

**Code No: 58080**

**Set No. 1**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**IV B.Tech. II Sem., II Mid-Term Examinations, April-2014**

**NUCLEAR METALLURGY**

**Objective Exam**

**Name:** \_\_\_\_\_ **Hall Ticket No.**

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**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

**I. Choose the correct alternative:**

1. \_\_\_\_\_ is an impurity in zirconium, which should be separated. [      ]  
A) Uranium                      B) Graphite      C) Hafnium                      D) Thorium
2. Which of these are used as cladding materials? [      ]  
A) Stainless steel              B) Zirconium              C) Ceramics      D) All
3. In power reactors, the materials through which the heat flows must possess \_\_\_\_\_ properties. [      ]  
A) High heat conductivity                      B) High electrical conductivity  
C) Low thermal conductivity                      D) High tensile strength
4. Gas centrifuge process is used to enrich [      ]  
A) Molybdenum                      B) Beryllium                      C) Thorium      D) Uranium
5. Boiling point of plutonium is \_\_\_\_\_ °C [      ]  
A) 2322              B) 2433              C) 2533                      D) 2653
6. Pure thorium metal resembles \_\_\_\_\_ in appearance. [      ]  
A) Steel              B) Silver              C) Aluminium                      D) Gold
7. The moderator used in Power breeder reactor is [      ]  
A) Heavy water              B) Air              C) Water              D) None
8. \_\_\_\_\_ is used as a cladding fuel element. [      ]  
A) Hafnium                      B) Molybdenum                      C) Beryllium      D) Plutonium
9. \_\_\_\_\_ is not used as a fertile material for producing U-233. [      ]  
A) Molybdenum              B) Beryllium              C) Thorium      D) Plutonium
10. \_\_\_\_\_ is a valuable breeder material for the supply of fissile material. [      ]  
A) Uranium                      B) beryllium                      C) Thorium      D) Zirconium

**Cont.....2**

**II Fill in the Blanks:**

11. A special type of thermal stress called \_\_\_\_\_ arises when reactors starts up, shut down or changes its power level.
12. Tubes for nuclear reactors are produced from \_\_\_\_\_.
13. \_\_\_\_\_ is the principal ore of zirconium.
14. Thorium offers a very \_\_\_\_\_ resistance to corrosion.
15. \_\_\_\_\_ is obtained as byproduct in the process used for making control rods.
16. Chlorination of zirconium oxide will give \_\_\_\_\_.
17. Sometimes cermet are more advantageous fuel, because they are more resistant to \_\_\_\_\_.
18. The chemical formula of Beryl is \_\_\_\_\_.
19. \_\_\_\_\_ process is the one of the processes in extraction of beryllium from beryl.
20. Materials of construction for reactors must possess good \_\_\_\_\_.

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Set No. 2

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

IV B.Tech. II Sem., II Mid-Term Examinations, April-2014

NUCLEAR METALLURGY

Objective Exam

Name: \_\_\_\_\_ Hall Ticket No. 

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

**I. Choose the correct alternative:**

1. Gas centrifuge process is used to enrich \_\_\_\_\_ [      ]  
A) Molybdenum                      B) Beryllium                      C) Thorium                      D) Uranium
2. Boiling point of plutonium is \_\_\_\_\_ °C [      ]  
A) 2322                      B) 2433                      C) 2533                      D) 2653
3. Pure thorium metal resembles \_\_\_\_\_ in appearance. [      ]  
A) Steel                      B) Silver                      C) Aluminium                      D) Gold
4. The moderator used in Power breeder reactor is [      ]  
A) Heavy water                      B) Air                      C) Water                      D) None
5. \_\_\_\_\_ is used as a cladding fuel element. [      ]  
A) Hafnium                      B) Molybdenum                      C) Beryllium                      D) Plutonium
6. \_\_\_\_\_ is not used as a fertile material for producing U-233. [      ]  
A) Molybdenum                      B) Beryllium                      C) Thorium                      D) Plutonium
7. \_\_\_\_\_ is a valuable breeder material for the supply of fissile material. [      ]  
A) Uranium                      B) beryllium                      C) Thorium                      D) Zirconium
8. \_\_\_\_\_ is an impurity in zirconium, which should be separated. [      ]  
A) Uranium                      B) Graphite                      C) Hafnium                      D) Thorium
9. Which of these are used as cladding materials? [      ]  
A) Stainless steel                      B) Zirconium                      C) Ceramics                      D) All
10. In power reactors, the materials through which the heat flows must possess \_\_\_\_\_ properties. [      ]  
A) High heat conductivity                      B) High electrical conductivity  
C) Low thermal conductivity                      D) High tensile strength

**Cont.....2**

**II Fill in the Blanks:**

11. Thorium offers a very \_\_\_\_\_ resistance to corrosion.
12. \_\_\_\_\_ is obtained as byproduct in the process used for making control rods.
13. Chlorination of zirconium oxide will give \_\_\_\_\_.
14. Sometimes cermet are more advantageous fuel, because they are more resistant to \_\_\_\_\_.
15. The chemical formula of Beryl is \_\_\_\_\_.
16. \_\_\_\_\_ process is the one of the processes in extraction of beryllium from beryl.
17. Materials of construction for reactors must possess good \_\_\_\_\_.
18. A special type of thermal stress called \_\_\_\_\_ arises when reactors starts up, shut down or changes its power level.
19. Tubes for nuclear reactors are produced from \_\_\_\_\_.
20. \_\_\_\_\_ is the principal ore of zirconium.

