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MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

M.Tech I Year II Semester (R14) Supplementary End Semester Examinations – February 2018

Smart Grid Design and Analysis

(Solar Power Systems)

Time: 3Hrs

Max Marks: 50

Attempt all the questions. All parts of the question must be answered in one place only.

In Q.no 1 to 5 answer either Part A or Part B only.

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| Q.1(A) | i. What is smart grid? | 10M |
| | ii. Explain how smart grid differs from existing grid? | 10M |
| OR | | |
| Q.1(B) | Explain various functions of smart grid. Justify how it is self-healing. | 10M |
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| Q.2(A) | Explain Phasor Measuring Unit (PMU) and its role in smart grid. | 10M |
| OR | | |
| Q.2(B) | List out different smart appliances and explain how they enhance the system. | 10M |
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| Q.3(A) | Write a short note on standards in smart grid and also what are the applications of Smart Grid Interoperability Standards. | 10M |
| OR | | |
| Q.3(B) | Describe the role of electric vehicle and plug in hybrid vehicles in micro grid. | 10M |
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| Q.4(A) | Briefly explain the approach to Smart Grid Interoperability Standards. | 10M |
| OR | | |
| Q.4(B) | Explain the state of the art and risks in cyber security | 10M |
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| Q.5(A) | Explain about the Classical Optimization and Heuristic Optimization method for smar | 10M |
| OR | | |
| Q.5(B) | Explain the generation level automation in the design of smart grid | 10M |

END