# **HL Paper 3**

- a. The Hershey and Chase experiment supported DNA as the hereditary material. Describe the experiment.
- b. Some regions of DNA act as telomeres or produce tRNA. State **one** other function of DNA sequences that do **not** code for protein.

### **Markscheme**

- a. a. radioactive isotopes used to label viruses/bacteriophages/phages
  - b. proteins labelled with radioactive sulphur/  $^{35}\mathrm{S}$  and DNA labelled with radioactive phosphorous/  $^{32}\mathrm{P}$
  - c. phage infects bacterium
  - d. only viral DNA enters bacterium «viral coat/capsid/shell do not»
  - e. parts of phage remaining outside bacterial cell are removed

#### OR

bacteria are separated from phage parts «by centrifuge»

f. bacteria contain the labelled/radioactive DNA

### [Max 3 Marks]

- b. a. regulate gene expression
  - b. act as promoter
  - c. role in chromosome pairing/crossing over/recombination
  - d. introns

**OWTTE** 

[Max 1 Mark]

# **Examiners report**

a [N/A

. [N/A

[3]

[1]