

<b>Content Areas</b>		# Questions
1	Transmission Operations	28
1A	Transmission Equipment	7
1B	Operating Limits	6
<b>1C</b>	Constraint Management	5
1D	Outage Coordination	5
1E	Protection and Control	5
2	Electrical System Dynamics	19
2A	Real and Reactive Power	6
2B	Voltage Control	7
2C	Load Characteristics	3
2D	Frequency Control	3
3	Emergency Response	23
3A	System Disturbances	5
3B	Conservative Operations	3
3C	Capacity Emergencies	3
3D	Voltage Emergencies	5
3E	Loss of Control Center Functionality	3
3F	System Restoration	4
4	Communications and Data	20
4A	Reporting Requirements	4
4B	Communication Methods	6
4C	Data Validity and Verification	5
4D	Telemetry and Communications Equipment	5

Notes: Note: The PJM TOO Certification examination consists of 110 exam question. 90 of those questions contribute to an examination candidate's score and are selected according to the above content sampling. The remaining 20 questions do not contribute to a candidate's score and may not reflect the same distribution as the scored questions