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Set No. 3

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

IV B.Tech. II Sem., II Mid-Term Examinations, April-2014

NUCLEAR METALLURGY

Objective Exam

Name: \_\_\_\_\_ Hall Ticket No. 

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**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.**

**I. Choose the correct alternative:**

1. Pure thorium metal resembles \_\_\_\_\_ in appearance. [      ]  
A) Steel              B) Silver              C) Aluminium              D) Gold
2. The moderator used in Power breeder reactor is [      ]  
A) Heavy water              B) Air              C) Water              D) None
3. \_\_\_\_\_ is used as a cladding fuel element. [      ]  
A) Hafnium              B) Molybdenum              C) Beryllium              D) Plutonium
4. \_\_\_\_\_ is not used as a fertile material for producing U-233. [      ]  
A) Molybdenum              B) Beryllium              C) Thorium              D) Plutonium
5. \_\_\_\_\_ is a valuable breeder material for the supply of fissile material. [      ]  
A) Uranium              B) beryllium              C) Thorium              D) Zirconium
6. \_\_\_\_\_ is an impurity in zirconium, which should be separated. [      ]  
A) Uranium              B) Graphite              C) Hafnium              D) Thorium
7. Which of these are used as cladding materials? [      ]  
A) Stainless steel              B) Zirconium              C) Ceramics              D) All
8. In power reactors, the materials through which the heat flows must possess \_\_\_\_\_ properties. [      ]  
A) High heat conductivity              B) High electrical conductivity  
C) Low thermal conductivity              D) High tensile strength
9. Gas centrifuge process is used to enrich [      ]  
A) Molybdenum              B) Beryllium              C) Thorium              D) Uranium
10. Boiling point of plutonium is \_\_\_\_\_ °C [      ]  
A) 2322              B) 2433              C) 2533              D) 2653

**Cont.....2**

**II Fill in the Blanks:**

11. Chlorination of zirconium oxide will give \_\_\_\_\_.
12. Sometimes cermet is more advantageous fuel, because they are more resistant to \_\_\_\_\_.
13. The chemical formula of Beryl is \_\_\_\_\_.
14. \_\_\_\_\_ process is the one of the processes in extraction of beryllium from beryl.
15. Materials of construction for reactors must possess good \_\_\_\_\_.
16. A special type of thermal stress called \_\_\_\_\_ arises when reactors starts up, shut down or changes its power level.
17. Tubes for nuclear reactors are produced from \_\_\_\_\_.
18. \_\_\_\_\_ is the principal ore of zirconium.
19. Thorium offers a very \_\_\_\_\_ resistance to corrosion.
20. \_\_\_\_\_ is obtained as byproduct in the process used for making control rods.

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Set No. 4

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NUCLEAR METALLURGY

Objective Exam

Name: \_\_\_\_\_ Hall Ticket No. 

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Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.

**I. Choose the correct alternative:**

1. \_\_\_\_\_ is used as a cladding fuel element. [      ]  
A) Hafnium                      B) Molybdenum                      C) Beryllium    D) Plutonium
2. \_\_\_\_\_ is not used as a fertile material for producing U-233. [      ]  
A) Molybdenum                      B) Beryllium                      C) Thorium    D) Plutonium
3. \_\_\_\_\_ is a valuable breeder material for the supply of fissile material. [      ]  
A) Uranium                      B) beryllium                      C) Thorium    D) Zirconium
4. \_\_\_\_\_ is an impurity in zirconium, which should be separated. [      ]  
A) Uranium                      B) Graphite    C) Hafnium                      D) Thorium
5. Which of these are used as cladding materials? [      ]  
A) Stainless steel                      B) Zirconium                      C) Ceramics    D) All
6. In power reactors, the materials through which the heat flows must possess \_\_\_\_\_ properties. [      ]  
A) High heat conductivity                      B) High electrical conductivity  
C) Low thermal conductivity                      D) High tensile strength
7. Gas centrifuge process is used to enrich [      ]  
A) Molybdenum                      B) Beryllium                      C) Thorium    D) Uranium
8. Boiling point of plutonium is \_\_\_\_\_ °C [      ]  
A) 2322                      B) 2433                      C) 2533                      D) 2653
9. Pure thorium metal resembles \_\_\_\_\_ in appearance. [      ]  
A) Steel                      B) Silver                      C) Aluminium                      D) Gold
10. The moderator used in Power breeder reactor is [      ]  
A) Heavy water                      B) Air                      C) Water                      D) None

**Cont.....2**

**II Fill in the Blanks:**

11. The chemical formula of Beryl is \_\_\_\_\_.
12. \_\_\_\_\_ process is the one of the processes in extraction of beryllium from beryl.
13. Materials of construction for reactors must possess good \_\_\_\_\_.
14. A special type of thermal stress called \_\_\_\_\_ arises when reactors starts up, shut down or changes its power level.
15. Tubes for nuclear reactors are produced from \_\_\_\_\_.
16. \_\_\_\_\_ is the principal ore of zirconium.
17. Thorium offers a very \_\_\_\_\_ resistance to corrosion.
18. \_\_\_\_\_ is obtained as byproduct in the process used for making control rods.
19. Chlorination of zirconium oxide will give \_\_\_\_\_.
20. Sometimes cermets are more advantageous fuel, because they are more resistant to \_\_\_\_\_.