Q=QUESTION	question_description	question_e	question_ty	question_d
A=ANSWER	answer_description	answer_ex	answer_isri	answer_po
Q	The Southern regional grid of india was connected with the Central grid in ___________.		M	1
A	November 2003.		0	1
A	October 2012.		0	2
A	January 2008.		0	3
A	December 2013.		1	4
Q	"One Nation , One grid" is achieved by connecting _________ regional Grids of India to central Grid.		M	1
A	5		1	1
A	4		0	2
A	6		0	3
A	3		0	4
Q	What is not true for smart grid in comparison with conventional power grid?		M	1
A	two way communication		0	1
A	continuous monitoring and feedback from the grid		0	2
A	fault finding and real time pricing is possible		0	3
A	cannot support integration of renewable energy sources		1	4
Q	The Real time pricing consist of three levels as,		M	1
A	On Peak, Interim Peak and Off peak		1	1
A	Full load, No load, Half Load		0	2
A	low tariff, mid tariff, high tariff		0	3
A	communication, billing, payment		0	4
Q	CDM is defined in __________ Protocol.		M	1
A	IEEE (IE8975)		0	1
A	TCP/IP (IP 1070)		0	2
A	Kyoto (IPCC 2007)		1	3
A	AI (2017 CX)		0	4
Q	CDM is____________		M	1
A	Code Diversion multiplexing		0	1
A	Clean Development Mechanism		1	2
A	Carbon Development Management		0	3
A	Clean Division Management		0	4
Q	The Smart Grid is ___________________.		M	1
A	Self healing		1	1
A	non resilient		0	2
A	one way communication structure		0	3
A	non expandable		0	4
Q	Following are the Pillars of smart grid,___________.		M	1
A	control system, feedback management system, PIC system, emergency system		0	1
A	Transmission optimization, demand Side Management, Distribution optimization, Asset optimization		1	2
A	Transmission control, Fault detection, islanding		0	3
A	Electomechanical meter, microgrid, power line communication, smooth Interoperability		0	4
Q	Self-healing is _______________________.		M	1
A	its capacity to fix some failures affecting it main function to supply power.		1	1
A	its ability to communicate with sensors and control panels.		0	2
A	its capacity to manage crew in case of outage.		0	3
A	its ability to convert analog data to digital data.		0	4
Q	Following is the Disadvantage of Smart grid.		M	1

A	Privacy and Security		1	1
A	Data analysing		0	2
A	Plug and Play technique		0	3
A	Fault finding		0	4
Q	Conventional power grid systems ______________________.	M		1
A	can be upgraded to the advanced system.		1	1
A	can not be upgraded to the advanced system.		0	2
A	are robust towards advancements.		0	3
A	cannot adapt new technologies		0	4
Q	The proposed biggest CDM project of the world is__________.	M		1
A	Himachal Pradesh Reforestation		1	1
A	South India Reforestment project		0	2
A	American Carbon Emission controlling project		0	3
A	Chinese carbon Emission Diversion Project		0	4
Q	The customer domain is_____________.	M		1
A	Where electricity is generated		0	1
A	Where electricity is consumed.		1	2
A	Where electricity is dstributed		0	3
A	Where electricity is stored.		0	4
Q	The ESI in customer domain is ______________________	M		1
A	Extended Service Interconnection		0	1
A	Electricity Service integration		0	2
A	Energy sevice interface		1	3
A	Electronic Sensor Integration		0	4
Q	The trnsmission network is operated by ______________.	M		1
A	National trnasmission Operator		0	1
A	Roadmap trnasmission Operator		0	2
A	Regional Transmission operator		1	3
A	Redundent trnasmission Operator		0	4
Q	In the conext of electrical engineering, RTO is _______________	M		1
A	Roadmap trnasmission Operator		0	1
A	Regional Transmission Operator		1	2
A	Rural Transmission Operator		0	3
A	Redundent trnasmission Operator		0	4
Q	What is true among the followiing with respect to smart meter as compared to conventional meters,	M		1
A	It controls the generation unit		0	1
A	It uses Two way Communication		1	2
A	It is Less accurate.		0	3
A	It controls sensors.		0	4
Q	With smart meters, a Meter Data Management System can__________________________________.	M		1
A	monitors and analyzes data that flows to and from customer locations.		1	1
A	Sends Signal to controller to stop generation at the Generator locations.		0	2
A	can manage mobile crew to make the repair, energy is redistributed.		0	3
A	monitors the restoration process at the outage locations.		0	4
Q	__________ changes energy prices depending on how much demand there is at different times of the day.	M		1
A	time of use tariffs		1	1
A	emergency tarriffs		0	2
A	peak load tarriffs		0	3
A	offload tarriffs		0	4

