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**UNIVERSITÄT
BERN**

HS2020: 11072 Advanced Networking and Future Internet

Theoretical Exercises 6

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Instructions

Submit your exercises in PDF format in the corresponding task on ILIAS by sunday, 01.11.2020 at 23:55.

Question 1 (2 points)

1.1 Virtualization is one of the most important technologies in data center networks, describe *in details* how it can improve resource utilization and flexibility.

1.2 Under certain conditions virtual machines in a network must be migrated from a server to another, how can layer 2 switching make the migration process seamless?

Question 2 (2 points)

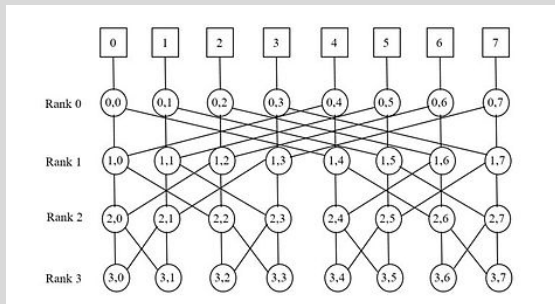
Describe *in details* how SDN and NFV can reduce costs and improve DCN management.

Questions 3 (2 points)

Explain the advantages and disadvantages of using butterfly , clos (and folded clos), and flattened butterfly topologies.

Question 4 (2 points)

Please depict how does data travel from Processor 2 to Processor 5 in a butterfly network as given below?



Question 5 (2 points)

What are the advantages of high-radix over low-radix?

Question 6 (2 points)

How can Traffic Engineering be applied in Data Centres? Describe opportunities and challenges *in details*.

Meta-Questions?

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