Total No. of Questions : 6]

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. Marks :30***

Instructions 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 Smart Grid? **[5]**

b) What are the different opportunities and Barriers of Smart Grid in India. **[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) Write a note on Remote Terminal Unit with block diagram and write 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]**

P.T.O.

Q5) 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]**

Total No. of Questions : 6] **SEAT No. :**

P219 **[Total No. of Pages : 1**

BE/INSEM/APR-549
B.E. (Electrical)
403150A : SMART GRID
(2015 Pattern) (Semester - II) (Elective - IV)

Time : 1 Hour] ***[Max. Marks : 30***

Instructions 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.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) What is the need of Smart Grid? What will be the components of Smart 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 Plug in Hybrid Electric Vehicles. **[5]**

b) Explain phase measurement unit and its importance in smart grid. **[5]**

OR

Q4) a) Write a note on Remote Terminal Unit with block diagram and write a function of each block. **[5]**

b) Explain, the "Feeder Automation". **[5]**

Q5) a) What is meant by Smart Sensors? Give and explain some smart sensors. **[6]**

b) Write a note on, "Real Time Prizing". **[4]**

OR

Q6) a) What is Geographic Information System (GIS)? Explain the components of GIS. **[6]**

b) Explain how automatic meter reading can make the system Smarter. **[4]**

Total No. of Questions : 10]

SEAT No. : ____

P6093

[Total No. of Pages : 2

[5561]-594
B.E. (Electrical Engineering)
SMART GRID (Elective - IV)
(2015 Pattern) (Semester - II)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Assume suitable additional data, if necessary.***

Q1) a) State and Explain the challenges for Smart Grid. **[5]**

b) Explain the concept Plug in Hybrid Electric Vehicles. **[5]**

OR

Q2) a) Write a note on, "Real time prizing". **[5]**

b) Explain phase measurement unit and its importance in smart grid. **[5]**

Q3) a) Explain how automatic meter reading can make the system Smarter. **[5]**

b) Explain how the reliability of smart grid can be enhanced by Integrating IED in to it. **[5]**

OR

Q4) a) List different smart appliances and describe an integration of smart appliances into grid for Home and Building Automation. **[5]**

b) Explain about formation of micro grid and its need. **[5]**

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

P.T.O.

Q6) a) Write a note on 'protection & control of Micro grid'. **[8]**

b) Compare Micro grid and Smart Grid. **[8]**

Q7) 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 grid. **[8]**

Q9) a) Write a note on, 'IP based protocols'. **[9]**

b) Explain cloud computing and its need. **[9]**

OR

Q10)a) Explain Power Quality issues of grid connected Renewable Energy Sources. **[9]**

b) Explain the role HAN in smart grid. **[9]**

❖❖❖❖

Total No. of Questions : 8]

SEAT No. :

P95

[Total No. of Pages : 2

[5871]-597
B.E. (Electrical Engineering)
SMART GRID
(2015 Pattern) (Semester - II) (Elective - IV) (403150A)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions 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 suitable data, if necessary.***

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

Q2) a) State and explain challenges of smart grid. **[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. **[6]**

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]**

OR

P.T.O.

Q6) a) Explain the concept of power quality and EMC in Smart Grid. **[8]**

b) Explain power quality audit and its importance in smart grid. **[8]**

Q7) a) Why cyber security is of prime importance in smart grid? How it can be achieved. **[9]**

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]**

Total No. of Questions : 8]

SEAT No. :

P3325

[Total No. of Pages : 2

[5670]-594
B.E. (Electrical)
SMART GRID
(2015 Pattern) (Semester - II) (403150A) (Elective-IV) (End Sem.)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and 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) 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

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]**

Q3) a) Explain concept of micro grid and its need and application. **[8]**

b) Explain about protection and control of micro grid. **[8]**

OR

Q4) a) What is Geographic Information System (GIS)? Explain the components of GIS. **[8]**

b) Explain how automatic meter reading can make the system smarter. **[8]**

Q5) 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.