Q	The two basic category of smart meters are ______ and _________.		M		1
A	AF (audio Frequency) and RF (radio frequency)			0	1
A	RF (radio frequency) and PLC (Power Line Carrier)			1	2
A	RF (radio frequency) and VIC (Voltage Current counter)			0	3
A	Digital Counter Type and Digital Sucessive Approximation type			0	4
Q	The Smart Grid Enabling Technologies are _______________		M		1
A	Smart Antenna, Advanced transmitters, OPAMPS, Amplifiers.			0	1
A	Smart Meters, AMI, OMS, PHEV, smart sensors.			1	2
A	Mesh communication topology, TCP/IP suit, Optical fibre Communicaiton, IR sensors.			0	3
A	Robotics, PIC, Embeded system, integrating-proportional controllers.			0	4
Q	In mesh technology, Smart meters________________ to form a LAN cloud to a collector.		M		1
A	Talks to each other			1	1
A	Talks directly to collector			0	2
A	Talks to main server			0	3
A	can only receive informaiton			0	4
Q	AMI is ___________.		M		1
A	Advanced Metering Installation			0	1
A	Advanced Metering Infrastructure			1	2
A	Accurate Metering Installation			0	3
A	Augmented Metering Intelligence			0	4
Q	Customers have access to historical and real time data on Energy costs and potentially Carbon Emission data using __________.		M		1
A	Geographic Information System			0	1
A	Islanding			0	2
A	Outage management system			0	3
A	Smart Meters			1	4
Q	OMS is __________________.		M		1
A	Outage measurement system.			0	1
A	Outage management system.			1	2
A	Outlet Measurement system			0	3
A	Outlet Measurement scheme			0	4
Q	AMR stands for ___________________.		M		1
A	Angle Measurement Unit			0	1
A	Artificial Measurement Reading			0	2
A	Automatic Measurement Reading			0	3
A	Automatic Meter Reading			1	4
Q	The main Building blocks of AMR system is _____________		M		1
A	Sucessive approximation system, PID controller, Optical fiber network, antenna monitoring system			0	1
A	PIC controller , Digital Meter, GSM modem, communication interface			1	2
A	RS 232, IEEE 302.1, TCP/IP suit, mesh communication network			0	3
A	Inverters, OPAMPS, digital counters, data processing unit			0	4
Q	EMS is ___________		M		1
A	Energy Management System			1	1
A	Electricity Monitoring System			0	2
A	Electronic Maintenance System			0	3
A	Electromagnetic Measuring System			0	4
Q	GIS is ____________________________.		M		1
A	a computer based programmer that generate controlling signals for actuators.			0	1

A	a microcontroller based system used for particular smart substation applications.			0	2
A	a computer-based tool that examines spatial relationships, patterns and trends			1	3
A	a system used for global serial interfacing and interaction with outside world.			0	4
Q	IED stands for		M		1
A	Integral Electrical Devices			0	1
A	Intelligent Electronic Devices			1	2
A	Intelligent Extended Demand			0	3
A	Interoperable Electrical Demand			0	4
Q	RTU is _____________.		M		1
A	Renewable Transmission Unit			0	1
A	Remote terminal Unit			1	2
A	Regional Testing Unit			0	3
A	Roadmap Transmission Unit			0	4
Q	The block diagram of GIS consist of,		M		1
A	Real world data, Raw data, Data model, Output data			1	1
A	opamp, phase lock circuit, PMUs, AMRs			0	2
A	Receiver, data analyser, Data processor, Multiplexer, Transmitter			0	3
A	sensor data collector, micro processor, PIC controller, stabilizer			0	4
Q	Which one among the following is a smart substation?		M		1
A	IEEE 801.2			0	1
A	INSC 2.0			0	2
A	IEC 61850			1	3
A	IAC 21080			0	4
Q	Green energy penetration with respect to smart grid is ________________.		M		1
A	Integrate high carbon emission electric power generation.			0	1
A	Integrate the renewable energy sources to grid.			1	2
A	Integrate Intelligent Sensor.			0	3
A	using smart appliances			0	4
Q	A Phasor network consists of _______________.		M		1
A	GPS, RF communication network , data concentrator, application based systems			0	1
A	PMUs, PDCs, SCADA			1	2
A	PLC, frequency synthesizer,			0	3
A	PLL, PLC, PIC , embedded systems			0	4
Q	EMC is _________________.		M		1
A	Electromagnetic Compatibility			1	1
A	Electromechanical Compatibility			0	2
A	Electricity Management Centre			0	3
A	Electric Motor Controller			0	4
Q	FAS is stands for __________________.		M		1
A	Fauld Analysing System			0	1
A	Feeder Automation System			1	2
A	Fault Automation System			0	3
A	Frequency Alignment System			0	4
Q	Following is NOT a type of IED.		M		1
A	Protective Relaying Device			0	1
A	Circuit Breaker Controllers			0	2
A	Capacitor Bank Switches			0	3
A	OPAMP and power converter circuit			1	4
Q	In smart home automation, ICT stands for ______________.		M		1
A	Interdependent and Commercial Techniques			0	1
A	Interpretability and Computation Technology			0	2

