

M. Tech.-III (Electrical -Power System) (CBCS – 2015 Course) :

WINTER - 2018

SUBJECT: SELF-STUDY PAPER-I: B) ENERGY STORAGE DEVICES

Day: Saturday
Date: 08/12/2018

W-2018-3284

Time: 11.00 AM TO 02.00 PM
Max. Marks: 60

N.B:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Answers to both the section should be written in **SEPARATE** answer books.
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SECTION-I

Q.1 Write a note on brief history and modern era development of energy storage devices. **(10)**

OR

Write a note on analysis of energy market. **(10)**

Q.2 Explain dynamic duties of storage. **(10)**

OR

Explain energy and power balance in storage unit. **(10)**

Q.3 Explain 'Pumped Hydro Energy Storage System (PHESS)'. **(10)**

OR

Explain thermal storage in power plant. **(10)**

SECTION-II

Q.4 Discuss 'Superconducting Magnetic Energy Storage (SMES)'. **(10)**

OR

Explain 'Power System as Flywheel'. **(10)**

Q.5 Model 'Super Capacitor Energy Storage' (SCES). **(10)**

OR

Give parameters and characteristics of different storage technologies. **(10)**

Q.6 Explain fuel cells and their types. **(10)**

OR

Discuss transmission and distribution applications of Energy storage devices. **(10)**

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