



Print Name _____ email _____
Address _____
City, ST Zip _____
Phone _____

Please ask, if you do not understand the question.

1. As coal transforms from vegetation to lignite to coal what happens to the quality?
 - a. The moisture goes down
 - b. The Btu/lb go down
 - c. The sulfur goes down

2. Which coal is more reactive?
 - a. Volatile = 18, fixed carbon = 68, oxygen = 2
 - b. Volatile = 32, fixed carbon = 54, oxygen = 7

3. What is considered a reasonable fly ash resistivity in ohm/cm, for good collection?
 - a. 7
 - b. 2×10
 - c. -440

4. Which coal has the potential to produce lower NO_x in the same boiler?
 - a. Volatile = 42%, Nitrogen = 0.7
 - b. Volatile = 20%, Nitrogen = 1.7

5. What are good guidelines for proper mill outlet sizing for bituminous coal?
 - a. 60% passing 200 mesh, 5% remaining on 50 mesh.
 - b. 99% passing 200 mesh, 0.0001% remaining on 50 mesh
 - c. 70% passing 200 mesh, 1% remaining on 50 mesh

6. Convert 3.0% excess oxygen to % excess air.
- a. 50%
 - b. 17%
 - c. 0%
 - d. 100%
7. The Hardgrove Grindability Index is the only test parameter that indicates mill capacity.
- a. True
 - b. False
8. What is the cost per million Btus for a 12,000 Btu/lb coal priced at \$48/ton
- a. \$2.00/MBtu
 - b. \$100/MBtu
 - c. \$0.4/MBtu
9. Which coal has more ash in the eyes of the boiler?
- a. 8% ash 14,000 Btu/lb.
 - b. 6%ash, 8,400 Btu/lb.
- 10.Slag is defined as molten material, fouling is held together by _____?
- a. gluons
 - b. Sulfate salts
 - c. Molten glass
11. Ash Fusion Temperature Tests were designed to indicate slagging potential in which type of furnace:
- a. Pulverized Coal
 - b. Cyclone
 - c. Stoker
 - d. Fluidized Bed
12. Longwall mining is a method of:
- a. Underground Mining
 - b. Surface Mining

13. Which coal type is more likely to undergo spontaneous combustion?
- Sub-bituminous – 8800 BTU/lb.
 - Anthracite – 14,500 BTU/lb.
14. High pyrite (FeS) content in coal may cause which of the following:
- Poor precipitator performance
 - Increased slag formation
 - Reduced mill rejects
15. Which of the following elements is associated with increased fouling potential
- Sodium and calcium
 - Nitrogen
 - Silica
16. When burning Natural Gas in a coal furnace the high Hydrogen content of the gas can raise or lower the boiler efficiency compared to coal.
- Raise
 - Lower
17. Most coal consumed in the US is:
- Imported from other countries
 - Produced in the US
18. Which of the following has the greatest impact on coal handling characteristics?
- Equilibrium Moisture
 - Inherent Moisture
 - Surface Moisture
 - The mood of the guys in the coal yard

19. Will an ASTM sample and analyses be correct 100% of the time?

- a. No, an ASTM sample and analyses is designed to minimize error and bias, but has specific acceptable error limits.
- b. Yes we live in a perfect world.

20. Which coal would most likely cause higher opacity

- a. 17% ash, 0.15% Sulfur, 11,000 Btu/lb.
- b. 5.6 ash, 1.4% Sulfur, 11,000 Btu/lb.

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What did you like?

What can we improve?

Presentation

Handout material