Unit 2 - Week 1

Course Outline

How to access the content?

Assignment 1

The due date for completing the assignment is today.

As per our policy you have not submitted this assignment.

1. What are the indicators for sustainability?
   - GDP, Energy efficiency
   - Both (a) and (b)
   - None of these
   - No, the answer is incorrect.
   - Accepted Answer(s): (b) and (d)
   - 2 points

2. Installed capacity for electricity production in India as on 31.03.17 was:
   - Annual 165 GW
   - Annual 220 GW
   - Annual 350 GW
   - Annual 300 GW
   - No, the answer is incorrect.
   - Accepted Answer(s): (a)
   - 2 points

3. Global CO2 (Atmospheric CO2) level reported in June, 2017 was:
   - Annual 80 ppm
   - Annual 209 ppm
   - Annual 400 ppm
   - No, the answer is incorrect.
   - Accepted Answer(s): (B)
   - 2 points

4. Match the following emissions from the fossil fuels through conventional routes in best possible combination

<table>
<thead>
<tr>
<th>Elements</th>
<th>Emissions (g/km)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Sub-Critical</td>
</tr>
<tr>
<td>1. C11H22</td>
<td>(a) 220</td>
</tr>
<tr>
<td>2. NOx</td>
<td>(b) 2.22</td>
</tr>
<tr>
<td>3. SO2</td>
<td>(c) 6.82</td>
</tr>
<tr>
<td>4. PM</td>
<td>(d) 0.37</td>
</tr>
</tbody>
</table>

5. Which reservoir is an integral part of the coal seams in its natural state, including water in pores but excluding that in macroscopically visible fissures?
   - Inherent moisture
   - External moisture
   - Total moisture
   - Residual moisture
   - No, the answer is incorrect.
   - Accepted Answer(s): (d)
   - 2 points

6. What is the index of swelling index of coal?
   - It helps in the proper mining of coal
   - Swelling index varying between 2 to 3 is ideal for coke manufacture
   - The high swelling index coal is not charged for coke making as it would cause unnecessary pressure on the side wall of the ovens and will avoid coke production
   - No, the answer is incorrect.
   - Accepted Answer(s): (e)
   - 2 points

7. Which one is true about energy equivalent of the calorimeter?
   - Net = Outer + Inner
   - Net = Outer - Inner
   - Net = Inner
   - No, the answer is incorrect.
   - Accepted Answer(s): (c)
   - 2 points

8. Which one is not a classification of thermodynamic cycles?
   - Topping cycle
   - Reversing cycle
   - Combine cycle
   - None of these
   - No, the answer is incorrect.
   - Accepted Answer(s): (c)
   - 2 points

9. For a coal fired utility boiler, the temperature of high pressure steam would be about 540°C and T_sat (saturated boiler temperature) would be about 390°C. Calculate the tertiary efficiency of the power plant
   - 52.7%
   - 62.7%
   - 57.7%
   - No, the answer is incorrect.
   - Accepted Answer(s): (a)
   - 2 points