A	Interconnection and Commutation Technology			0	3
A	Information and Communication Technology			1	4
Q	The information flow of OMS is___________________________.		M		1
A	Trouble call database, outage database, Fault diagnose, Dispatch crew, customer notification, repair and restore			0	1
A	Data conversion, fault diagnose, IED analysis, Dispatch crew			0	2
A	Fault diagnose, automated controlling actions, repair and restore, customer notification			0	3
A	Trouble call database, Fault diagnose, Dispatch crew, outage database, repair and restore, customer notification			1	4
Q	Bidirectional communication between home appliances and the Smart MV/LV-station, using a home automation system is possible because of_____________.				1
A	Smart stations			1	1
A	PMUs,			0	2
A	smart sensors			0	3
A	RF communication units			0	4
Q	Utilities have to upgrade their infrastructure and improve their institutional framework to extend the benefits of ____________________ to the customers.		M		1
A	smart meters and real time pricing			1	1
A	Outage management system			0	2
A	Fault Management system			0	3
A	intelligent electronic system			0	4
Q	To be able to monitor, operate and control power systems in wide geographical area, ____________combines the functions of smart metering devices with the abilities of communication systems.		M		1
A	PMU			0	1
A	IED			0	2
A	HAN			0	3
A	WAMS			1	4
Q	Which of the following device do not operate on DC platform		M		1
A	LED bulbs			0	1
A	Mobile phones			0	2
A	Induction motor			1	3
A	Laptop batteries			0	4
Q	Full form of the SCADA is		M		1
A	Supervisory control and digital acquisition			0	1
A	Supervisory control and data acquisition			1	2
A	Supplementary control and data acquisition			0	3
A	Supplementary control and digital acquisition			0	4
Q	Renewable energy is generated from		M		1
A	Natural resources			1	1
A	Artificial resources			0	2
A	Nuclear resources			0	3
A	does not require any source			0	4
Q	Battery capacity is measured in terms of		M		1
A	Amps			0	1
A	Volts			0	2
A	Watts			0	3
A	Ampere hour			1	4
Q	In Compressed Air Energy Storage (CAES)		M		1
A	air under atmospheric pressure expands through a combustion turbine to create electricity			0	1

A	compressed air is released from storage, it expands through a combustion turbine to create electricity			1	2
A	uncompressed air is released from storage, it expands through a combustion turbine to create electricity			0	3
A	any air pressure does the function of producing electricity			0	4
Q	The microgrid is a		M		1
A	local power provider with limited advanced control tools			1	1
A	wide area power provider with limited advanced control tools			0	2
A	local power provider with fully advanced control tools			0	3
A	wide area power provider with fully advanced control tools			0	4
Q	What is the need of energy management in microgrids?		M		1
A	To manage the renewable sources, storages and loads			1	1
A	To increase the stress on grid during peak hour.			0	2
A	To mismatch energy balance in an islanded operation			0	3
A	to manage loads only			0	4
Q	Compressed air storage is a form of		M		1
A	Electrical Storage			0	1
A	Mechanical Storage			1	2
A	Thermal Storage			0	3
A	Electomechanical Storage			0	4
Q	Renewable energy options are meant to provide the smart grid with:		M		1
A	non enhancement of functionality of electric vehicles and plug - in hybrids			0	1
A	Utilization of vehicle battery packs as energy storage devices			1	2
A	complete solution to demand-supply of power			0	3
A	source reactive power fully			0	4
Q	Pumped Hydro power stations are treated as		M		1
A	reserve power capacities			1	1
A	voltage regulators for the grid			0	2
A	bulk power suppliers			0	3
A	conventional generating stations			0	4
Q	Power quality is a major concern because of the		M		1
A	sensitivity of digital and modern control equipment to distortion/PQ deterioration			1	1
A	it does not cause disturbance or damage to loads and components			0	2
A	synchronous machines operate in synchronism			0	3
A	bus voltages are maintained			0	4
Q	which of the following is not a property associated with power quality of smart grids		M		1
A	Self healing			0	1
A	Frequency monitoring and control			0	2
A	load forecasting			0	3
A	Asset management			1	4
Q	A basic requirement for maintaining power quality is		M		1
A	balancing supply and demand			1	1
A	to only monitor frequency			0	2
A	to only remove harmonics			0	3
A	to only control active power			0	4
Q	A real - time power quality study feature is		M		1
A	no real - time measurement of parameters of signal components in power disturbances			0	1
A	non Identification of types and causes of power disturbances			0	2
A	Location of power disturbances			1	3
A	reactor control			0	4

