Total No. of Questions : 6]	260	SEAT No.:	
P1411		[Total	No. of Pages : 2

BE/Insem./APR-198 B.E. (Electrical Engineering)

SMART GRID

	(2015 Pattern) (Semester - II) (Elective - IV) (403150A)	
Time :	1 Hour] [Max. Mark	rs •30
	tions to the candidates:	
1)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.	
2)	Figures to the right indicate full marks.	
3)	Neat diagram must be drawn wherever necessary.	
4)	Assume suitable additional data, if necessary.	
Q1) a	What is the need of Smart Grid? What will be the components of S	mart
~	Grid?	[5]
b) What are the different opportunities and Barriers of Smart Grid in Indi	a. [5]
	OR	
Q2) a)	Define Smart Grid and give its functions.	[5]
b) Give present development and international policies in smart grid.	[5]
	Sec. 1	
Q3) a)	Write a note on Remote Terminal Unit with block diagram and wr	ite a
	function of each block.	[6]
b	Write a short note on Superconducting Magnetic Energy Storage.	[4]
	OR	
Q4) a)	Compare SMES, Super capacitors, Pumped Hydro and CAES.	[6]
b	Explain, the "Feeder Automation".	[4]
	•	

<i>Q5</i>)	a)	What is meant by Smart Sensors? Give and explain some smart sensors. [5]
	b)	How home and building automation can be achieved using Smart Appliances? Explain step by step. [5] OR
Q6)	a)	What are smart energy meters? Explain its function in smart grid. [6]
	b)	Write a note on, "Real Time Prizing". [4]
		A. M. A.

SEAT No. :	
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P219

[Total No. of Pages: 1

BE/INSEM/APR-549

B.E. (Electrical)
403150A: SMART GRID
(2015 Pattern) (Semester - II) (Elective - IV)

			20
Time	? : <i>1</i>	Hour] [Max. Marks	: 30
Instr	uct	ions to the candidates:	
	1)	Attempt Q.No 1 or Q.No2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6.	
	<i>2</i>)	Neat diagram must be drawn wherever necessary.	
	<i>3</i>)	Figures to the right indicate full marks.	
	<i>4</i>)	Assume suitable data, if necessary.	
Q1)	a)	What is the need of Smart Grid? What will be the components of Si	mart
		Grid?	[5]
	b)	State and Explain the challenges for Smart Grid.	[5]
		OR	
Q2)	a)	Define Smart Grid and give its functions.	[5]
	b)	Give present development and international policies in smart grid.	[5]
Q3)	a)	Explain the concept Prog in Hybrid Electric Vehicles.	[5]
	b)	Explain phase measurement unit and its importance in smart grid.	[5]
	ŕ	OR	: 0
Q4)	a)	Write a note on Remote Terminal Unit with block diagram and wr	ite a
		function of each block.	[5]
	b)	Explain, the "Feeder Automation".	[5]
Q 5)	a)	What is meant by Smart Sensors? Give and explain some smart sens	sors
20)	u)	What is inealite by similar sensors. Give that explain some sinere sens	[6]
	b)	Write a note on, "Real Time Prizing".	[4]
	U)	OR	ניין
06)	(۵	What is Geographic Information System (GIS)? Explain the component	anta
Q6)	a)		
	1- \	of GIS.	[6]
	b)	Explain how automatic meter reading can make the system Smarter.	. [4]

