



**Generation Dispatcher
Sample Generation Certification Examination**

1. Real time transmission constraints or contingencies may be alleviated with generators operating
 - A. below 60 Hz.
 - B. on a new price curve.
 - C. on a new cost curve.
 - D. off cost (out of merit).

2. What is the minimum size for a solar park to be required to have real and reactive power telemetry?
 - A. 1 MW.
 - B. 3 MW
 - C. 5 MW
 - D. 7 MW

3. PJM calls for which of the following to recover the ACE so that tie line schedules are maintained?
 - A. instantaneous reserve check
 - B. synchronized reserves
 - C. fuel limited resources
 - D. minimum generation calculation

4. The minimum generation alert expires
 - A. when cancelled by PJM
 - B. when notified by NERC.
 - C. 12 hours after the alert was issued.
 - D. after a 24hour period.

5. When PJM declares a hot weather alert, the generation dispatcher should
 - A. determine if maintenance can be deferred.
 - B. notify transmission operators.
 - C. direct all generating stations to increase MW output
 - D. direct all generating stations to reduce MVAR output.

6. During system restoration, the two categories of reserves are
 - A. dynamic and secondary.
 - B. synchronous and quick start.
 - C. dynamic and synchronous.
 - D. synchronous and primary.

7. During system restoration, frequency should be maintained between
 - A. 59.50 and 60.00 Hz.
 - B. 59.75 and 61.50 Hz.
 - C. 59.75 and 61.00 Hz.
 - D. 59.50 and 60.50 Hz.

8. PJM issues a heavy load voltage schedule. Member companies who own generation facilities should
 - A. remove 230 kV capacitors from service.
 - B. ensure voltage regulators on generating units are in service on automatic.
 - C. inform transmission providers to have marketers in their areas cut transactions.
 - D. instruct generating stations to curtail nonessential building loads.

9. A unit being dispatched economically by PJM should set its MW output based on the
 - A. LMP at generator bus.
 - B. LMP in the unit's zone.
 - C. Unit's dispatch rate or desired MW level.
 - D. generation owner's discretion.

10. What hourly revenue data is required of a generator by PJM?
 - A. Compensated MWh delivered by each unit
 - B. Integrated LMP data per generator node
 - C. Availability by generator schedule
 - D. Estimated compensation dollars by generator

11. During system restoration prior to synchronization of a unit, the dispatcher should ensure sufficient load is available to
 - A. economize unit operation.
 - B. maximize unit operation.
 - C. stabilize unit operation.
 - D. minimize unit operation.

12. A non-zero ACE indicates:
 - A. over-excitation.
 - B. an imbalance of generation and load
 - C. a capacity shortage situation
 - D. low temperatures in a localized zone

13. During certain emergency conditions, a Capacity Performance generation resource that fails to generate the required amount of energy may be charged:
 - A. a peak period maintenance penalty
 - B. a non-performance assessment charge
 - C. an additional credit requirement
 - D. the synchronized reserve market clearing price for the past 19 days

14. Control center facilities must have a minimum of how many days of fuel for the backup generator?
 - A. 3
 - B. 5
 - C. 7
 - D. 9

15. Which of the following one-way communication system is used to disseminate information to market operation centers?
 - A. all call
 - B. e-mail
 - C. radio
 - D. transaction management system

16. Real time bus prices may be monitored using
 - A. Data Viewer.
 - B. eDART.
 - C. InSchedule.
 - D. Markets Gateway.

17. Which of the following actions is a violation of PJM two settlement market rules?
 - A. offering a unit day ahead on a price-based schedule
 - B. not bidding demand (load) into the day ahead market
 - C. not offering an available PJM capacity resource into the day ahead market
 - D. making the economic high limit and the emergency high limit the same

18. A unit that fails to start when scheduled, would be classified as which of the following types of outage?
 - A. planned
 - B. maintenance
 - C. unplanned
 - D. self-scheduled

19. A forecasted planned outage starts a minimum of how many days into the future?
- A. 9
 - B. 30
 - C. 31
 - D. 60
20. Maintenance outages are permitted when
- A. a unit trips and is scheduled for a maintenance outage the following week.
 - B. a unit can be held online until the following Monday, and system reliability is not affected.
 - C. a unit has a capacity rating of 300 MWs or less.
 - D. manpower is onsite when a unit trips offline.
21. If PJM ACE shows overgeneration, actual imports are
- A. less than scheduled.
 - B. more than scheduled.
 - C. exactly as scheduled.
 - D. on a flat tie line.
22. Who should a generator contact at PJM to clear an outage ticket?
- A. Master Coordinator
 - B. Generation Dispatcher
 - C. Transmission Dispatcher
 - D. Shift Supervisor
23. Which page in Markets Gateway is used to reflect real-time changes to unit status and output?
- A. Unit Detail
 - B. Schedule Detail
 - C. Unit Hourly Updates
 - D. Schedule Detail Updates
24. The loss of a large generation unit on the PJM system can be detected by monitoring
- A. frequency and PJM area control error.
 - B. frequency and load.
 - C. load and interchange.
 - D. system voltage and load.

