

Unit 14 - Week 12:Waste Management

Course outline

How does an NPTEL online course work?

Week 0 : Prerequisite

Week 1: Fundamentals of Nuclear Power

Week 2 : Radioactivity and nuclear Reactions

Week 3 : Nuclear Fission

Week 4:Chain Reaction in Reactors

Week 5 : Reactor Thermalhydraulics

Week 6:Reactor Control

Week 7:Thermal Reactors

Week 8:Breeder Reactors

Week 9:Nuclear Fusion

Week 10:Biological Effects of Radiation

Week 11:Reactor Safety & Security

Week 12:Waste Management

● Lec 1:Waste classification & Disposal of Mill Tailings

● Lec 2:Disposal methodologies for HLW & IMW

○ Quiz : Assessment 12

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Assessment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-04-22, 23:59 IST.

1) The maximum level of activity allowed for low-level waste is

1 point

- 12 kBq/t
- 12 MBq/t
- 12 GBq/t
- 12 TBq/t

No, the answer is incorrect.
Score: 0

Accepted Answers:
12 GBq/t

2) Major contribution towards the activity of nuclear mill tailings comes from the radioactive decay of

1 point

- U-233
- U-234
- U-235
- U-238

No, the answer is incorrect.
Score: 0

Accepted Answers:
U-238

3) Which acid is commonly used during heap leach recovery process?

1 point

- acetic acid
- sulphuric acid
- phosphoric acid
- nitric acid

No, the answer is incorrect.
Score: 0

Accepted Answers:
sulphuric acid

4) Rn-222 is a highly radioactive isotope with a half-life of about 3.82 days. Its primary mode of decay is

1 point

- β^+ decay
- β^- decay
- α decay
- γ emission

No, the answer is incorrect.
Score: 0

Accepted Answers:
 α decay

5) The isotope of Radon primarily responsible for lung cancer is

1 point

- Rn-226
- Rn-222
- Rn-220
- Rn-218

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rn-222

6) When a high energy (> 2MeV) γ -photon strikes a nucleus, the most probable kind of interaction is

1 point

- pair production
- photoelectric effect
- Compton effect
- any of the above, depending on nucleus

No, the answer is incorrect.
Score: 0

Accepted Answers:
pair production

7) Mill tailings are generally deposited under water to

1 point

- avoid oxidation
- provide radiation shielding
- avoid blowing with dust
- facilitate all of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
facilitate all of the above

8) Among the followings, which one can be classified as a high-level radioactive waste?

1 point

- scrapped control rods
- waste liquid from reprocessing plant
- concrete structure after decommission of plant
- solidified waste from reactor core

No, the answer is incorrect.
Score: 0

Accepted Answers:
waste liquid from reprocessing plant

9) _____ tailing pond requires the largest volume of sand for its construction among the three designs.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) downstream

1 point

10) Delay-and-decay mode of disposal is most suitable for _____ level nuclear waste.

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: String) intermediate

1 point