Tota	l No.	of Questions : 10]	SEAT No. :
P6 0	93		[Total No. of Pages : 2
		155617 504	[Total 100 of Lages . 2
		[5561]-594	• \
		B.E. (Electrical Engir	O'
		SMART GRID (Electi	ive - IV)
		(2015 Pattern) (Semes	ster - II)
Time	$2:2^{1/2}$	2 Hours]	[Max. Marks : 70
Instr	ructio	ons to the candidates:	
	<i>1</i>)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 o	or Q8, Q9 or Q10.
	<i>2</i>)	Figures to the right indicate full marks.	9
	<i>3</i>)	Neat diagrams must be drawn wherever i	- ()
	<i>4</i>)	Assume suitable additional data, if neces	sary.
<i>Q1</i>)	a)	State and Explain the challenges for Si	mart Grid. [5]
	b)	Explain the concept Plug in Hybrid El	ectric Vehicles. [5]
		OR	
Q2)	a)	Write a note on, "Real time prizing".	[5]
	b)	Explain phase measurement unit and it	s importance in smart grid. [5]
Q 3)	a)	Explain how automatic meter reading of	can make the system Smarter. [5]
	b)	Explain how the reliability of smart grid IED in to it.	
		OR	
<i>Q4</i>)	a)	List different smart appliances and de	
		appliances into grid for Home and Bu	
	b)	Explain about formation of micro grid	and its need. [5]
Q 5)	a)	Explain concept of micro grid, and its	need and applications. [8]
= '	b)	State and explain the issues of intercon	Y
		Utility grid.	[8]

<i>Q6</i>)	a)	Write a note on 'protection & control of Micro grid'.	[8]
	b)	Compare Micro grid and Smart Grid.	[8]
<i>Q7</i>)	a)	Explain role of AMI in Smart Grid.	[8]
~ .	b)	Explain the concept of Power Quality and EMC in Smart Grid.	[8]
		OR	
Q8)	a)	Explain importance of power quality in smart grid & how it can	Be
		improved	[8]
	b)	Explain the protection and control strategy implemented in smart g	rid.
			[8]
Q9)	a)	Write a note on, 'IP based protocols'.	[9]
	b)	Explain cloud computing and its need.	[9]
		OR OR	
Q10	10)	Explain Power Quality issues of grid connected Renewable Ene	rom.
QIU	<i>ja)</i>	Sources.	[9]
	b)	Explain the role HAN in smart grid.	[9]
	0)	Zapiani die role in it in shale gra.	[~]
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Total No	o. of Questions : 8] SEAT No. :	
P95	[5871]-597 [Total No. of Pag	ges : 2
	B.E. (Electrical Engineering)	
	SMART GRID	
	(2015 Pattern) (Semester - II) (Elective - IV) (403150A)	
Time : 21/	[Max. Mark	xs: 70
	ions to the candidates:	
1)	Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.	
2)	Figures to the right indicate full marks.	
3)	Neat diagrams must be drawn wherever necessary.	
4)	Assume snitable data, if necessary. Define Smart Grid and give its functions. Explain PMU and importance in smart grid.	
Q1) a)	Define Smart Grid and give its functions.	[6]
b)	Explain PMU and importance in smart grid.	[6]
c)	Write a short note on real time prizing?	[8]
	OR OR	
Q2) a)	State and explain challenges of smart grid.	[6]
b)		[6]
c)	Highlight on role of geographic information system in smart grid also give its function.	l and
	also give its function.	lok
Q3) a)	Describe concept and formation of micro grid.	[8]
b)	Explain issues of Micro grid when connected.	[8]
	OR	
Q4) a)	Explain about protection and control of micro grid.	[8]
b)	Explain the concept of Micro grid, its need and applications.	[8]
Q5) a)	Highlight the issues related to power quality in Smart Grid.	[8]
b)	Write a short note on Web based power quality Monitoring.	[8]
	O.D	