25. A 1000 MW unit has tripped in the PJM control area and the PJM ACE now indicates undergeneration of 1050 MW. What immediate action should be taken by PJM to recover the ACE?
- A. Schedule all available regulation.
 - B. Request 100% synchronized reserves be loaded.
 - C. Request a supplementary status report.
 - D. Schedule additional generating units to parallel as soon as possible.
26. Which of the following emergency procedures are issued in advance of a scheduled load period to allow sufficient time for the generation dispatcher to prepare for the anticipated capacity shortages?
- A. warnings
 - B. actions
 - C. alerts
 - D. notifications
27. The amount of synchronized reserves must be large enough to cover the loss of
- A. hydro units.
 - B. nuclear units online.
 - C. all generation online.
 - D. the largest single contingency.
28. PJM responds to capacity shortages by issuing alerts
- A. according to bid prices.
 - B. following completion of an instantaneous reserve check which indicates that the primary reserve is less than the synchronous reserve requirement.
 - C. during present operations to inform members of actual capacity shortages or contingencies that may jeopardize reliable operation of the PJM control area.
 - D. in advance of a scheduled load period to allow sufficient time for members to prepare for anticipated initial capacity shortages.
29. During black start restoration, priority access to cranking power should be given to
- A. hot units that can return to service immediately.
 - B. combustion turbines in areas where the initial disturbance occurred.
 - C. units with black start capability.
 - D. hydro units.
30. Severe cold weather conditions require which of the following be staffed, started, and available for loading?
- A. hydro units
 - B. combustion turbines and diesels
 - C. nuclear units
 - D. wind generators

31. During system restoration, a generator should not be loaded above the level of available
- A. operating reserve.
 - B. synchronized reserve.
 - C. primary reserve.
 - D. dynamic reserve.
32. The minimum passing score for a unit regulation test is
- A. 50% compliance with the test signal.
 - B. 75% compliance with the test signal.
 - C. 90% compliance with the test signal.
 - D. 100% compliance with the test signal.
33. A capacity resource that intends to be eligible to set real-time LMP must:
- A. be modeled in the PJM EMS.
 - B. have a minimum capacity of 30 MW.
 - C. be fully staffed during all summer hours.
 - D. be committed on their cost schedule.
34. Which of the following PJM systems are used to report unit outages?
- A. eDART, Markets Gateway, and eGADS
 - B. Power Meter, ExSchedule, and Markets Gateway
 - C. eDART, Capacity Exchange, and eGADS
 - D. eDART, Markets Gateway, and Capacity Exchange
35. Which of the following units is subject to offer capping?
- A. a unit performing capacity verification test
 - B. a unit running for transmission congestion
 - C. a unit dispatched to provide synchronous reserve
 - D. a unit running to control Eastern Transfer Limits
36. eDART is used for all of the following EXCEPT
- A. generation outage scheduling.
 - B. instantaneous reserve checks.
 - C. LMP information.
 - D. generator reactive capability changes.

37. Which of the following generating units would be eligible to set LMP?
- A. A fixed-gen self-scheduled steam unit
 - B. A unit dispatched for constraint control
 - C. A unit that is on for testing only
 - D. A hydro unit in condensing mode
38. A tie line with MW flowing into the PJM control area trips. The system operator will see which of the following occur?
- A. ACE will decrease, frequency will decrease
 - B. ACE will increase, frequency will increase
 - C. ACE will decrease, frequency will remain the same
 - D. ACE and frequency will remain the same
39. A Minimum Generation Emergency Alert is initiated when
- A. PJM projected LMP is at \$10/MW.
 - B. expected generation is within 2500 MW of normal minimum energy limits.
 - C. expected generation is within 2500 MW of emergency minimum levels.
 - D. expected generation is within 1000 MW of normal minimum energy limits.
40. The primary purpose of a Maximum Generation Emergency Alert is to
- A. allow member companies to inform management to be on site.
 - B. inform companies that PJM is within 1000 MW of normal minimum generation.
 - C. provide an early alert that system conditions may require PJM emergency procedures.
 - D. inform neighboring utilities that PJM has excess emergency reserves available.
41. A combustion turbine has 26 burn hours at maximum capacity. How should this be offered into the Energy Market?
- A. maximum emergency
 - B. minimum emergency
 - C. black start
 - D. normally
42. Emergency reducible generation is defined as the difference between
- A. normal minimum and normal maximum generation.
 - B. maximum emergency generation and minimum emergency generation.
 - C. normal minimum generation and emergency minimum generation.
 - D. emergency minimum generation and normal maximum generation.



43. Operating (30 Minute) reserve must equal the sum of
- A. synchronized, Non-synchronized, and secondary.
 - B. non-synchronized, secondary, and over thirty.
 - C. synchronized, over thirty, and non-synchronized.
 - D. secondary, over thirty, and synchronized.
44. Where can a generator see its actual hourly performance score in Markets Gateway?
- A. Unit Details
 - B. Market Results - Results
 - C. Dispatch Lambda
 - D. Market Results – Regulation and Reserve Award