قسم : الفيزياء المادة : جوامد و ليزر

الفرقة : الرابعة الزمن : 3 ساعات

تاريخ الامتحان /(الاربعاء -2016/5/25) 10-12 صباحا ----------

امتحان الفصل الدراسي الثانى للعام الجامعي 2016/20105

Q1)- Define the closure domain –Bohar magnetone – Weiss field

Ans) *Closure domain : triangular prism domain at top and bottom of the crystal ,which make the magnetization inside the crystal continues.*

Bohar magnetone ; the possible component of angular momentum along the direction of magnetic field , when the magnetic quantum number equal 1

Weiss field : which produce the tendency for parallel alignment of the atomic dipole between the magnetic domain , and it's a cooperative effect

Q2) - The crystal refers to a single domain at .

a) H=0 b) remnant magnetization c) saturation magnetization

Ans) C: saturation magnetization

Q3)- why Langevain function failed to satisfy the magnetic properties of large atomic number elements

Ans) this because the Langevain function is a classical model which verify only at simple system with low atomic number when the incomplete shell is the outer one , so no diamagnetic effect will by apply on the electron from the other shell , but with large atomic number , the system needs more complicated function to cover the diamagnetic effect which produce due to the incomplete shell will be lies inside to complete shells .