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[NPTEL \(https://swayam.gov.in/explorer?ncCode=NPTEL\)](https://swayam.gov.in/explorer?ncCode=NPTEL) » [Basics in Inorganic Chemistry \(course\)](#)
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Unit 6 - Week 4

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

- Lecture 15 : Spectroscopic Term Symbol (unit? unit=13&lesson=19)

- Lecture 16 : Magnetic States of Matter: Paramagnetic, Ferro and Antiferromagnetic (unit? unit=13&lesson=20)

- Lecture 17 : Introduction to Bio-Inorganic

Week 4 : Assignment 4

The due date for submitting this assignment has passed. **Due on 2020-02-26, 23:59 IST.**
As per our records you have not submitted this assignment.

1) The lowest energy term for the d^6 configuration is

1 point

- $2D$
 $5D$
 $1P$
 $1D$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$5D$

2) The magnetic moment of an octahedral Co(II) complex is 4.0 B.M. The d-electron configuration of Co(II) is

1 point

- $t_{2g}^4 e_g^3$
 $t_{2g}^5 e_g^2$
 $t_{2g}^6 e_g^1$
 $t_{2g}^3 e_g^4$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$t_{2g}^5 e_g^2$

3) What is the atomic term symbol for helium atom with electronic configuration $1s^2$?

1 point

- $2S_{1/2}$

Chemistry (unit?
unit=13&lesson=21)

Lecture 18 :
Metalloprotein
(Hb, Mb,
Transferrin) and
Metalloenzyme
(Plastocyanin)
(unit?
unit=13&lesson=22)

Lecture 19 :
Oxygen
Transportation
Mechanism
(unit?
unit=13&lesson=23)

Download
Videos (unit?
unit=13&lesson=64)

Weekly
Feedback (unit?
unit=13&lesson=65)

Quiz : Week 4 :
Assignment 4
(assessment?
name=67)

Text Transcripts

- $1P_0$
 $1S_0$
 $1S_1$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$1S_0$

4) For the electronic configuration $1s^22s^22p^4$, two of the possible term symbols are $1S$ and $3P$. The remaining term is **1 point**

- $1D$
 $1F$
 $3D$
 $3F$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$1D$

5) Which statement is incorrect about myoglobin? **1 point**

- myoglobin transports oxygen
 the five-coordinate ferrous deoxy form is high spin
 the six coordinate oxy form is low spin
 myoglobin contains 154 amino acids

No, the answer is incorrect.

Score: 0

Accepted Answers:

myoglobin transports oxygen

6) In biological systems, the metal ions involved in electron transport are **1 point**

- Na^+ and K^+
 Zn^{2+} and Mg^{2+}
 Ca^{2+} and Mg^{2+}
 Cu^{2+} and Fe^{3+}

No, the answer is incorrect.

Score: 0

Accepted Answers:

Cu^{2+} and Fe^{3+}

7) Oxymyoglobin Mb(O₂) and oxyhemoglobin Hb(O₂)₄, respectively are **1 point**

- paramagnetic and paramagnetic
 diamagnetic and paramagnetic
 diamagnetic and diamagnetic
 paramagnetic and diamagnetic

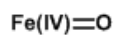
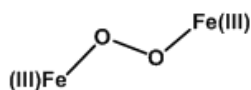
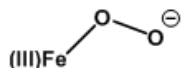
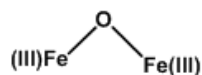
No, the answer is incorrect.

Score: 0

Accepted Answers:

diamagnetic and diamagnetic

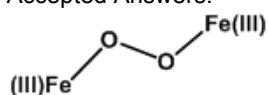
8) In absence of bound globin chain, heme group on exposure to O₂ gives the iron-oxygen species **1 point**



No, the answer is incorrect.

Score: 0

Accepted Answers:



9) The Fe-N_{porphyrin} bond distances in the deoxy and oxy-hemoglobin, respectively are **1 point**

- ~2.1 and 2.0 Å
- ~2.0 and 2.0 Å
- ~2.2 and 2.3 Å
- ~2.3 and 2.5 Å

No, the answer is incorrect.

Score: 0

Accepted Answers:

~2.1 and 2.0 Å

10) The zero magnetic moment of octahedral [K₂NiF₆] is due to **1 point**

- low spin d⁶ Ni(IV) complex

- high spin d^6 Ni(IV) complex
- low spin d^8 Ni(II) complex
- high spin d^8 Ni(II) complex

No, the answer is incorrect.

Score: 0

Accepted Answers:

low spin d^6 Ni(IV) complex