Q6)	a)	Explain the concept of power quality and EMC in Smart Grid.	[8]
ره ک	b)	Explain power quality audit and its importance in smart grid.	[8]
	U)	Explain power quanty audit and its importance in smart grid.	lol
<i>Q7</i>)	a)	Why cyber security is of prime importance in smart grid? How it can achieved.	be [9]
	1. \	°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°	
	b)	Write a short note on Wi-Max based communication in smart grid.	[9]
		OR	
Q8)	a)	Explain cloud computing and its need.	[9]
•	b)	Write a note on Broadband Over a power line.	[9]
		(303 8080 S)	
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		o. of Questions : 8] SEAT No. :
P33	325	
		[5670] 594
		B.E. (Electrical)
(2)	115	SMART GRID
(20)13	Pattern) (Semester -II) (403150A) (Elective-IV) (End Sem.)
		[Max. Marks : 70 ons to the candidates:
	nen 1)	Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.
	2)	
	<i>3)</i>	Neat diagrams must be drawn wherever necessary.
	<i>4)</i>	Figures to the right indicate full marks. Neat diagrams must be drawn wherever necessary. Assume suitable data, if necessary.
Q 1)	a)	Define smart grid and give its functions. [6]
,	b)	Explain the function of IED & their application. [6]
	c)	Highlight on role of geographic information system in smart grid and
		also give its function. [8]
		OR O
Q2)	a)	Give present development and international policies in smart grid. [6]
	b)	Explain the concept of Resilient and Self Healing Grid. [6]
	c)	Explain how Smart Appliances can be the part of Smart Grid. [8]
	ĺ	Explain how Smart Appliances can be the part of Smart Grid.
Q3)	a)	Explain concept of micro grid and its need and application. [8]
	b)	Explain about projection and control of micro grid. [8]
		OR OR
Q4)	a)	What is Geographic Information System (GIS)? Explain the components
		of GIS.
	b)	Explain how automatic meter reading can make the system smarter. [8]
Q 5)	a)	Explain EMC and its importance in smart grid. [8]
	b)	Describe the concept, power quality conditioners related to smart grid.
		[8]
		OR P.T.O.
		A

b) Explain the power quality audit and its importance in smart grid. [8] Q7) a) Explain the concept WAN related to smart grid. [9] b) Write a note on Web based Power Quality Monitoring'. [9] OR Q8) a) Why exper security is of prime importance in Smart grid & how it can be achieved? [9] b) Write a note on, Broadband over power line. [9]	<i>Q6)</i>	a)	Describe the power quality issues of grid connected renewable Ensources.	nergy [8]
 Q7) a) Explain the concept WAN related to smart grid. b) Write a note on Web based Power Quality Monitoring'. Q8) a) Why cyber security is of prime importance in Smart grid & how it can be achieved? b) Write a note on, Broadband over power line. [9] b) Write a note on, Broadband over power line. 		b)	. 6	
OR OR OR OR Why cyber security is of prime importance in Smart grid & how it can be achieved? b) Write a note on, Broadband over power line. [9]				
OR Why cyber security is of prime importance in Smart grid & how it can be achieved? [9] b) Write a note on, Broadband over power line. [9]	Q7)	a)	Explain the concept WAN related to smart grid.	[9]
 Q8) a) Why cyber security is of prime importance in Smart grid & how it can be achieved? [9] b) Write a note on, Broadband over power line. [9] 		b)	Write a note on Web based Power Quality Monitoring'.	[9]
be achieved? [9] b) Write a note on, Broadband over power line. [9]			OR	
be achieved? [9] b) Write a note on, Broadband over power line. [9]	Q8)	a)		it can
b) Write a note on, Broadband over power line. [9]			be achieved?	
kan han han han han han han han han han h		b)	Write a note on, Broadband over power line.	[9]
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Total No	o. of Questions : 8]	SEAT No. :
PA-22	[5927]-113	[Total No. of Pages : 2
	B.E. (Electrical Engineering	ng)
	SMART GRID	
	(2015 Pattern) (Semester - II) (Elective	- IV) (403150A)
	½ Hours]	[Max. Marks : 70
Instructi 1)	ions to the candidates: Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.	
2)	Figures to the right indicate full marks.	
3) 4)	Neat diagrams must be drawn wherever necessary. Assume suitable additional data, if necessary.	
4)	Assume suitable datational tata, if necessary.	
Q1) a)	Explain the concept of Resilient and Self Hea	aling Grid. [6]
b)	List different smart storage techniques and ex	xplain anyone in detail. [6]
c)	Highlight on role of geographic information	system is smart grid and
	also give its function.	[8]
	OR	
Q2) a)	State and explain challenges of smart grid.	[6]
b)	Explain PMU and importance in smart grid.	[6]
c)	Explain how automatic meter reading can ma	ake the system smarter. [8]
Q3) a)	Explain the architecture of micro grid.	[8]
b)		d. [8]
- /	OR	
0.0		107
Q4) a)	Explain about protection and control of micro	
b)	Explain the concept of Microgrid, its need a	nd applications. [8]
Q5) a)	Highlight the issues related to Power Quality	in Smart Grid. [8]
b)	Describe the concept of power quality cor	ditioners related to Smart
	Grid.	[8]
	OR OR	
		P.T.O.