Q6) a) Describe the 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 concept WAN related to smart grid. **[9]**

b) Write a note on 'Web based Power Quality Monitoring'. **[9]**

OR

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]**

Total No. of Questions : 8] **SEAT No. :**

PA-229 **[Total No. of Pages : 2**

[5927]-113
B.E. (Electrical Engineering)
SMART GRID
(2015 Pattern) (Semester - II) (Elective - IV) (403150A)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions 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.***
4) ***Assume suitable additional data, if necessary.***

Q1) a) Explain the concept of Resilient and Self Healing Grid. **[6]**

b) List different smart storage techniques and explain 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 make the system smarter. **[8]**

Q3) a) Explain the architecture 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 Microgrid, its need and applications. **[8]**

Q5) a) Highlight the issues related to Power Quality in Smart Grid. **[8]**

b) Describe the concept of power quality conditioners related to Smart Grid. **[8]**

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 achieved. **[9]**

Total No. of Questions : 6]

SEAT No. :

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 :1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.***
2) ***Figures to the right indicate full marks.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***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

Q2) 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]**

▽▽▽▽

Total No. of Questions : 6]

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)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates :

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.***
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) 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]**

Q3) a) Explain in detail Plug in Hybrid Electric Vehicles (PHEV). **[5]**

b) Explain, the "Feeder Automation". **[5]**

OR

Q4) a) Explain phase measurement unit and its importance in smart grid. **[5]**

b) What are Smart storage technologies and explain any two. **[5]**

Q5) a) What do you mean outage management system (OMS)? Explain how smart grid technologies can improve outage management processes. **[5]**

b) How Automated Meter Reading system Works? Draw block diagram 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 grid, and also give its function. **[5]**

⌘⌘⌘

Total No. of Questions : 8] **SEAT No. :**

P3601 **[Total No. of Pages : 2**

[4959]-1078

B.E. (Electrical Engineering)

SMART GRID

(2012 Pattern) (Elective - IV(a)) (Semester - II)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions 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.***
4) ***Assume suitable additional data, if necessary.***

Q1) 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, and also give its function. **[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]**

Q3) 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]**

Q5) 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.

Q6) a) Describe the 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 concept WAN related to smart grid. **[9]**

b) Write a note on Wi-Max based communication in smart grid. **[9]**

OR

Q8) 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. : ____

P3082

[Total No. of Pages : 2

[5154]- 648
B.E. (Electrical Engineering)
SMART GRID
(2012 Pattern) (Semester - II) (Elective - IV(a)) (End Sem.)

Time :2½ Hours] ***[Max. Marks :70***

Instructions to the candidates:

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) ***Assume suitable data, if necessary.***

Q1) 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]**

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

b) Explain about protection and control of microgrid. **[8]**

OR

Q4) a) Explain about formation of microgrid and also its need. **[8]**

b) Explain architecture of microgrid. **[8]**

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

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

OR

P.T.O.

Q6) 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]**

Q7) a) Explain cloud computing and its need. **[9]**

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]**

Total No. of Questions : 8]

SEAT No. :

P3150

[Total No. of Pages : 2

[5354]-638

B.E. (Electrical Engineering) (Semester - II)

SMART GRID

(2012 Pattern) (Elective -IV)

Time : 2:30 Hours] *[Max. Marks : 70*

Instructions 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.***
4) ***Assume suitable additional data, if necessary.***

Q1) a) Explain the concept of Resilient and Self healing Grid. **[6]**

b) Name different smart storage technologies and explain any two in detail. **[8]**

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]**

Q3) 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]**

P.T.O.

