

**01**

The particles present in four atoms are given below in the table.

Atoms	Particles in one atom		
	Neutrons	Protons	Electrons
P	10	10	10
Q	12	11	11
R	12	10	10
S	12	12	?

- (a) (i) How many electrons are there in one atom of S ?  
(ii) What is the nucleon number of S ?  
(iii) Identify atom S and give its correct symbol.
- (b) Which atoms are isotopes ?

Your solution here:

02

Use the information given below in the table to answer the following questions.

Elements	P	Q	R	S	T	U
Proton number	7	8	10	12	15	18

- Which of these elements have three filled electron shells ?
- Which of these elements have a complete outer shell ?
- Which of these elements have 5 valence electrons ?
- Which of these elements has a dual valency ?

Your solution here:

**03** The table given below shows the information of five elements P, Q, R, S and T.

Elements	Atomic number	Nucleon number	Electronic configuration
P	4	9	
Q	19	39	
R	17	35	
S	8	16	
T	18	40	

- Write the electronic configuration of elements P to T in the last column of the above table.
- Which elements are poor conductors of electricity ?
- Which element has an octet electronic structure ?
- Which element has the least number of valence electrons ?

Your solution here:

**04**

One of the isotopes of an element X has a proton (atomic) number of 16 and a nucleon (mass) number of 32.

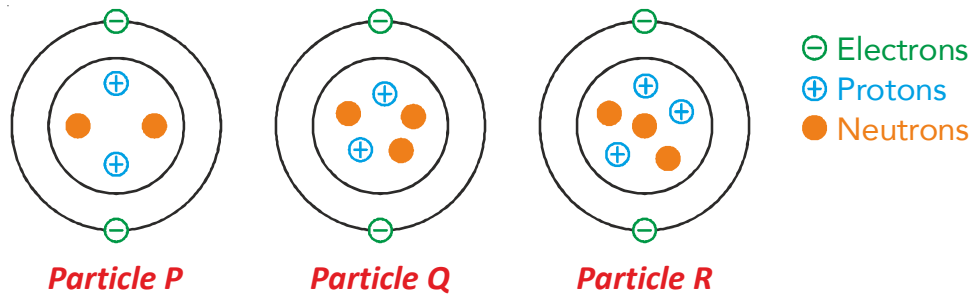
- (a) What is meant by the term isotopes ?
- (b) The other isotope is X-36. complete the table given below about this isotope

Number of protons	
Number of neutrons	
Number of electrons	
Electronic configuration	

Your solution here:

**05**

The diagrams given below show the atomic structures of different particles.



- (a) (i) Name the term that describes the relationship between particles P and Q.
- (ii) Give one similarity and one difference between particles P and Q.
- (b) (i) State one similarity of particles P, Q and R.
- (ii) Does particle R have the similar relationship with particle P the same way as particle Q with particle P in (a) (i) ? Explain your answer.

Your solution here: