

Mark schemes

Q1.

- (a) screening
or
 grit removal
allow filtering to remove (large) solids 1
- sedimentation (to produce sewage sludge and effluent) 1
- anaerobic digestion of (solid sewage) sludge 1
- aerobic biological treatment of (liquid) effluent
allow aerobic digestion of effluent 1
allow a description of each process
- (b) $\text{Na}^+ : 0.003 \text{ mol/dm}^3$ $\text{Cl}^- : 0.003 \text{ mol/dm}^3$ 1
- (c) the ions pass through the filter
allow the ions are not trapped / removed by the filter 1
- (because) the ions are in solution
allow (because) the ions are smaller than the filter pores 1
- (d) (the ground water) contains microbes which are harmful (to health) 1
- (so) the water is sterilised
or
 (so) the microbes are destroyed 1
- (e) (the water is) unadulterated
or
 (the water is) in its natural state
allow nothing is added (to the water)
allow (the water) contains no microbes 1
- (f) (use) damp litmus paper 1
- (the paper) is bleached
or
 (the paper) turns white
ignore paper turns red 1
MP2 is dependent upon MP1

[12]