Reg. No. :

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Mention the importance of grid computing and cloud computing.

2. List the services provided by a cloud.

3. Mention the limitations of using OGSA.

4. What are the security concerns associated with the grid ?

5. Distinguish between physical and virtual clusters.

6. Why do we need a hybrid cloud ?

7. How divide-and-conquer strategy does relates to MapReduce paradigm ?

8. What are the advantages of using HDFS ?

9. Outline the map and reduce functions.

10. Write a brief note on the security requirements of a grid.

PART – B   (5×13=65 Marks)

11. a) Write short notes on clusters of cooperative computers and service oriented
       architecture.

(OR)

    b) Overview the similarities and differences between grid computing and cloud
       computing.

12. a) Explain in detail with the functionalities of OGSA components.

                        (OR)

   b) Explain the data intensive grid service models with suitable diagrams.

13. a) What are the pros and cons of public, private and hybrid cloud ?

                        (OR)

   b) What is virtualisation ? Describe para and full virtualisation architectures. Compare and contrast them.

14. a) Explain the main components of Globus Toolkit (GT4) architecture. With a neat sketch, explain the different types of services offered by GT4 architecture.

                        (OR)

   b) Explain Hadoop framework with a neat sketch.

15. a) What is the need of GSI ? Describe the functionality of different layers in GSI.

                        (OR)

   b) What is the purpose of IAM ? Explain the functional architecture with an illustration.

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PART – C   **(1×15=15 Marks)**

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16. a) With an illustration, emphasize the significance of MapReduce paradigm in Hadoop framework. List out the assumptions and goals set in HDFS architecture for processing the data based divide-and-conquer strategy.

                        (OR)

   b) In today's world, infrastructure security and data security is highly challenging at network, host and application levels. Justify and explain the several ways of protecting the data at transit and at resist.

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