PRINT

Qn No. 1 *Chapter Name:Periodic Table and electronic configuration*

Qn.
What is the oxidation state of Mn in $MnCl_2$

(Oxidation stste of Cl= -1)

(a)-1 (b) +1 (c) +2 (d) -2

Hint.
+2

Marks :(1)

Hide Answer

Qn No. 2 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Iron with atomic number 26 shows +3 oxidation state in chemical reaction.

a .Write the subshell *electronic configuration of Fe.*

b .Write the subshell *electronic configuration of the ion formed.*

c .Write whether the element can show different oxidation state. *Justify?*

Hint.
a. $1s^2 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^6\ 4s^2$

b. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5$

c. Yes .The d block elements can loose electrons from the outermost s subshell and inner d subshell

Marks :(3)

Hide Answer

Qn No. 3 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Analyse the table and answer the questions

Element (Symbols are not real)	Atomicnumber
P	11
Q	18
R	16
S	26

a . Which of the above is a first group element ?

b . Which is the valency of R?

c . Give the formula of the compound when P combines with R ?

d . Which of the above shows different oxidation state ?

Hint.
a. P

b. 2

c. P_2R

d. S

Marks :(4)

Hide Answer

Qn No. 4 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Match the following

A	B	C
$_{20}Ca$	$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$	*p*- block
$_{17}Cl$	$[Ar]\ 3d^6\ 4s^2$	*f*- block
$_{26}Fe$	$[Ar]\ 4s^2$	*d*- block
		s-block

Hint.

A	B	C
$_{20}Ca$	$[Ar]\ 4s^2$	*s*-block
$_{17}Cl$	$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$	*p*- block
$_{26}Fe$	$[Ar]\ 3d^6\ 4s^2$	*d*-block

Marks :(3)

Hide Answer

Qn No. 5 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Subshell *electronic configuration of two elements are given .To which block ,period and group does each belong*

(a) $1s^2\ 2s^2\ 2p^6\ 3s^2$ **(b) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^3\ 4s^2$**

Hint.
a.

block- s

***period*- 3**

***group*- 2**

b.

***block* - d**

.

period- **4**

group - 5

Marks :(3)

Hide Answer

Qn No. 6 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
The outermost *electronic configuration of an element is* $3s^2\ 3p^4$

a . Write the complete *electronic configuration*

b . What is the valency of this element?

c .Is it a metal or a non -metal? Justify your answer

Hint.
a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$

b. 2

c .Non-metal

It gains two electrons in chemical reaction and attains stability.

Marks :(4)

Hide Answer

Qn No. 7 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Analyse the table and answer the questions

Elements (symbols are not real)	Atomic number
Elements (symbols are not real)	Atomic number
P	11
Q	18
R	17
S	26

a . Write the subsell *electronic configuration of S.To which block does it belong?*

b . Which is an inert gas ?

c . Which of the above is a s block element?

Hint.

a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^6\ 4s^2$, d- ബ്ലോക്ക്

b. Q

c. P

Marks :(4)

Hide Answer

Qn No. 8 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
How many electrons can be accommodated in f subshell?

(a) 10 **(c) 6**

(b) 7 **(d) 14**

Hint.
(d) 14

Marks :(1)

Hide Answer

Qn No. 9 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Which are the subshells present in L shell

a. *s,p,d*

b. *s,p,d,f*

c. *s*

d. *s,p*

Hint.
d (*s,p*)

Marks :(1)

Hide Answer

Qn No. 10 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Arrange the subshell in the correct oder of electron filling?

