CC Exercises V4

Exercise 1: Total Number of Points [149] (149P)

1 Task: Definitions

1.) Define the terms “Utility Computing“ and “Web Resource“ in one or at most two sentences. [7] (7P)

2.) Which features has Cloud Computing (CC) inherited from Utility Computing? [18]-[7] (11 P)

3.) Which two questions must be asked in the beginning in order to categorize CC coarsely? [20]-[18] (2P)

4.) How would you define CSP in two sentences? [25]-[20] (5 P)

5.) a) What is thin provisioning and b) How is that possible? [29]-[25] (4 P)

6.) Define what CC via a CSP means for the user. [34]-[29] (5 P)

7.) Define the term public cloud in one sentence and give examples. [41]-[34] (7P)

8.) Explain what a private cloud is via a two sentence definition. [45]-[41] (4P)

9.) Describe in short what a hybrid cloud is and what is it good for? [48]-[45] (3P)

10.) Please give five characteristic points of the Infrastructure-as-a-Service provisioning-model. [55]-[48] (7P)

11.) What are in your opinion the three most important features of Platform-as-a-Service (PaaS). [62]-[55] (7P)

12.) a) Describe Software-as-a-Service (SaaS) in two sentences. b) Give two examples for SaaS. [66]-[62] (4P)

13.) What are the advantages of a multi cloud for a user? [69]-[66] (3P)

14.) What are the three special access offers from some CSPs? [72]-[69] (3P)

15.) What are the general (common) advantages of CC? [76]-[72] (4P)

16.) What are the general (common) disadvantages of CC? [81]-[76] (5P)

17.) What are the advantages of CC via CSP? [90]-[81] (9P)

18.) Describe the necessary steps needed for a successful VM Migration [93]-[90] (3P)
19.) What are disadvantages of CC via a CSP? [98]-[93] (5P)

20.) Define a Cloud OS in one or at most two sentences [100]-[98] (2P)

21.) What are the 5 main benefits of own Cloud OS that Cloud Admins can profit from during the Cloud setup and installation phase? Describe them in short phrases. [110]-[100] (10P)

22.) What are the main disadvantages of employing an own Cloud OS. [115]-[110] (5P)

23.) Define the three most important CC technologies that were created to serve users and maximise the profit for CSP. [118]-[115] (3P)

24.) List Linux Namespace components and describe their purposes briefly. [132]-[118] (14P)

25.) What are the main advantages of LXC in comparison with VMs. [134]-[132] (2P)

26.) What are the main aspects of virtualisation that have to be fulfilled?[139]-[134] (5P)

27.) Define in two sentences what a VM is. [142]-[139] (3P)

28.) a) Describe over-commitment in virtualisation. b) Draw a block diagram of 3 VMs with Ubuntu as a guest OS on a single host PC. Hint: the Host configuration is: 500GB HDD, 8GB RAM, Cent OS as host OS and 2 dual-core CPUs (4 cores in total). There is no over-commitment. [149]-[142] (8P)