Q5) 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]**

OR

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 be improved. **[8]**

Q7) a) Explain the, concept WAN related to smart grid. **[9]**

b) Explain the importance of Bluetooth in smart grid. **[9]**

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. of Questions : 8]

SEAT No. :

P3795

[Total No. of Pages : 2

[5561]-197
B.E. (Electrical Engineering)
SMART GRID
(2012 Pattern) (Semester - II) (End Sem.) (Elective - IV (a))

Time : 2½ Hours] *[Max. Marks : 70*

Instructions 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.***
4) ***Assume suitable additional data, if necessary.***

Q1) a) Explain the various functions to be performed by smart grid, and how it becomes self healing. **[6]**

b) Give functions and benefits of Smart Meter. **[6]**

c) What is OMS system in smart grid, and Explain its components. **[8]**

OR

Q2) a) Give present development and pilot projects 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]**

P.T.O.

Q5) a) Explain types of power quality problems and its effect. **[8]**

b) Describe the concept, power quality conditioners related to smart grid. **[8]**

OR

Q6) a) Describe the 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 concept HAN related to smart grid. **[9]**

b) Write a note on IP based protocols in smart grid. **[9]**

OR

Q8) a) Explain the importance of Bluetooth in smart grid. **[9]**

b) Write a note on, Broadband over power line. **[9]**

Total No. of Questions : 10]

SEAT No. :

P2001

[Total No. of Pages : 2

[5059]-598

B.E. (Electrical Engineering) (Elective - IV) (Semester - II)

SMART GRID

(2012 Pattern)

Time : 2.½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.***
2) ***Figures to the right indicate full marks.***
3) ***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. **[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 smart appliances into grid for Home and Building Automation. **[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]**

P.T.O.

Q7) a) Describe Power Quality Issues of grid connected Renewable Energy Sources. **[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) 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 can be achieved? **[9]**

b) Explain the role HAN in smart grid. **[9]**

Total No. of Questions : 8]

SEAT No. :

P2304

[Total No. of Pages : 2

[5254]-638

B.E. (Electrical Engineering)

SMART GRID

(2012 Pattern) (Elective - IV) (Semester - II)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***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]**

P.T.O.

OR

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) Write a note on, Broadband over power line. **[9]**

✷ ✷ ✷

Total No. of Questions : 8]

SEAT No. : [ ]

P3199

[Total No. of Pages : 2

[5461]-239
B.E. (Electrical Engineering)
SMART GRID
(2012 Pattern) (Elective-IV(a)) (Semester-II) (End Sem.)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions 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, and also give its function. **[8]**

OR

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

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

b) Describe the concept and formation of Micro Grid. **[8]**

P.T.O.

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

b) Describe the concept, power quality conditioners related to smart grid. **[8]**

OR

Q6) a) Describe Web Based Power Quality Monitoring. **[8]**

b) Explain the power quality audit and its importance in smart grid. **[8]**

Q7) 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]**

Total No. of Questions : 8]

SEAT No. : ____

P3097

[Total No. of Pages : 2

[5670]-198

B.E. (Electrical Engineering)

SMART GRID

(2012 Pattern) (Elective - IV (a)) (Semester - II)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions 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 suitable additional data, if necessary.***

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. **[8]**

OR

Q2) a) Explain the concept of resilient and self-healing grid. **[6]**

b) Write a note on, "PMU". **[6]**

c) Write short notes on **[8]**

i) AMI and

ii) Real time prizing

Q3) a) Explain concept of D.C micro grid, and its need. **[8]**

b) Explain the smart micro grid, its benefit and compare with microgrid. **[8]**

OR

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

b) Explain the need and application of Micro Grid. **[8]**

P.T.O.

Q5) a) Explain Web Based Power Quality Monitoring. **[8]**

b) Describe the concept, power quality conditioners related to smart grid. **[8]**

OR

Q6) a) Describe the power quality issues of grid connected renewable energy sources. **[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

Q8) a) Explain the importance of IP Based Protocol in smart grid. **[9]**

b) Write a note on, HAN and NAN. **[9]**

♣♣♣