4s 3d 2p 3s 2s 1s 3p 4p

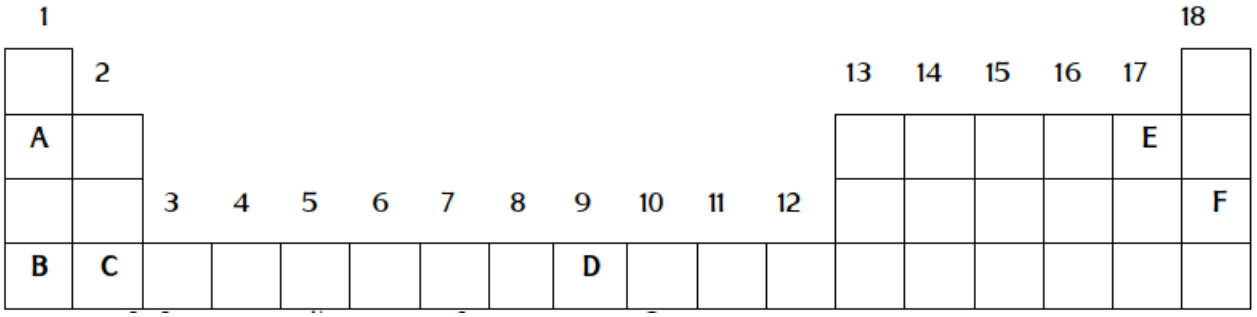
Hint.
1s 2s 2p 3s 3p 4s 3d 4p

Marks :(1)

Hide Answer

Qn No. 11 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Part of the *Periodictable is given (symbols are not real)*



a . Which are the s block elements?

b .Which may form coloured compounds ?

c . Which is the least reactive metal in group 1 ?

d . Find the element with only 1 electron in 4s subshell ?

Hint.
a. A , B, C

b. D

c. A

d. B

Marks :(4)

Hide Answer

Qn No. 12 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
The d subshell of an element with 4 shells is completely filled and there are two electrons in the 4^{th} shell

a .How many electrons can be accommodated in d sub shell ?

b.Write the subshell electronic configuration of the element.

Hint.
a. 10

b. $1s^2$ $2s^2$ $2p^6$ $3s^2$ $3p^6$ $3d^{10}$ $4s^2$

Marks :(2)

Hide Answer

Qn No. 13 *Chapter Name:Periodic Table and electronic configuration*

Qn.
The oxidation state shown by an element of the second period is -2

a.How many electrons are there in the outer most shell of this element?

b.Write down the s*ubshell electronic configuration of the element.*

Hint.
a. 6

b. $1s^2\ 2s^2\ 2p^4$

Marks :(2)

Hide Answer

Qn No. 14 *Chapter Name:Periodic Table and electronic configuration*

Qn.
There are 7 electrons in the third shell of an element

a. Write its subshell *electronic configuration,*

b. Find the group and block of this element

Hint.
a.$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$

b. group- 17, block - p

Marks :(2)

Hide Answer

Qn No. 15 *Chapter Name:Periodic Table and electronic configuration*

Qn.
The electronic configuration of Chromium ($_{24}$ Cr) written as [Ar] $3d^4\ 4s^2$

Is it correct? Give reason

Hint.
Not correct. Half filled subshell give more stability. So the electronic configuration willbe [Ar]$3d^5 4s^1$

Marks :(2)

Hide Answer

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Qn No. 16 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Match the following.

A	B	C
s- block	Electron filling occurs in the penultimate shell	Inner transition metals
p-block	Lanthanoids	Low ionisation energy
d- block	High Electronegativity	Elements in three states
f- block	Reactive metals	transition metals

Hint.

A	B	C
s- block	Reactive metals	Low ionisation energy
p-block	High Electronegativity	Elements in three states
d- block	Electron filling occurs in the penultimate shell	transition metals
f-block	Lanthanoids	Inner transition metals

Marks :(4)

Hide Answer

Qn No. 17 *Chapter Name:Periodic Table and electronic configuration*

Qn.
The element A belong to second period and 17th group and the element B belong third period and second group of the periodic table.(Symbols shown are not real)

a .Write the subshell electronic configuration of A

b . To which block does B belong? Whatis its valency?

c . Give the formula of the compound by A and B

Hint.
a - $1s^2\ 2s^2\ 2p^5$

b - block - s

valency- 2

c - BA_2

Marks :(4)

Hide Answer

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Qn No. 18 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Which of the following is not a *charateristics of p block elements*?

a .High electronegativity

b .Belongs to 13 to 18 group.

c . High ionisation energy

d . High metallic nature

Hint.d ***Marks :(1)***

Hide Answer

Qn No. 19 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Which of the following electronic configuration is that of an inert gas?