Q6) a)	Explain the concept of power quality and EMC in Smart Grid.	[8]
b)	Write a short note on Web based Power Quality Monitoring.	[8]
Q7) a)	Explain cloud computing and its need.	[9]
b)	Explain the role of HAN in smart grid.	[9]
	OR	
Q8) a)	Write a note on Broadband Over a power line.	[9]
b)	Why cyber security is of prime importance in smart grid? How it	can be
	Why cyber security is of prime importance in smart grid? How it achieved.	[9]
[5027] 1		
[5927]-1	2 📡	

Total No.	of Questions	:	6]	
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P38

[Total No. of Pages:1

APR.-17/B.E./Insem. - 42

		B.E. (Electrical Engineering)		
		SMART GRID		
(2012 Pattern) (Semester - II) (Elective - IV)				
Time				
Instr	uctio 1) 2) 3) 4)	ns to the candidates: Solve Q1 or Q2, Q3 or Q4, Q5 or Q6. Figures to the right indicate full marks. Neat diagrams must be drawn wherever necessary. Assume suitable additional data, if necessary.		
Q1)	a)	Compare Conventional Grid and Smart Grid. [5]		
	b)	Write a note on Smart Grid pilot projects in India. [5]		
		OR		
Q 2)	a)	Explian the concept of Resilient and Self Healing Grid. [5]		
	b)	State and explain the challenges for Smart Grid. [5]		
Q3)	a)	Explain the function of Intelligent Electronic Devices & their application for monitoring & protection. [6]		
	b)	Name different Smart storage technologies, and explain any one in detail.[4]		
		OR		
Q4)	a)	Explain Phase Measurement Unit and its importance in smart grid. [6]		
	b)	How smart grid can be benefited by implementing PHEV technology?[4]		
Q5)	a)	What is the role of Advanced Metering Infrastructure (AMI) in Smart Grid? [5]		
	b)	State and explain briefly the components of Geographic Information System (GIS). [5]		
		OR		
Q6)	a)	How outages can be managed by OMS? [5]		
	b)	Explain how Automatic Meter Reading can make the system smarter. [5] $\nabla \nabla \nabla \nabla$		

SEAT No.:

P335

[Total No. of Pages: 1

APR. - 16/BE/Insem.-40

B.E. (Electrical Engineering) (Elective - IV(a)) SMART GRID

		(2012 Pattern) (Semester - II)	
Tim	e : 1	Hour] [Max. Marks:	30
Insti	ructio	ns to the candidates:	
	<i>1)</i>	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.	
	<i>2)</i>	Figures to the right side indicate full marks.	
	3)	Neat diagrams must be drawn wherever necessary.	
	4)	Assume Suitable additional data, if necessary.	
Q 1)	a)	Difference between conventional grid and smart grid.	[5]
	b)	Explain the Resilient and self healing grid.	[5]
		OR	
Q2)	a)	Give present development and international policies in smart grid.	[5]
	b)	Give and explain the opportunities and barriers of smart grids.	[5]
Q 3)	a)	Explain in detail Plug in Hybrid Electric Vehicles (PHEV).	[5]
	b)		[5]
		OR	
Q4)	a)	Explain phase measurement unit and its importance in smart grid.	[5]
~	b)		[5]
	0)	······································	[-]
Q 5)	a)	What do you mean outage management system (OMS)? Explain h	ow
~		smart grid technologies can improve outage management processes.	
	b)	How Automated Meter Reading system Works? Draw block diagr	am
		and give the advantages.	[5]
		OR	
Q6)	a)	Write a note on, Real time prizing".	[5]
	b)	Highlight on role of geographic information system in smart gr	rid,
		and also give its function.	[5]

SEAT No.:	

