Question 2

1. 1. Server-centric datacentres are where each server comes with specific resources, such as CPUs and GPUs, and all of these servers connect to the data centre network. A resource-centric data centre is where each server has a specific resource, e.g. just CPUs or just GPUs. In a resource-centric data centre, resources are combined on demand that make sense for the workload, as we have resource disaggregation, whereas server-centric database have a server with all resources combined, and so are less customisable to a specific workload.

Question 3

A)

I)

* Log of operations typically kept in non-volatile storage whilst actual data is in main memory
* Once operations are committed, they shouldn’t be able to be undone
* On failure the data should be reconstructed from the log

II)

* A guarantee of performance a service give to another service
* Necessary to provide formal guarantees in a large distributed system

III)

* A Combiner, also known as a semi-reducer, is an optional class that operates by accepting the inputs from the Map class and thereafter passing the output key-value pairs to the Reducer class. The main function of a Combiner is to summarize the map output records with the same key.

IV)

* A job scheduler is a computer application for controlling unattended background program execution of jobs.

B) Zookeeper paper is CW not examinable