a,$1s^2\ 2s^2\ 2p^4$

b,$1s^2\ 2s^2\ 2p^6$

c,$1s^2\ 2s^2\ 2p^6\ 3s^2$

d,$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^2$

Hint.
b

Marks :(1)

Hide Answer

Qn No. 20 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Analyse the subshell electronic configuration and answer the questions

(Symbols are not real)

A - [Ne] $3s^2\ 3p^2$

B - [Ne] $3s^2$

C -[Ar] $4s^1$

D -[Ar] $4s^2\ 3d^2$

a .Which of the above has highest ectronegativity?

b . Which element shows different oxidation state?

c .How many p electrons are there in the atom C?

d . Which has the lowest ionisation energy?

.

Hint.
a. A

b. D

c. 12

d. C

Marks :(4)

Hide Answer

Qn No. 21 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Complete the table

Electronicconfiguration	State	Period	Group
[Ne] $3s^2$	solid	3	(a)
[Ar] $3d^3\ 4s^2$	(b)	(c)	5
[Ar] $4s^1$	solid	(d)	(e)
[Ne] $3s^2\ 3p^6$	(f)	3	18

Hint.
a. 2

b.solid

c. 4

d. 4

e. 1

f. gas

Marks :(3)

Hide Answer

Qn No. 22 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
The atomic number of A,B,C and D are 12,17,19 and 25 respetively (Symbols are not real)

a . write the subshell *electronic configuration of B*

b . Find the group and block of D

c .Which among the above shows -1 oxidation state?

d. Write the subshell electronic configuration of D

Hint.
a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$

b. block- d ; group - 7

c. B

d. $1s^2\ 2s^2\ 2p^6 3s^2\ 3p^6 3d^5 4s^2$

Marks :(4)

Hide Answer

Qn No. 23 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Subshell electronic configuration of some elements are given

(symbols are not real)

A - [Ne] $3s^1$

B - [Ar] $4s^2$

C - [Ar] $3d^6\ 4s^2$

D - [Ne] $3s^2\ 3p^4$

a .What is the atomic number of B?

b . Which among the above has the highest electronegativity ?

c . Name the element,the oxide of which shows acidic nature?

d .Which of the above elements form coloured compound?

Hint.
a) 20

b) D

c) D

d) C

Marks :(4)

Hide Answer

Qn No. 24 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Atomic number of the element of X is 25.The oxides are X_2O_3 and X_2O_5

a . Write down the subshell electronic configuration of X?

b. What is the oxidation state of X in X_2O_3 ?

(oxidation number of oxygen is -2)

c . To which period and block does this element belong?

Hint.
a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5\ 4s^2$

b. +3

c. Group - 7

period - 4

Marks :(4)

Hide Answer

Qn No. 25 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Subshell electronic configuration **of some elements are given(Symbols are not real)**

A - $1s^2\ 2s^2\ 2p^4$

B - $1s^2\ 2s^2\ 2p^6\ 3s^1$

C - $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1$

D - $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^6\ 4s^2$

a Find the atomic number of B

b . Which subshell in D has the highest energy?

c . To which period does C belong?

d .Write theformula of the compound formed by A and B

Hint.
a. 11

b. 3d

c. 4

d. B_2A

Marks :(4)

Hide Answer

Qn No. 26 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
• The element Z has 2 Shells

• It always shows -1 oxidation state

a .Write the subshell electronic configuration of the element

b . Find the block and group of this element

cWrite the formula of the compound formed when it reacts with Aluminium

(Valency of Al = 3)

Hint.
a. $1s^2\ 2s^2\ 2p^5$

b. block - p

Group - 17

c. AlZ_3

.

