Code No.: **40223/30223**

MR14 –Regular & MR13- Supply

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER REGULAR & SUPPLEMENTARY EXAMINATIONS, MARCH-2018

Branch: **EEE**

Subject: **Fundamentals of HVDC and Fact devices**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer All Questions **5x1Mark=5 Marks**

1. List out the applications of HVDC
2. Define valve rating
3. What is the conventional control strategies
4. What is loading capability limit.
5. What is single phase full wave bridge converter?

II. Answer All Questions **10x2Mark=20 Marks**

1. What is the function of DC filter
2. Write the disadvantages of DC transmission system?
3. Define transformer tap changing
4. Define twelve pulse converter with schematic diagram
5. What is sequential method of DC power flow
6. Write short notes on Synchronous condensers.
7. What are the major steps in power flow analysis
8. Draw the circuit for power flow control with variable phase angle.
9. Write the difference between single phase and 3 phase converter
10. Draw the circuit for 2 machine systems with ideal reactive compensator.

PART-B

Answer All Questions **5x10 Marks= 50Marks**

1. With neat sketches explain the different kinds of dc link available

OR

2. Write briefly about (a) Voltage control (b) Stability limits (c) Line compensation

3. Explain the power control in DC

OR

4. Differentiate between starting and stopping Dc link

5. With the block diagram, discuss the principle of operation of a basic power controller

OR

6. Explain the reactive power requirements in steady state with neat sketch

7. What are the constraint that limits the power flow and discuss the ways to overcome these limits

OR

8. Write the importance of controllable parameters

9. Write the operation of PWM converter

OR

10. What are the advantages and disadvantages of CSC over VSC