

Registration Number:
PSNA College of Engineering and Technology
Department of Electrical and Electronics Engineering

Model Exam

Power Electronics for Renewable Energy Systems

Year/Sem : II (M.E)/III

Max.Marks:100

Staff In-charge: M.Kaliamoorthy

Time: 3 Hrs

PART A

1. What are Conventional and Non Conventional Energy Sources?
2. What are the classifications of PV system?
3. Why Forced Commutation rectifier is used in Induction Generator?
4. Give the applications of DFIG.
5. Why inversion mode is not possible in semi converters.
6. What are the advantages of PWM method?
7. Compare fixed and Variable speed operation of WECS.
8. What is the grid connected issues?
9. What is the need for hybrid renewable energy systems?
10. What is the purpose of MPPT?

PART B

11. (a) Explain in detail solar and Biomass energy systems. (16)
(OR)
b) Explain in detail wind and hydrogen energy systems. (16)
12. (a) With neat block diagram explain the basic principle of operation of self excited induction generator (SEIG). Also discuss in detail about the steady state analysis of SEIG. (16)
(OR)
b) Explain the various operating modes of Double Fed Induction Generator (DFIG).).Also discuss in detail about the steady state analysis of DFIG. (16)

13.(a) Explain the operation and working of Matrix converter with necessary diagrams. (16).

(OR)

b) Explain the principle of AC voltage controllers with necessary waveforms and diagrams. (16).

14.(a). Explain the principle and operation of fixed and variable speed wind energy conversion systems. (16).

(OR)

b) Explain in detail the working of Grid integrated solar system. (16).

15. (a) Draw the block diagram of Hybrid systems and explain the range and type of hybrid systems. (16).

(OR)

b) Explain the Maximum Power Point Tracking algorithm. (16).

Faculty In charge

HOD/EEE