Marks :(3)

Hide Answer

Qn No. 27 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Complete the table related with the oxides of manganese(Atomic No;Mn=25)

Compound	Oxidation state of Mn	Subshell electronic configuration of manganese ion
MnO_2	+4	(a)
Mn_2O_3	(b)	$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^4$
(c)	+7	$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$

Hint.
a.$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^3$

b. +3

c. Mn_2O_7

Marks :(3)

Hide Answer

Qn No. 28 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Analysis the given electronic configurations and answer the questions

(Symbols given are not real)

A -$1s^2\ 2s^2\ 2p^6 3s^2 3p^5$

B -$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^1$

C -$1s^2\ 2s^2\ 2p^6\ 3s^1$

D -$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$

i) .Which among the above is the biggest atom?

ii) . Which element normally shows +1 oxidation state?

iii). Write the formula of the compound formed by A and B

***iv) Which one of the above is s block element*?**

Hint.
i) C

ii) C

iii) BA_3

iv) C

Marks :(4)

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Hide Answer

Qn No. 29 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Find the relation and fill up

[Ne] $3s^2$ $3p^4$: Group 16 [Ar] $3d^3$ $4s^2$: Group ___

Hint.
Group - 5

Marks :(1)

Hide Answer

Qn No. 30 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Some *Characteristic of Manganese are given*

● There are 4 shells.

●Last 5 electrons enter d subshell

a . Write the subshell electronic configuration of manganese

(Oxidation number: O = -2)

b .Write the subshell electronic configuration of manganese ion in MnO_2.

c .Write any two characteristics of the block to which this element belongs.

Hint.
a. $1s^2$ $2s^2$ $2p^6$ $3s^2$ $3p^6$ $3d^5$ $4s^2$

b. $1s^2$ $2s^2$ $2p^6$ $3s^2$ $3p^6$ $3d^3$

c. any two *Characteristics of d block*

Marks :(4)

Hide Answer

Qn No. 31 *Chapter Name:Periodic Table and electronic configuration*

Qn.
The element Y shows oxidation numbers +2, +3

a . Name the block to which Y may belong ?

b: Write the formula of any chloride of Y

.

(Hint:Valency of Chiorine- 1)

Hint.
a. *d*- block

b. YCl_2 or YCl_3

Marks :(2)

Hide Answer

Qn No. 32 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
The Atomic number of Iron is 26 and shows +3 oxidation state when it combines with oxygen(valency of oxygen=2)

a . Write the formula of the compound

***b* . Write the subshell electronic configuaration of Fe^{3+}**

Hint.
a. Fe_2O_3

b. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5$

Marks :(3)

Hide Answer

Qn No. 33 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Analyse the given subshell electronic configuaration and answer the question

A - $1s^2\ 2s^2\ 2p^6$

B - $1s^2\ 2s^2\ 2p^6\ 3s^2 3p^4$

C - $1s^2 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^6\ 4s^2$

D - $1s^2\ 2s^2\ 2p^6\ 3s^2$

a. Which is the element that shows -2 oxidation number?

b. Which is the element that does not take part in chemical reaction ?

c. Which element shows different oxidation states?

Hint.
a. B

b. A

c. C

Marks :(3)

Hide Answer

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Qn No. 34 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Question: Third shell of an element X contains 6 electrons.

a. Write down the subshell electronic configuration of the element

b.Find the block and the group of the element.

c.Write the subshell electronic configuration of the element of the

same group with two subshells in its outer most shell.

Hint.
a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^4$

b. *p* -Block, Group- 16

c. $2s^2\ 2p^4$

Marks :(3)

Hide Answer

Qn No. 35 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Of the given two subshell elecrtonic configuration of an element A

(symbol is not real)

i) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^1$

ii)$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1$

a. Find the correct elecrtonic configuration of the element “A”

b. To which blockof the periodictable does this element belong ?

c. Write the formula of the oxide of this element

(Valency : Oxygen= 2)

Hint.
a. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 4s^1$

b. *s* - Block

c. A_2O

Marks :(3)

Hide Answer

Qn No. 36 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Complete the table (Symbols are not real)

Elements	Subshell electronic configuration	Period number	Group number
A	$1s^2\ 2s^2$	2	2
B	$1s^2\ 2s^2\ 2p^1$	2	(a)
C	(b)	3	17
D	$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^2\ 4s^2$	(c)	4

Hint.
a. 13

b. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$

c. 4

Marks :(3)

Hide Answer

Qn No. 37 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Some subshells are given.Find out the subshells which are not possible

(3s, 1p, 3f, 3d)

Hint.
1p , 3f

Marks :(1)

Hide Answer

Qn No. 38 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Which of the following elements have half filled p sub shell?

