contributions in the total energy resolution of XPS. (2)
- Q.3: How to clean the surface under ultra-high vacuum? (3)
- Q.4: Explain the chemical shift in XPS with one example. (2)
- Q.5: What information would you get about solids using XPS, UPS and ARPES? (3)
- Q.6(a): Write five bravais lattices in two dimensions. (2)
- Q.6(b): The most stable solid surfaces are those with...? (2)