Q	Distributed generation (DG) and integration of distributed resources (DERs) in the form of Microgrids can		M		1
A	disturb power quality and reliability significantly			0	1
A	improve power quality and reliability significantly			1	2
A	no difference will be made in power quality and reliability significantly			0	3
A	improve power quality but will impact reliability badly			0	4
Q	Transients are characterized by		M		1
A	frequencies ranging from tens of hertz			0	1
A	with no frequency deviations			0	2
A	frequencies ranging only in MHz			0	3
A	frequencies ranging from tens to hundreds of kilohertz or even megahertz			1	4
Q	EMI adversely affects		M		1
A	telecommunication processes			1	1
A	transformer operation			0	2
A	generator operation			0	3
A	does not affect anything			0	4
Q	Microwave, power line, and/or fiber optic core network backbones		M		1
A	were meant to securely connect two - way digital communication devices for every home, building, and appliance throughout a utility ' s service territory			1	1
A	were never meant to securely connect two - way digital communication for only connecting substations throughout a utility ' s service territory			0	2
A	were meant to securely connect two - way digital communication for only connecting substations and conventional generating stations throughout a utility ' s service territory			0	3
A	were never meant to securely connect two - way digital communication devices for every home, building, and appliance throughout a utility ' s service territory			0	4
Q	Cyber security		M		1
A	provides control of active and reactive power flows			0	1
A	does not provide protection to physical assets from modification or damage from accidental or malicious misuse of computer based control facilities			0	2
A	provides voltage and frequency stability			0	3
A	provides protection to physical assets from modification or damage from accidental or malicious misuse of computer based control facilities			1	4
Q	ZigBee communication Technologies are used in		M		1
A	HAN			1	1
A	NAN			0	2
A	WAN			0	3
A	Power line communication			0	4
Q	TCP/IP protocol has		M		1
A	3 layers			0	1
A	4 layers			0	2
A	5 layers			1	3
A	6 layers			0	4
Q	Facets of the cyber security include:		M		1
A	voltage control			0	1
A	fault recovery			0	2
A	Event logging, aggregation, and correlation			1	3

A	load shedding			0	4
Q	The Data Rate of WIMAX Communication Technology is		M		1
A	Up to 75 MBPS			1	1
A	Up to 25 MBPS			0	2
A	Up to 10 Mbps			0	3
A	Up to 50 MBPS			0	4
Q	The Coverage Range of ZigBee Communication Technology is		M		1
A	30-50 Mtr			1	1
A	1-5 Kms			0	2
A	10-50 Kms			0	3
A	10 Mtr			0	4
Q	Wireless Technologies		M		1
A	increase installation cost, but provide constrained bandwidth and security options			0	1
A	can reduce installation cost, but provide unconstrained bandwidth and security options			0	2
A	can reduce installation cost, but provide constrained bandwidth and security options			1	3
A	can increase installation cost, and provide unconstrained bandwidth and security options			0	4
Q	A Home Area Network is an integrated system used		M		1
A	to interconnect the circuit breakers at generating stations			0	1
A	to establish a two-way communication between Utilities and the consumers			1	2
A	in Plug-in hybrid/electric vehicles			0	3
A	for excitation control of generators			0	4
Q	The main responsibility of physical layer in TCP/IP protocol architecture is		M		1
A	routing packets from source to destination across multiple layers			0	1
A	allow users to access network resources			0	2
A	transmits raw bits as signals between nodes			1	3
A	provides reliable and application independent process to process delivery of messages			0	4
Q	The Vehicle to Grid (V2G) mode in electric vehicle (EV) is critical from the point of view of		M		1
A	reducing the charging power requirement of EV			0	1
A	to stabilize the power grid with energy storage support			1	2
A	to increase the fault level of the power grid			0	3
A	to reduce the tariff of electricity			0	4
Q	The Vehicle to Grid (V2G) mode in electric vehicle (EV) supports the power grid by		M		1
A	absorbing the real power only			0	1
A	supplying the reactive power only			0	2
A	supplying and absorbing both real and reactive power			1	3
A	minimizing the power loss			0	4
Q	The battery used in PHEV is typically		M		1
A	smaller in capcity than that in battery electric vehicle (BEV)			1	1
A	larger in capcity than that in BEV			0	2
A	higher in weight than that in BEV			0	3
A	larger in size than that in BEV			0	4
Q	Microgrid facilitates		M		1
A	integration of renewable energy sources (RES)only			0	1
A	integration of conventional sources only			0	2
A	integration of conventional sources with RES only			0	3
A	integration of conventional sources with RES supported with energy storage systems			1	4