a) $_7$N b)$_{13}$Al c)$_5$B d) $_{15}$P

Hint.
a) $_7$N d) $_{15}$P

Marks :(2)

Hide Answer

Qn No. 39 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
Some electronic configurations are given below.

a)$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$

b)$1s^2 2s^2 2p^4$

c)$1s^2 2s^2 2p^6 3s^2 3p^5$

d)$1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10}\ 4s^1$

a)Which among the above is the smallest atom?

b)Which of the above is the configuration of Ca^{2+} ion

(Atomic number of Ca=20)

c)Why calcium looses 2 electrons in chemical reaction. Explain on the basis of above configuration?

d)which among the above shows -1 oxidation state?

Hint.
a) $1s^2 2s^2 2p^4$

b $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6$

c)On loosing 2 electrons it attains inert gas configuration.

d) $1s^2 2s^2 2p^6 3s^2 3p^5$

Marks :(4)

Hide Answer

Qn No. 40 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Match suitably

A	B
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$	Shows different oxidation states
$1s^2\ 2s^2\ 2p^6$	More reactive Metal
$1s^2\ 2s^1$	High ionisation energy
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5\ 4s^2$	Non-metals

Hint.

A	B
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^5$	Non-metals
$1s^2\ 2s^2\ 2p^6$	High ionisation energy
$1s^2\ 2s^1$	Metal
$1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5\ 4s^2$	Shows different oxidation states

Marks :(2)

Hide Answer

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Qn No. 41 *Chapter Name:Periodic Table and electronic configuration*

Qn.
The last electron of an atom enters the 3d sub shell.There are 3 electrons in it.

a) How many electrons are there in the outer most shell?

b) Write the subshell electronic configuration of this element?

c) Write any two characteristics of the block to which it belongs.

Hint.
a) 2

b) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^3\ 4s^2$

c) Different oxidation states/ Forms coloured compounds/ Show similar properties in groups and properties/ All are metals (Any two)

Marks :(4)

Hide Answer

Qn No. 42 *Chapter Name:Periodic Table and electronic configuration*

Qn.
Correct the wrong statements if any.

a) As distance from nucleus increaes energy of shells decreases.

b) Electron filling occurs in the increasing order of energy.

c) As distance increases attraction between the nucleus and electron decreases.

d) Number of subshells in a shell will always be greater than the shell number

Hint.
a) As distance from nucleus increaes energy of shells increases.

d) Number of subshells in a shell will always be equal to the shell number

Marks :(2)

Hide Answer

Qn No. 43 *Chapter Name:Periodic Table and electronic configuration*

Qn.

A part of the periodic table is given below(Symbols are not real)

	P [Ne]$3s^2 3p^4$	
	Q	R

a . To which block does P,Q,R belong?

b .To which period and group does Q belong?

c . Write the subshell electronic configuration of R.

Hint.
a. Block -*p*

b. Group - 16

Period- 4

c. [Ar] $3d^{10}$ $4s^2$ $4p^5$

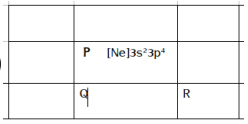
Marks :(4)

Hide Answer

Qn No. 44 ***Chapter Name:Periodic Table and electronic configuration***

Qn.

A part of the periodic table is given below(Symbols are not real)



a . To which block does P,Q,R belong?

b .To which period and group does Q belong?

c . Write the subshell electronic configuration of R.

Hint.
a. Block -*p*

b. Group - 16

Period- 4

c. [Ar] $3d^{10}$ $4s^2$ $4p^5$

Marks :(4)

Hide Answer

Qn No. 45 ***Chapter Name:Periodic Table and electronic configuration***

Qn.
The subshell electronic configuration of an element is $1s^2$ $2s^2$ $2p^6$ $3s^2$ $3p^5$.

a) How many 'p'electrons are there in it?

b)What is its atomoc number?

c)Is it a metal or a non metal.Justify.

Hint.
a)11

b)17

c) Non metal.

As it has 7 electrons in its outermost shell/ 5 electrons in outer most p subshell,it gains 1 electron in chemical reaction.So it is a non metal.

Marks :(4)

Hide Answer

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