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Question Paper Code: 55001

M.E.DEGREE EXAMINATION, NOV 2018

Elective

Course Work

15PPE501 - POWER ELECTRONICS FOR PV AND WIND ENERGY SYSTEMS

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) (i) Brief about the energy scenario available in India. CO1- U (10)
(ii) Enumerate the need to develop new energy technologies. CO1- U (10)
Or
- (b) Sketch the model of the following renewable energy sources CO1- U (10)
(i) Fuel Cell
(ii) Wind electric generators CO1- U (10)
2. (a) Draw the block diagram of the solar PV system and describe the principle of operation in detail. CO2- U (20)
Or
- (b) Explain the basic working principles of solar PV system used for power generation with necessary diagrams. CO2- U (20)
3. (a) (i) Mention the working principle, advantages and drawbacks of various inverters employed for Grid connected applications. CO3- U (10)
(ii) Rephrase the Characteristics of Grid connected inverter. CO3- U (10)

Or

- (b) Elaborate the control strategies involved in hybrid PV-Diesel systems. CO3- U (20)
4. (a) Discuss in detail the need, working principle, advantages and drawback of Grid connected wind energy systems. CO4- U (20)
- Or
- (b) Distinguish different types of Wind power turbines operated in wind power systems. CO4- U (20)
5. (a) Deduce various power Quality issues in hybrid renewable energy power systems and also the steps involved to mitigate the effects caused by the power quality issues. CO5- U (20)
- Or
- (b) Devise a model of wind energy conversion system. CO5- U (20)
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