P3601

[Total No. of Pages: 2

[4959]-1078

B.E. (Electrical Engineering)

SMART GRID

		SMARI GRID			
		(2012 Pattern) (Elective - IV(a)) (Semester - II)			
Time	Time: 2½ Hours] [Max. Marks: 70				
Insti	ructio	ons to the candidates:			
	1)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.			
	2)	Figures to the right indicate full marks.			
	<i>3) 4)</i>	Neat diagrams must be drawn wherever necessary. Assume suitable additional data, if necessary.			
Q 1)	a)	Define smart grid and give its functions.	[6]		
	b)	Explain the concept vehicle to Grid.	[6]		
	c)	Highlight on role of geographic information system in smart grid, also give its function.	and [8]		
		OR			
Q2)	a)	Give present development and international policies in smart grid.	[6]		
	b)	Write a note on, "IED".	[6]		
	c)	Explain how Smart Appliances can be the part of Smart Grid.	[8]		
Q 3)	a)	Explain concept of microgrid, and its need and application.	[8]		
	b)	Discuss different issues of micro grid when interconnected.	[8]		
		OR			
Q4)	a)	Explain about protection and control of microgrid.	[8]		
	b)	Describe the concept and formation of Micro Grid.	[8]		
Q 5)	a)	Explain EMC and its importance in smart grid.	[8]		
	b)	Describe the concept, power quality conditioners related to smart grid	d. [8]		
		OR			

Q6)	a) Describe the power quality issues of grid connected renewable e		nergy
		sources.	[8]
	b)	Explain the power quality audit and its importance in smart grid.	[8]
Q 7)	a)	Explain the concept WAN related to smart grid.	[9]
	b)	Write a note on Wi-Max based communication in smart grid.	[9]
		OR	
Q 8)	a)	Explain the importance of Bluetooth in smart grid.	[9]
	b)	Write a note on, Broadband over power line.	[9]



Total	No	of Questions : 8] SEAT No. :	
P30	82		s:2
		B.E. (Electrical Engineering)	
		SMART GRID	
	(2	012 Pattern) (Semester - II) (Elective - IV(a)) (End Sem.)	
Time	:21/2	Hours] [Max. Marks	: :70
		ons to the candidates:	• , 0
	1)	Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8.	
,	2)	Figures to the right indicate full marks.	
	3)	Neat diagrams must be drawn whenever necessary.	
4	<i>4)</i>	Assume suitable data, if necessary.	
<i>Q1)</i>	a)	Give present development and international policies in smart grid.	[8]
	b)	Explain the concept Plug in Hybrid Electric Vehicles.	[6]
	c),	Explain phase measurement unit and its importance in smart grid.	[6]
		OR	
Q2)	a)	Explain the Resilient and self healing grid.	[8]
	b)	Explain how automatic meter reading can make the system smarter.	[6]
	c)	write a note on, "IED".	[6]
			7
Q3)	a)	Explain concept of microgrid, and its need and application.	[8]
	b)	Explain about protection and control of microgrid.	[8]
		OR	

Explain about formation of microgrid and also its need.

Explain architecture of microgrid. **Q4)** a) [8]

b) [8]

Explain EMC and its importance in smart grid. **Q5)** a) [8]

Explain Web based power quality monitoring. b) [8]

<i>Q6)</i>	a)	High light the issues related to power quality in smart grid.	[8]
	b)	Explain the power quality audit and its importance in smart grid.	[8]
<i>Q7</i>)	a)	Explain cloud computing and its need.	[9]
21)			
	b)	Explain the, concept WAN related to smart grid.	[9]
		OR	
Q8)	a)	Write a note on Wi- Max based communication in smart grid.	[9]
	b)	Explain the importance of Bluetooth in smart grid.	[9]
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Total No. of Questions: 8]	SEAT No.:
P3150	[Total No. of Pages : 2

