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25226

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answer with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: 10
- a) Define Grid Computing.
 - b) Enlist any four computing characteristics of cloud computing.
 - c) Enlist any four examples of SaaS.
 - d) Write any two advantages of cloud computing in Machine Learning.
 - e) State limitations of key-value computing databases.
 - f) List any two ML platforms used in data science.
 - g) Define cloud Machine Learning.

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- 2. Attempt any THREE of the following: 12**
- a) Describe the cloud computing architecture.
 - b) Define virtualization and explain the need of virtualization.
 - c) Explain Batch data and Streaming data in Machine Learning.
 - d) Enlist factors for selection of Cloud Machine Learning Platform.
- 3. Attempt any THREE of the following: 12**
- a) Explain Infrastructure as a service in detail.
 - b) Describe the architecture of Network virtualization.
 - c) Explain the following use cases of cloud storage:
 - i) Archiving
 - ii) Content Delivery.
 - d) Explain the services provided by AIaaS. Artificial Intelligence as a Service.
- 4. Attempt any THREE of the following: 12**
- a) Explain following roles of service oriented architecture.
 - i) Service Provider,
 - i) Service Consumer.
 - b) Compare Public, Private and Hybrid cloud.
 - c) Explain Block based system in detail.
 - d) Explain key features of Amazon. SageMaker.
 - e) Explain key features of pre-Tuned AI Services.
- 5. Attempt any TWO of the following: 12**
- a) Describe Data virtualization in detail. Explain how data virtualization is used in Banking and Healthcare sectors.
 - b) Define cloud Datawarehouse. Explain the working of Amazon Redshift. Enlist steps to configure Aws Redshift.
 - c) Explain functionality of Azure Machine Learning Studio. Write steps to create workspace and setup compute resources.

6. Attempt any TWO of the following:**12**

- a) Explain the following w.r.t. GPU as a service (GPUaaS).
 - i) Types of GPUaaS models,
 - ii) Use cases,
 - iii) Enlist any four GPUaaS providers..
 - b) Explain in detail ETL and ELT pipeline process.
 - c) Write steps to train Machine Learning project in the cloud. Explain in detail each step to train a deep learning model for image classification using a cloud-based GPU instance.
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