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NPTEL (https://swayam.gov.in/explorer?ncCode=NPTEL) » Energy Resources, Economics and Environment (course)

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Course outline

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How does an NPTEL online course work? ()

Week 1 - Introduction ()

Week 2 - Energy and quality of life,

Week 10 : Assignment 10

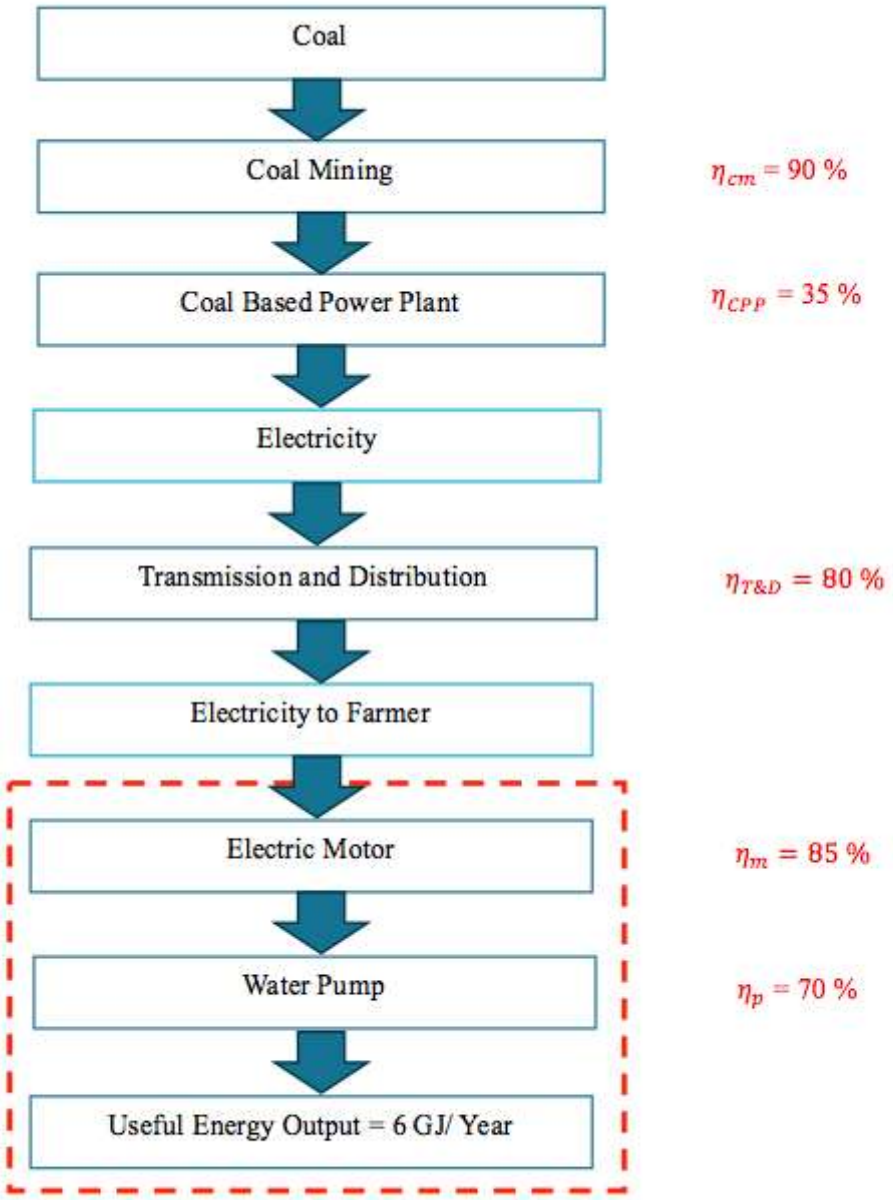
The due date for submitting this assignment has passed.

Due on 2025-04-02, 23:59 IST.

Assignment submitted on 2025-04-02, 09:44 IST

Linked Questions: Refer the below energy flow diagram to answer the questions that follow from Q1 – to Q6.

Note: The energy flow diagram is based on yearly basis. The symbol (η) is used for efficiency.



1) The energy input to the electric motor in GJ is _____. (Enter answer up to second decimal places)

10.08

Yes, the answer is correct.
Score: 1

Accepted Answers:
(Type: Range) 10.03 , 10.13

1 point

2) What is the electricity supplied to the farmer in kWh? ***1 point***

- 2400 kWh
- 2800 kWh
- 3000 kWh
- 3200 kWh

Yes, the answer is correct.
Score: 1
Accepted Answers:
2800 kWh

3) What will be the overall efficiency of the energy flow diagram _____%. (Enter answer up to second decimal places)

14.99

Yes, the answer is correct.
Score: 1
Accepted Answers:
(Type: Range) 14.95 , 15.05

1 point

4) What will be the input primary energy required in GJ? (Enter answer up to second decimal places).

40.03

Yes, the answer is correct.
Score: 1
Accepted Answers:
(Type: Range) 39.94 , 40.06

1 point

5) If the calorific value of coal is 4550 kcal/kg, the amount of coal needed annually is: ***1 point***

- 7413 kg
- 2104 kg
- 3981 kg
- 2463 kg

Yes, the answer is correct.
Score: 1
Accepted Answers:
2104 kg

6) If used coal has 52 % carbon content, the annual CO_2 emissions (tonnes) is: ***2 points***

- 6.05 tonnes
- 4.01 tonnes
- 1.01 tonnes
- 10.08 tonnes

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Yes, the answer is correct.
Score: 2

Accepted Answers:
4.01 tonnes

7) The value of Net Energy Ratio should be: ***1 point***

- Less than one
- More than one
- Equal to one
- None of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
More than one

8) While performing Life Cycle Analysis, _____ is the quantified performance of a product system which is used as a reference unit ***1 point***

- Elementary flow
- Functional unit
- System scope
- System unit

Yes, the answer is correct.
Score: 1

Accepted Answers:
Functional unit

9) A coal fired power plant has a life of 30 years. It generates an average of 4500 GWh of useful electricity per year. The EROI (Energy Return on Investment) of the electricity generated from the coal power plant is 15. How much input energy does the power plant consume annually? ***1 point***

- 300 GWh
- 200 GWh
- 250 GWh
- 350 GWh

Yes, the answer is correct.
Score: 1

Accepted Answers:
300 GWh