



Answer shortly to the following questions.



1.
 - a) What are the main differences between X-ray images and CT images?
 - b) What is the partial volume effect?
 - c) What are the common reasons for poor MR-image quality?
 - d) What are the common resolutions and color dynamics of a MR-image?

2.
 - a) What are the main factors affecting to the image interpretation?
 - b) What causes noise to MR-images and how the noise can be removed?
 - c) Are 8 bit –dynamics appropriate for displaying X-ray images digitally?
 - d) What is energy subtraction image?

3.
 - a) What is Unsharp masking? Describe it's operation principle!
 - b) What are Wavelets and their applications in image processing?

4.
 - a) What is segmentation and it's applications in medicine?
 - b) What are the main problems with segmentation?

5.
 - a) What steps are required in the 3D visualization of MR-images?
 - b) What is a triangulation algorithm, explain the difference between *Optimal Path* methods and *Heuristic* methods
 - c) What is *Brain Mapping*?

6.
 - a) What are PACS and DICOM?
 - b) Why digital *Anatomical Atlas* is useful in volumetric analysis of brain lesions?
 - c) Problems in utilizing *Anatomical Atlases*?