Unit 8 - Week 7

Assignment 7

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-18, 23:59 IST.

1) During the time of a DC fault in an MMC with half bride sub-modules,which among the following circuit elements are conducting after shutting off the gate pulses to IGBTs? ***1 point***

- IGBTs and arm inductors
- Diodes and Cell capacitors
- Cell capacitors and arm inductors
- Diodes and arm inductors

No, the answer is incorrect.
Score: 0
Accepted Answers:
Diodes and arm inductors

2) During the time of a fault in an MMC, the rate rise of fault current is limited by ***1 point***

- IGBTs
- Diodes
- Arm inductors
- Cell capacitors

No, the answer is incorrect.
Score: 0
Accepted Answers:
Arm inductors

3) An additional advantage of full bridge sub modules based MMC as over an MMC with half bridge submodules is ***1 point***

- modularity
- redundancy
- scalability
- DC fault tolerant capability

No, the answer is incorrect.
Score: 0
Accepted Answers:
DC fault tolerant capability

4) In a three phase MMC, if there are 100 cells in each arm, DC bus voltage rating is 400kV and each cell capacitance is 1mF, then what is theapproximate magnitude of energy stored in the cell capacitors? ***2 points***

- 4.8 MJ
- 3.4MJ
- 100kJ
- 1MJ

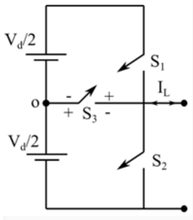
No, the answer is incorrect.
Score: 0
Accepted Answers:
4.8 MJ

5) An ideal MMC is working as a rectifier working at unity power factor. The AC line current is 500A (rms) and the modulation index is 0.9. The magnitude of the DC component in any arm current isclosest to ***2 points***

- 112A
- 159A
- 477 A
- 228 A

No, the answer is incorrect.
Score: 0
Accepted Answers:
159A

6) In the given converter,the ratio of voltage rating of S1 to voltage rating of S3 is, ***1 point***



- 1:1
- 2:1
- 1:2
- 3:2

No, the answer is incorrect.
Score: 0
Accepted Answers:
2:1

7) With same DC-link voltage, the voltage rating of a device in an NPC converter is …… as compared to two-level converter. ***1 point***

- Same
- Double
- Triple
- Half

No, the answer is incorrect.
Score: 0
Accepted Answers:
Half

8) Two three phase converters, one having a two-level topology and another with a 3-level NPC topology, feeds a load. Both the converters have same DC bus voltage magnitude. Which among the following statements is incorrect regarding the pole voltage of NPC as compared to the pole voltage of the two-level converter? ***1 point***

- NPC will have less dv/dt
- NPC will have better harmonic performance
- NPC will have higher number of levels
- NPC will have higher voltage magnitude

No, the answer is incorrect.
Score: 0
Accepted Answers:
NPC will have higher voltage magnitude