

2018

Week 19

130-235

4.8.2020

MAY

10

Thursday

OPEN QUANTUM SYSTEMS AND QUANTUM THERMODYNAMICS

TAUGHT BY

- prof. samyadeb bhattacharya

COURSE TOPICS

1. introduction to quantum mechanics and linear algebra
2. quantum states, density matrices, and von Neumann algebra
3. quantum dynamics: from unitary operations to completely positive trace preserving maps.
4. operator sum representation and introduction to basic quantum channels
5. quantum dynamical equations: from schrödinger equation to quantum master equations.
6. entropy production and laws of thermodynamics.
7. application: introduction to quantum heat engines.

JUN
2018

S M T W T F S
* * * * * 1 2

S M T W T F S
3 4 5 6 7 8 9

S M T W T F S
10 11 12 13 14 15 16

S M T W T F S
17 18 19 20 21 22 23

S M T W T F S
24 25 26 27 28 29 30

MAY

11

Friday

4.8.2020

2

2018

Week 19

131-234

TEXT BOOKS

9

1. john preskill lecture notes

10

2. theory of open quantum systems; breuer.

11

3. lecture notes in open quantum systems; alicki.

12

1

2

3

4

5

6

7

MAY
2018

S M T W T F S
* * 1 2 3 4 5

S M T W T F S
6 7 8 9 10 11 12

S M T W T F S
13 14 15 16 17 18 19

S M T W T F S
20 21 22 23 24 25 26

S M T W T F S
27 28 29 30 31 * *