Q	Design of protection system is complex in Microgrid because of	M		1
A	integration of renewable energy sources		0	1
A	low fault current levels and bidirectional power flow		1	2
A	small power capacity of Microgrid		0	3
A	smaller network length		0	4
Q	In smartgrid paradigm, the microgrid places itself	M		1
A	base layer of the smargrid structure		1	1
A	top layer of the smargrid structure		0	2
A	mid layer of the smargrid structure		0	3
A	parallel to smartgrid structure		0	4
Q	In context of microgrid, energy storage systems should be	M		1
A	dispatchable source		1	1
A	non-dispatchable source		0	2
A	inertial dispatchable source		0	3
A	inertial non-dispatchable source		0	4
Q	In context of microgrid, battery storage system provide	M		1
A	long term back-up power		0	1
A	short term back-up power		0	2
A	transient back-up power		0	3
A	backup power under all conditions		1	4
Q	In context of microgrid, solar PV system integration causes	M		1
A	fluctuations in bus voltage under bright day-light condition		0	1
A	power quality issues in low solar radiation conditions		1	2
A	higher electricity generation cost per unit		0	3
A	increased maintenance cost of the microgrid		0	4
Q	In context of microgrid, control implementation in island conditions	M		1
A	is easier with droop control mechanism		1	1
A	is easier with communication based control mechanism		0	2
A	is easier with master-slave control mechanism		0	3
A	is easier with agent based control mechanism		0	4
Q	In context of microgrid, use of power switching converters leads to the complexity in	M		1
A	design of protection system		0	1
A	design of control and communication system		1	2
A	power sharing between the sources		0	3
A	secondary control of microgrid		0	4
Q	In context of microgrid, use of power switching converters leads	M		1
A	increased size of the system		0	1
A	decreased energy effciency of the system		0	2
A	increased challenges due to EMI and EMC		1	3
A	complex power sharing between the sources		0	4
Q	Microgrid's default operating mode is	M		1
A	autonomous mode		0	1
A	transition mode		0	2
A	island mode		0	3
A	grid tied mode		1	4
Q	Microgrid's is mainly qualified by its capacity to operate in	M		1
A	autonomous mode		0	1
A	transition mode		0	2
A	island mode		1	3
A	grid tied mode		0	4
Q	Most complex mode of opeartion in Microgrid's is	M		1
A	autonomous mode		0	1
A	transition mode		0	2
A	island mode		1	3

A	grid tied mode			0	4
Q	Integration of microgrids in smartgrid will be easy with		M		1
A	single small capacity microgrid integration			0	1
A	cluster of microgrids together			1	2
A	cluster of multi-microgrids structure			0	3
A	single large capacity microgrid integration			0	4
Q	Large capacity renewable energy integration in smart grid is easily possible		M		1
A	through microgrid integration			1	1
A	through power grid integration			0	2
A	through distributed generation			0	3
A	through autonomous power plants			0	4
Q	Installation of small capacity Active filter for power quality improvement is preferred at		M		1
A	at consumer end in power grid			1	1
A	at distribution feeders in utility network			0	2
A	at major substation			0	3
A	in parallel to the electrical equipements			0	4
Q	Pumped hydro as a energy storage system can be used as		M		1
A	long term back-up power			1	1
A	short term back-up power			0	2
A	transient back-up power			0	3
A	backup power under all conditions			0	4
Q	Smartgrid is realizable as a giant system which is		M		1
A	formed by integration of multidisciplinary engineering			1	1
A	completely governed by IT infrstrcuture			0	2
A	same as existing power grid			0	3
A	going to affect the electical consumer in long run			0	4

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