

The University of Jordan
Accelerator Physics 0302965
Level Test

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September 20th, 2010

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- *This is not intended to be a marked exam.*
 - *The purpose is to collect information about your background.*
 - *You are NOT required to write your name, but you can do so if you wish!*

1- List all nuclear, radiation, and electromagnetic physics courses you have previously studied. Mention the level of the course (third year, fourth year, graduate, *etc....*). What are the main titles that you can remember from each course?

2- The radius r of the circular path of an ion of mass m , charge Qe and speed v can be defined by balancing the centrifugal and magnetic forces. Explain using the appropriate equations. Why do you think this is a useful concept for accelerators?

3- How is the relativistic mass of a high-energy particle related to its rest mass?

4- What do you know about the interaction of gamma rays with matter?

5- What is Bremsstrahlung?

6- When there are no charges or currents present, how do the Maxwell equations look like?