		B.E. (Electrical Engineering) (Semester - 11)
		SMART GRID
		(2012 Pattern) (Elective -IV)
Time	2:2:3	30 Hours] [Max. Marks: 70
Insti	ructio	ons to the candidates:
	<i>1)</i>	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.
	2)	Figures to the right indicate full marks.
	3)	Neat diagrams must be drawn wherever necessary.
	<i>4)</i>	Assume suitable additional data, if necessary.
		9.3
Q1)	a)	Explain the concept of Resilient and Self healing Grid. [6]
	b)	Name different smart storage technologies and explain any two in detail.
	c)	State and explain briefly the components of Geographic Information
		System (GIS). [6]
		OR
Q2)	a)	State and explain the challenges for smart Grid. [6]
	b)	Write a note on, "Real time prizing". [6]
	c)	Explain the concept Plug in Hybrid Electric Vehicles. [8]
	- /	
(12)	\	
Q 3)	a)	Discuss different issues of micro grid when interconnected. [8]
	b)	Describe the concept and formation of Micro Grid. [8]
		OR
Q4)	a)	Explain about protection and control of microgrid. [8]
	b)	Describe Power Quality Issues of grid connected Renewable Energy
	,	Sources. [8]
		3

Q 5)	a)	Explain the power quality audit and its importance in smart grid.	[8]
	b)	Write a note on, Power quality management in smart grid.	[8]
Q6)	a)	Describe the concept, power quality conditioners related to smart grid.	.[8].
	b)	Explain importance of power quality in smart grid & how it can improved.	be [8]
Q7)	a)	Explain the, concept WAN related to smart grid.	[9]
	b)	Explain the importance of Bluetooth in smart grid.	[9]
		OR OR	
Q8)	a)	Write a note on Wi-Max based communication in smart grid.	[9]
	b)	Write a note on, "IP based protocols".	[9]
			×

Total No	o. of Questions : 8]	SEAT No. :	
P3795	5 [5561]-197	[Total No. of Pages	: 2
	B.E. (Electrical Engineeri	ng)	
	SMART GRID	5 /	
(2	012 Pattern) (Semester - II) (End Sem.) (Elective - IV (a))	
Time: 2	½ Hours]	[Max. Marks:	: 70
Instructi	ions to the candidates:		
1)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.		
2)	Figures to the right indicate full marks.		
3)	Neat diagrams must be drawn wherever necessary.	29	
4)	Assume suitable additional data, if necessary.	Se station.	
Q1) a)	Explain the various functions to be perform becomes self healing.	y •	v it [6]
b)	Give functions and benefits of Smart Meter.		[6]
c)	What is OMS system in smart grid, and Exp	plain its components.	[8]
Q2) a)	Give present development and pilot projects	s of India in smart grid.	[6]
b)	Write a note on, "SMES".		[6]
c)	Explain Feeder automation.		[8]

Q3) a) Explain concept of DC microgrid, and its need and application. [8]

b) Discuss different issues of micro grid when interconnected with renewable sources [8]

OR

Q4) a) Explain about protection and control of microgrid. [8]

b) Describe the smart Micro Grid and compare it with smart grid. [8]

Explain types of power quality problems and its effect.	[8]
Describe the concept, power quality conditioners related to smart gri	id. [8]
OR	
Describe the power quality issues of grid connected renewable er sources.	nergy [8]
Explain the power quality audit and its importance in smart grid.	[8]
Explain the concept HAN related to smart grid.	[9]
Write a note on IP based protocols in smart grid.	[9]
OR SE	
Explain the importance of Bluetooth in smart grid.	[9]
Write a note on, Broadband over power line.	[9]
97 2 Sp. Abo. Abo. Abo. Abo. Abo. Abo. Abo. Abo	
	Describe the concept, power quality conditioners related to smart groups of the power quality issues of grid connected renewable ensources. Explain the power quality audit and its importance in smart grid. Explain the concept HAN related to smart grid. Write a note on IP based protocols in smart grid. OR Explain the importance of Bluetooth in smart grid. Write a note on, Broadband over power line.

