

**Name of the Student:** \_\_\_\_\_

**Max. Marks : 18 Marks**

**Time : 18 Minutes**

Q1.

Radio waves and gamma radiation are at opposite ends of the electromagnetic spectrum.

Compare how these two electromagnetic radiations are produced.

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**(Total for question = 6 marks)**

Q2.

\* Nuclear fission and nuclear fusion are two non-renewable sources of energy.  
Compare nuclear fission and nuclear fusion as possible sources of energy for generating electricity using a nuclear reactor.  
Your comparison should refer to

- the differences between nuclear fission and nuclear fusion
- the relative advantages and difficulties involved in using these sources.

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(Total for question = 6 marks)

Q3.

\* Gamma radiation is produced by radioactive decay.  
Alpha radiation and beta radiation are also produced by radioactive decay.  
Compare the processes of alpha decay and beta decay.  
Your answer should include what each radiation is and what effect each decay has on the original nucleus.

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(Total for question = 6 marks)