

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY,
LONERE – RAIGAD – 402 103**

Winter Semester Examination – Dec – 2019

Branch: M.Tech. (Electrical Power System)

Semester:II

Subject:- SMART GRID DESIGN AND ANALYSIS MTEPS203B Marks:60

Date:- 16/12/2019

Time:3 Hrs.

Instructions to the Students

1. Each question carries 12 marks.
2. Attempt any five questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly.

- | | (Marks) |
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| Q.1. A) What is the need of Smart Grid and Explain neatly with detailed reasons? | (6) |
| B) Distinguish between Conventional Grid and Smart Grid. | (6) |
| Q.2. A) Explain in detail about the Architecture of the Smart Grid. | (6) |
| B) Elaborate Functions of Smart Grid Components | (6) |
| Q.3.A) Draw the Structure PMU neatly and explain in detail about the functions of PMU. | (6) |
| B) Write down the Applications of PMU. | (6) |
| Q.4. A) Elaborate challenges to load flow in smart grid and weaknesses of the present load flow methods. | (6) |
| B) How Load flow for smart grid can be design? Explain in detail. | (6) |
| Q.5. A) Discuss Voltage Stability Assessment Techniques. | (6) |
| B) Discuss Energy management in smart grid. | (6) |
| Q.6. A) Explain about Plug-in Hybrid Electric Vehicle technology. | (6) |
| B) Explain about the case studies regarding the Energy Storage systems. | (6) |

Paper End