Total	l No.	of Questions : 10] SEAT No. :	\neg
	001		
		[Total No. of Pages	: 2
	D I	[5059]-598	
	B.I	E. (Electrical Engineering) (Elective - IV) (Semester - II) SMART GRID	
		(2012 Pattern)	
Time	: 2.1/2	Hours] [Max. Marks: 7	70
Instr	uction	ns to the candidates:	
	1) 2)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10. Figures to the right indicate full marks.	
	<i>3</i>)	Neat diagrams must be drawn wherever necessary.	
	4)	Assume suitable additional data, if necessary.	
Q1)	a)	Define Smart grid concept and explain its necessity. [5]
	b)	Explain the concept of Resilient and Self Healing Grid.	5]
	,	OR	•
Q2)	a)	Write a note on, "Real time prizing".	5]
	b)	Describe substation automation.	5]
Q3)	a)	Explain how the reliability of smart grid can be enhanced by integrating Intelligent Electronic Devices (IEDs) in to it.	ng [5]
	b)	Explain how automatic meter reading can make the system smarter. [5]
		OR	
Q4)	a)	List different smart appliances and describe an integration of sma appliances into grid for Home and Building Automation.	art [5]
	b)	What is Geographic Information System (GIS)?	5]
		Explain the components of GIS.	_
		-	

Q5) a) Explain concept of micro grid, and its need and applications. [8]

b) State and explain the issues of interconnecting the micro grid with the utility grid. [8]

OR

Q6) a) Write a note on 'protection & control of Microgrid'. [8]

b) Compare Microgrid and Smart Grid. [8]

Q7)	a)	Describe Power Quality Issues of grid connected Renewable Ener Sources.	gy [8]
	b)	Explain the concept of Power Quality and EMC in Smart Grid.	[8]
		OR	
Q8)	a)	Explain importance of power quality in smart grid & how it can improved.	be [8]
	b)	Write a note on 'Web based Power Quality Monitoring'.	[8]
Q9)	a)	Write a note on, 'IP based protocols'.	[9]
	b)	Explain cloud computing and its need.	[9]
		OR	
Q10) a)	Why cyber security is of prime importance in Smart grid & how it of be achieved?	an [9]
	b)	Explain the role HAN in smart grid.	[9]



Total No. of Questions : 8]	SEAT No.:
P2304	[Total No. of Pages : 2
[525	541-638
R.E. (Flectri	cal Engineering)

		SMADT CDID
		SMART GRID (2012 Pattern) (Elective - IV) (Semester - II)
		[Max. Marks: 70
Insti	rucuo 1)	ons to the candidates: Solve Q.1 Or Q.2, Q.3 Or Q.4, Q.5 Or Q.6, Q.7 Or Q.8.
	2)	Figures to the right indicate full marks.
	3)	Neat diagrams must be drawn wherever necessary.
	4)	Assume suitable data, if necessary.
Q1)	a)	State and explain the challenges for Smart Grid. [6]
	b)	Explain the function of Intelligent Electronic Devices & their application for monitoring & protection. [6]
	c)	List different smart appliances and describe an integration of smart appliances into grid for Home and Building Automation. [8] OR
Q2)	a)	Compare Conventional Grid and Smart Grid. [8]
	b)	How smart grid can be benefited by implementing PHEV technology?[6]
	c)	What is the role of Advanced Metering Infrastructure (AMI) in Smart Grid? [6]
Q3)	a)	Write a note on 'protection & control of Microgrid'. [8]
	b)	Explain concept of micro grid, and its need and applications. [8]

Q4) a)	Compare Microgrid and Smart Grid. [8]
b)	Describe Power Quality Issues of grid connected Renewable Energy Sources. [8]
Q5) a)	Write a note on 'Web based Power Quality Monitoring'. [8]
b)	Explain the concept of Power Quality and EMC in Smart Grid. [8] OR
Q6) a)	Describe Power Quality Issues of grid connected Renewable Energy Sources. [8]
b)	Explain the power quality audit and its importance in smart grid. [8]
Q7) a)	Explain the role HAN in smart grid. [9]
b)	Why cyber security is of prime importance in Smart grid & how it can be achieved? [9] OR
Q8) a)	Explain cloud computing and its need. [9]
b)	Explain cloud computing and its need. [9] Write a note on, Broadband over power line. [9]

Total No. of Questions: 8]		SEAT No.:
P3199	[5461]-239	[Total No. of Pages : 2

B.E. (Electrical Engineering) SMART GRID

(2012 Pattern) (Elective-IV(a)) (Semester-II) (End Sem.)

