

**GEOGRAPHIC INFORMATION SYSTEMS
GEOGRAPHIC INFORMATION CENTER
PO BOX 5839
MC ALLEN, TEXAS 78502-5839**

1-800-522-0139

**kh@acnet.net
Copyright 2010**

***** EXAMINATION *****

**VALIDATION TESTING OF PROCEDURES FOR DETERMINING
THE PERFORMANCE OF STAND-ALONE PHOTOVOLTAIC SYSTEMS**

1. **A battery is an array of electrochemical cells for**
 - a) electricity generation
 - b) electricity distribution
 - c) electricity transmission
 - d) electricity storage

2. **Low voltage is characterized by carrying a**
 - a) substantial risk of electric arc
 - b) substantial risk of electric shock
 - c) substantial risk of electric charge
 - d) substantial risk of electric potential

3. **The functional test determines if the system works**
 - a) properly under a new system operation
 - b) properly under a normal system operation
 - c) properly under an adapted system operation
 - d) properly under a temporary system operation

4. **Recovery test checks the sun hour for an array to charge a**
 - a) battery from regulation voltage to low-voltage disconnect
 - b) battery from low-voltage disconnect to regulation voltage
 - c) battery from high-voltage disconnect to low voltage
 - d) battery from low-voltage disconnect to high voltage test

5. **State of charge is the equivalent of a fuel gauge for the**
 - a) battery pack in a battery electric vehicle
 - b) battery pack in a hybrid vehicle
 - c) battery pack in a plug-in hybrid electric vehicle
 - d) Any of the above

6. **The module qualification test sequence includes**
 - a) thermal cycle test and humidity freeze test
 - b) damp heat test and high pot test
 - c) mechanical load and hail test
 - d) Any of the above

7. **A load is connected to an electrical system**
- a) that consumes electrical power
 - b) that consumes electrical shock
 - c) that consumes electrical resonance
 - d) that consumes electrostatic discharge
8. **An array to load ratio is the ratio of the ampere-hours**
- a) produced by the PV array to the Ah reject by the load
 - b) produced by the PV array to the Ah consume by the load
 - c) produced by the PV array to the Ah save by the load
 - d) produced by the PV array to the Ah lost by the load
9. **A charge controller is an electrical device that**
- a) protects the battery from undercharge
 - b) protects the battery from discharge
 - c) protects the battery from overcharge
 - d) protects the battery from slow charge
10. **Design month is when**
- a) daily A:L ratio is faster
 - b) daily A:L ratio is slower
 - c) daily A:L ratio is maximum
 - d) daily A:L ratio is minimum
11. **Hours of autonomy are the number of hours a battery provides**
- a) power to a load with no contribution from the PV array
 - b) power to a load with contribution from the PV array
 - c) power to a load with no contribution from the cell array
 - d) power to a load with contribution from the cell array
12. **A fluorescent lamp is a gas-discharge lamp that**
- a) uses electricity to excite manganese vapor
 - b) uses electricity to excite mercury vapor
 - c) uses electricity to excite lithium vapor
 - d) uses electricity to excite platinum vapor
13. **A low-voltage disconnect is the determining factor for**
- a) the usable battery capacity in the PV system
 - b) the rated battery capacity in the PV system
 - c) the maximum battery capacity in the PV system
 - d) the minimum battery capacity in the PV system

14. **One ampere hour is equal to**
- a) 1,600 coulombs
 - b) 2,600 coulombs
 - c) 3,600 coulombs
 - d) 4,600 coulombs
15. **Insolation is a measure of solar radiation energy**
- a) received on a rough surface area
 - b) received on a given surface area
 - c) received on a low temperature surface area
 - d) received on a high temperature surface area
16. **Standard test condition is the accepted conditions**
- a) under which PV devices commonly ignored
 - b) under which PV devices commonly rated
 - c) under which PV devices commonly increased
 - d) under which PV devices commonly changed
17. **Pulse-width modulation is a way of providing an intermediate**
- a) amount of electrical power between fully on and fully off
 - b) amount of electrical power to the power line
 - c) amount of electrical power to the surface area
 - d) amount of electrical power to the power cycle
18. **A datalogger**
- a) increases the flow of data
 - b) decreases the flow of data
 - c) determined data over time
 - d) records data over time
19. **Direct current is the unidirectional flow**
- a) of electric rays
 - b) of electric grid
 - c) of electric charges
 - d) of electric potential
20. **The A:L ratio is an indicator of the ability of**
- a) the system to supply power to the load
 - b) the system to supply load to the power
 - c) the system to reduce power to the load
 - d) the system to reduce load to the power

**GEOGRAPHIC INFORMATION SYSTEMS
GEOGRAPHIC INFORMATION CENTER
PO BOX 5839
MC ALLEN, TEXAS 78502-5839**

1-800-522-0139

**kh@acnet.net
Copyright 2010**

Name _____

Company _____

Address _____

City _____ **State** _____ **Zip** _____

Telephone _____ **E-Mail** _____

Fax _____ **24-Hour Fax**

Yes **No** **If fax and telephone are the same number, shall we call first?**

Mail certificates to above address _____ **check address** _____ **envelope address** _____

State + Specialty + PE Registration number (i.e. TX EE 12389) _____

State + Professional Land Surveying registration number _____

NC (North Carolina) + Specialty + PE Registration number _____

NC (North Carolina) + Land Surveying Registration Number _____

Professional Affiliations _____

Return this page with your answer sheet and a check or money order for \$100 per course. Use one check for each registrant (in your company) taking one or more courses. We accept company checks (if they are your employer's). We do not accept third-party checks or checks outside of your city of residence. Using third-party checks that do not include your name or company name may invalidate your professional development hours being reviewed by an audit process. Add \$5 for same day processing and priority shipping.

Make checks or money orders payable to Geographic Information Systems.

