Question1: Write some examples of medical image modalities

Geometric

X-ray: 2D and 3D

. MR-Images: 2D, 3D, 4D, etc

Tomographic methods

Microscopic images

Standard (requires staining) –

(HMC (Huffman modulated contrast –

SPECT (Radioactive isotopes)

Ultrasound

Different artificially created images (bullseye for hearts).

Question2: What are the differences between medical images and others?

Analysis questions for a photograph are often based on a detection or

.tracking task

o In medical image, the appearance of the depicted object is not caused

.by light reflection, but from the absorption of x rays

o Medical images refer to several different technologies that are used to

view the human body to diagnose, monitor, or treat medical

.conditions

o Medical images play a vital role in dealing with the detection of

.various diseases in patients

Question3: What are Functions of Health Information Management and Medical Data Analysis?

- Delineation: the act of outlining or representing something with lines or words
- Restoration: is a process by removing blur and noise from image and get back the original form
- Enhancement: is to improve the visual appearance of an image, or to offer a "better transform representation of the image..
- Registration: is defined as a process that overlays two or more images from various imaging equipment or sensors taken at different times and angles, or from the same scene to geometrically align the images for analysis.

Question4: What is Visualization of Images?

The visualization of datasets with two or more dimensions is an important aspect of image dataset analysis and research.

o The ability to visualize the orientation, locality, or progression (time) of structures in clinical and nonclinical datasets can be vital to researchers.

Question5: What's the difference between VOI and ROI?

Another significant research activity is the quantification of data from image datasets.

o the actual quantification of the data is typically required to evaluate the researchers' hypothesis. Researchers must be able to identify regions-of-interest (ROIs) and/or volumes-of-interest (VOIs).

o An ROI is used in the context of 2D image datasets. VOI for datasets with more than two dimensions. But in this program uses the term VOI to represent both ROI and VOI.

Question6: What's the concept of Image Segmentation?
Image segmentation is the process of identifying connected regions of images as members of a common group.
o It is the process of automatic or semi-automatic detection of boundaries within a 2D or 3D image.
o In the medical field, physicians must routinely identify (i.e., segment) structures in medical image datasets to facilitate the treatment of patients.

Question7: What's MIPAV?
ü Down load the program from the website and setup it.
ü Fill out the required form – type your name and e-mail address.
ü Scroll down the page to locate and read the installation instructions provided for installing MIPAV on your workstation's platform.
ü You might choose to download the tested release version or the nightly release, which is the most recent un-tested version.

Question8: What's Image Modality?
Imaging Modality: a type of medical imaging technique that utilizes a certain physical mechanism to detect patient internal signals that reflect either anatomical structures or physiological events.
¡ Each modality is unique in terms of the images it gathers, equipment it uses, and conditions it helps radiologists diagnose.