•	(2012 I attern) (Elective IV (a)) (Semester-II) (End Sem.)	
Time: 2	½ Hours] [Max. Marks :	70
Instructi	ions to the candidates:	
1)	Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.	
2)	Figures to the right side indicate full marks.	
3)	Neat diagrams must be drawn wherever necessary.	
4)	Assume suitable additional data, if necessary.	
Q1) a)	Define smart grid and its need.	[6]
b)	Explain the concept vehicle to Grid.	[6]
c)	Highlight on role of geographic information system in smart grid, a also give its function. OR	nd [8]
Q2) a)	Give present development and international policies in smart grid.	[6]
b)	Write a note on, "Smart substation".	[6]
c)	Explain how Smart Appliances can be the part of Smart Grid.	[8]
Q3) a)	Explain microgrid architecture.	[8]
b)	Discuss different Applications of micro grid.	[8]
	OR Co.	
Q4) a)	Explain about protection and control of microgrid.	[8]
b)	Describe the concept and formation of Micro Grid.	[8]

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Q5) a)	Explain EMC and its importance in smart grid.	[8]
b)	Describe the concept, power quality conditioners related to smart gr	id. [8]
Q6) a)	Describe Web Based Power Quality Monitoring.	[8]
b)	Explain the power quality audit and its importance in smart grid.	[8]
Q 7) a)	Explain the concept related to smart grid.	[9]
b)	Write a note on Cyber Controlled Smart Grid.	[9]
	OR	
Q8) a)	Explain the importance of Wi-Max based communication.	[9]
b)	Write a note on cloud computing.	[9]
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Total	No.	of Questions : 8] SEAT No. :				
P30	97	[Total No. of Pages : 2				
	- •	[5670] 198				
	B.E. (Electrical Engineering)					
	SMART GRID					
	(2012 Pattern) (Elective - IV (a)) (Semester - II)					
Time	: 21/2	[Max. Marks: 70				
Instr	uctio	ons to the candidates:				
	1)	Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.				
	<i>2</i>)	Figures to the right indicate full marks.				
	<i>3</i>)	Neat diagrams must be drawn wherever necessary.				
	<i>4</i>)	Assume suitable additional data, if necessary.				
01)	,					
Q1)	a) (Discuss the function of smart grid. [6]				
	b) \(\)	Explain Smart Storage Technology. [6]				
	c)	Highlight on role of Outage Management System and also give its function.				
	·					
		OR				
Q2)	a)	Explain the concept of resilient and self-healing grid. [6]				
	b)	Write a note on, "PMU",				
	c)	Write short notes on [8]				
		i) AMI and				
		ii) Pool time proving				
		ii) Real time plizing				
Q 3)	a)	i) AMI and ii) Real time prizing Explain concept of D.C micro grid, and its need. [8] Explain the smart micro grid, its benefit and compare with microgrid.[8] OR				
	b)	Explain the smart micro grid, its benefit and compare with microgrid.[8]				
		OR				
<i>Q4</i>)	a)	Describe architecture of microgrid. [8]				
	b)	Explain the need and application of Micro Grid. [8]				

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Q5)	a)	Explain Web Based Power Quality Monitoring.	[8]
	b)	Describe the concept, power quality conditioners related to smart gr	id. [8]
		OR	
Q6)	a)	Describe the power quality issues of grid connected renewable essurces.	nergy [8]
	b)	Explain the power quality audit and its importance in smart grid.	[8]
		OR	
Q7)	a)	Explain the concept and role of Cloud Computing in smart grid.	[9]
	b)	Write a note on ZigBee communication in smart grid	[9]
		OR OR	
Q 8)	a)	Explain the importance of IP Based Protocol in smart grid.	[9]
	b) _{\[\]}	Write a note on, HAN and NAN.	[9]
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