Q1.(a)   Describe the model now used for the structure of an atom.

In your answer you should:
•   give details of the individual particles that make up an atom
•   include the relative masses and relative charges of these particles.

Do **not** include a diagram in your answer.

_____

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(6)

Q2

How far does Priestley present society as unfair in *An Inspector Calls*?

Write about:

- what can be seen as unfair in the play
- how far Priestley presents society as unfair.

(Complete this as bullet points for this exercise)

(30)

Q3. Tuberculosis (TB) is an infection caused by bacteria.   The table below shows the number of cases of TB in different regions of southern England from 2000–2011.

Number of cases of TB per 100 000 people

Year	London	South East	South West
2000	37	5	3
2001	36	6	4
2002	42	6	6
2003	42	7	4
2004	42	7	5
2005	49	8	5
2006	44	8	3
2007	43	8	5
2008	44	8	5
2009	44	9	6
2010	42	9	5
2011	45	10	5

(i)   How does the number of cases of TB for London compare with the rest of southern England?

_____

_____

(1)

(ii)   Describe the pattern in the data for cases of TB in the South East.

_____

_____

(1)

(iii)   Describe the pattern in the data for cases of TB in the South West.

_____

_____

_____

(2)

Q1. **brief description**

contains protons, neutrons and electrons

protons are positive
electrons are negative
neutrons are uncharged

has a nucleus

relative charge

proton +1
electron − 1
neutron 0

relative mass

proton 1
neutron 1
electron (about) 1 / 2000

more detailed description

protons and neutrons make up the nucleus
electrons orbit the nucleus
electrons are in shells
most of the atom is empty space
nucleus occupies a very small fraction of the volume of the atom
electrons orbit at a relatively large distance from the nucleus
most of the mass of the atom is contained in the nucleus
the nucleus as a whole is positively charged total number of protons in the
nucleus equals the total number of electrons orbiting it in an atom

6

Q3. (b) (i) any **one** from:

- London is much higher
  or converse
- more variable / wider range
  allow 'on average it is 5 / 6 times greater'

1

(ii) increases
Included figures must be correct

1

(iii) overall slight increase
accept 'doesn't change much'

1

variable / goes up and down

1