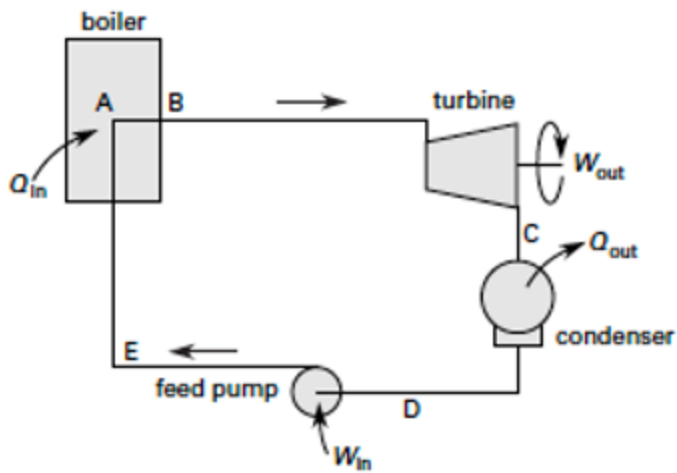




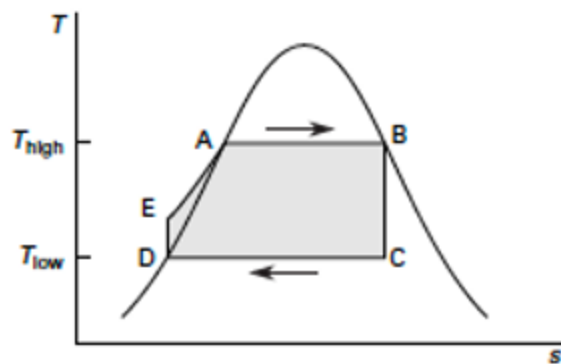
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Continuing Education Course #530  
Electrical Power  
Part I: Generation

1. The efficiency of a thermodynamic cycle depends on the temperature difference between the \_\_\_\_\_ and the sink.
  - a. combustion
  - b. condenser
  - c. source
  - d. turbine
  
2. What is the term used when steam temperature is raised above the saturation temperature for the associated pressure?
  - a. excess heating
  - b. extra heating
  - c. superheating
  - d. waste heat
  
3. What type of process is represented by the cycle shown?



(a) generation components



(b) thermodynamic properties

- a. Rankine cycle
- b. reheat cycle
- c. Stirling cycle
- d. thermodynamic cycle

4. Superheating, reheating, and regeneration are all used to raise the mean effective temperature at which heat is added.

Which of the three raises the temperature of the compressed liquid returning to the boiler?

- a. regeneration
- b. reheating
- c. superheating
- d. B and C

5. What source of power essentially operates without depleting "fuel"?

- a. BWR
- b. Cogeneration Plants
- c. Hydroelectric Power
- d. PWR

6. What type of turbine use stationary nozzles that drop the pressure with the kinetic energy absorbed in rotating blades operating at approximately constant pressure?

- a. Curtis
- b. Impulse

- c. Rateau
- d. Reaction

7. What type of turbine drop pressure in both the stationary and rotating portions?

- a. Curtis
- b. Impulse
- c. Rateau
- d. Reaction

8. A "conductor" moving through a magnetic field experiences a \_\_\_\_\_.

- a. counter current
- b. generator action
- c. induced force
- d. resistive current

9. Voltage is induced in the \_\_\_\_\_.

- a. armature
- b. field
- c. motor
- d. rotor

10. Alternating current generators have a *field* located on the \_\_\_\_\_.

- a. armature
- b. motor
- c. rotor
- d. stator

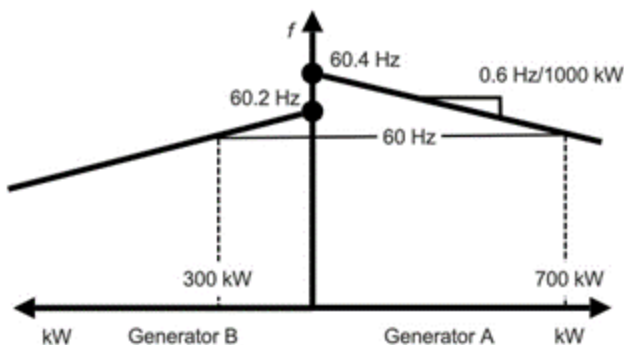
11. Which requirement for paralleling AC generators is set during construction/fabrication/installation?

- a. frequency matching
- b. load division set
- c. matching voltage
- d. phase sequence

12. What is the normal phase sequency of a generator?

- a. a-b-c
- b. c-b-a
- c. b-a-c
- d. as desired

13. For the load diagram, the following parameters initially exist as shown. Generator A is meant to carry all the load. The frequency droop on each machine is identical.

