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Question Paper Code: 52955

M.E. DEGREE EXAMINATION, JUNE 2016

Elective

Power Electronics and Drives

15PPE520 – SMART GRID

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 20 = 100 Marks)

1. (a) (i) Define smart grid and give its functions. (10)
(ii) Give present development and international policies in smart grid. (10)

Or
- (b) (i) Explain the Resilient and self healing grid. (10)
(ii) Briefly explain about the conventional grid. (10)
2. (a) (i) Write a note on Smart Substation. (10)
(ii) Explain the concept High –Efficiency Distribution Transforms. (10)

Or
- (b) (i) Explain the concept Plug in Hybrid Electric Vehicles. (10)
(ii) Write the short note on phase shifting transformer. (10)

3. (a) (i) Brief about the Advanced Metering Infrastructure (AMI) drivers. (10)
(ii) Write a note on Phasor Measurement Unit. (10)

Or

- (b) (i) Explain the Intelligent Electronic Devices (IED) in detail. (20)

4. (a) Describe the power quality issues of grid connected renewable energy sources. (20)

Or

- (b) (i) Describe the concept, power quality conditioners related to smart grid. (10)

- (ii) Explain the power quality audit and its importance in smart grid. (10)

5. (a) (i) Write a note on, "IP based protocols". (10)

- (ii) Describe the Broadband over Power Line (BPL) in detail. (10)

Or

- (b) Give importance of House Area Network (HAN) and Wide Area Network (WAN) in smart grid. (20)
