

Q1. Positron Emission Tomography (PET) and ultrasound scans are both used in medical diagnosis. Compare the quality of the information obtained from these scans in terms of:

- patient safety and convenience
- information available to the doctor from the images.

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(Total 6 marks)

Q2.(a) During a magnetic resonance (MR) brain scan, the head of the patient is exposed to short pulses of radio frequency electromagnetic waves while in a strong magnetic field. Outline the basic principles of an MR scanner used to perform this scan.

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(3)

(b) Ultrasound is thought to be more suitable than X-rays for scanning an unborn fetus.

State **two** reasons why ultrasound is used for this application.

reason 1.....

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reason 2.....

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(2)

(Total 5 marks)