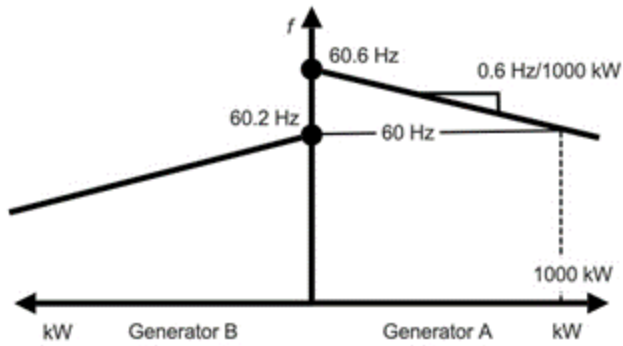


What is most nearly the no-load frequency setpoint required on Generator A in order for Generator A carry all the load, while keeping the system frequency at 60 Hz?

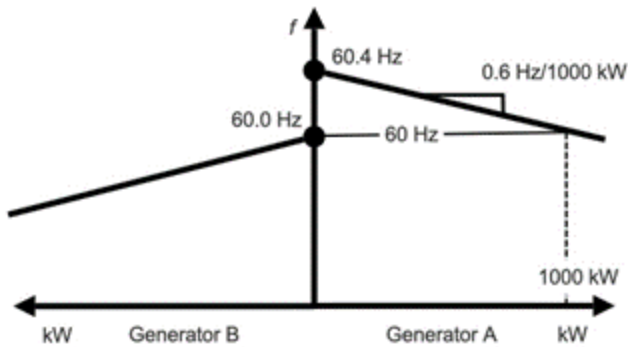
- a. 60 Hz
- b. 60.2 Hz
- c. 60.4 Hz
- d. 60.6 Hz

14. Which of the following house diagrams shows Generator A carry the entire load of 1000 kW?

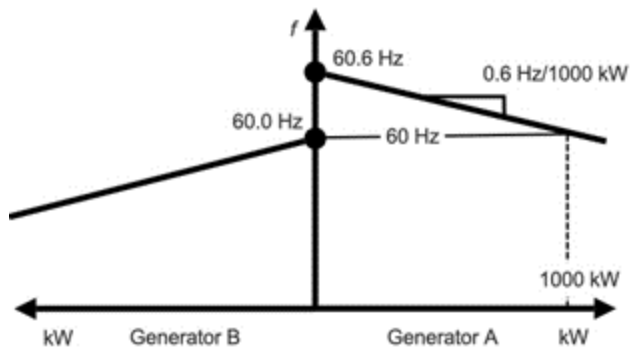
- a.



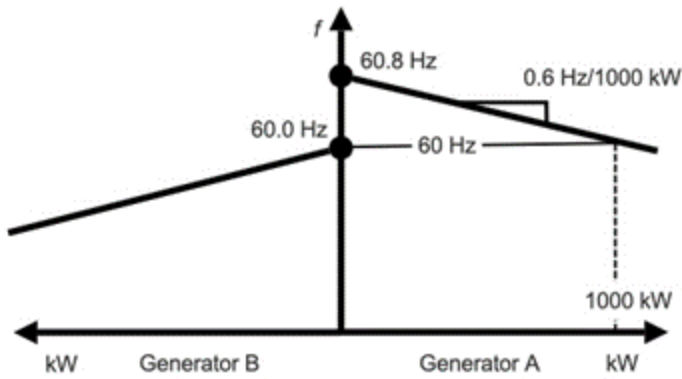
- b.



- c.



- d.



15. Real load sharing is controlled by the \_\_\_\_\_ of the generator.

- a. regulator
- b. setpoint
- c. speed
- d. voltage

16. Reactive load sharing is controlled by the \_\_\_\_\_ of the generator.

- a. regulator
- b. setpoint
- c. speed
- d. voltage

17. The field of a DC generator is located on the \_\_\_\_\_.

- a. external
- b. rotor
- c. stator
- d. either stator or rotor

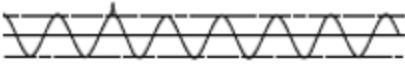
18. Commutation is the process of reversal of current in the armature windings of a DC generator.

Commutation takes place in the \_\_\_\_\_.

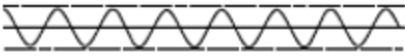
- a. neutral plane
- b. depends upon the design
- c. opposite the neutral plane
- d. equally distance from the north and south fields

19. What figure shows a voltage surge?

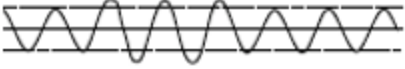
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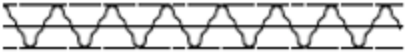
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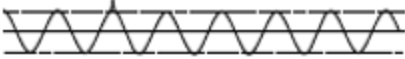
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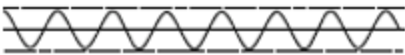
- a. 1
- b. 2
- c. 3
- d. 4

20. What figure shows a harmonic disturbance?

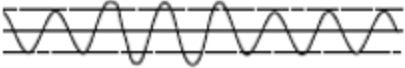
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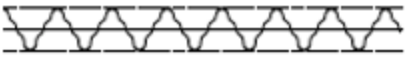
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3



4



- a. 1
- b. 2
- c. 3
- d. 4

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