

Question Paper



MANIPAL UNIVERSITY

SCHOOL OF INFORMATION SCIENCES (SOIS)
SECOND SEMESTER MASTER OF ENGINEERING - ME(Big Data and Data Analytics)
DEGREE EXAMINATION- APRIL 2017

Monday, 24, 2017

Time : 10:00 AM - 1:00 PM

Architecture of Big Data Systems [BDA 604]

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Identify three important architecturally significant requirements of a big data system of healthcare-centric data. (10)
- 2) With an example demonstrate how quality attribute requirements of big data systems may be specified. (10)
- 3) Analyze how decisions pertaining to the coordination model, Data model, and management of resources can ensure a better design process. (10)
- 4) Show how two key quality attributes - privacy and security - may be achieved using architecture Tactics. (10)
- 5) Analyze the unique features of the fault-tolerance model of Pregel. (10)
- 6) Analyze how situations where aggregators and combiners are valuable in Pregel's model of computation. (10)
- 7) Identify three limitations in the distributed scheduling model of Mesos. State their implications. (10)
- 8) Show with an example how message passing works in Pregel's vertex-centric model. (10)
- 9) Describe the salient features of Mesos behavior for homogeneous tasks. (10)
- 10) (10)

With the help of an example, demonstrate the computation model of Pregel.