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Assignment -1

Q1. List and explain in detail types of works on CL.

Ans. Types of work on CL:

- *Risk #1—The solution may not meet its economic objectives:* Do the short-run and long-run ROI work. The key components to address when considering cloud ROI risk likelihood encompass utilization, speed, scale and quality. These components are constructed into most ROI forms and sway the headline numbers for buying into income, cost and time to return.
- *Risk #2—The solution may not work in the context of the client enterprise's association and culture:* The best way to address is having a clear dream and main heading for enterprise transformation, which encompasses top-level support. This should encompass the establishment of a clear roadmap for procurement or implementation of cloud services and applications that use them and coordination of stakeholders and vying schemes to get agreement for storage, computing, mesh and applications to bypass isles of demand usage.
- *Risk #3—The solution may be tough to evolve due to the adversity of incorporating the cloud services involved:* There is a risk which will not be probable to include in cloud services with the current system and with each other. The service integration risk can be considered by contemplating interface alteration cost, proficiency to change the existing system and available skills.
- *Risk #4—A catastrophe may occur from which the solution will not recover:* As part of a risk investigation, it should recognize the unplanned happenings that could damage and assess their probabilities and impacts. One may also wish to make general provision for unforeseen happenings that disturb the cloud services that use or impair the data.
- *Risk #5—System value may be insufficient, in order that it does not meet the users' needs:* The value of an external service can be considered utilizing the identical components as for the value of the solution. In addition, look at the track records of suppliers very carefully.

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Q2. Write a short note on data security advantages, disadvantages and challenges on CL.

Ans.

→ Advantages:-

1. Data centralization:-

- In a cloud atmosphere, the service provider takes responsibility of storage and small organizations need not spend more money for personal storage devices.

2. Incident response:-

- IaaS providers contribute dedicated legal servers which can be used on demand.

3. When there is a review, a backup of the environment → can be effortlessly made and put up on the cloud without affecting the ^{usual} course of business.

4. Reduction of storage reconstruction time:

- Some ~~can~~ cloud storage implementations reveal a cryptographic agreement addition or hash.

5. Logging:

- In a cloud, storage requirement for benchmark logs is mechanically solved.

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→ Disadvantages:-

1. Investigation:-

- Investigating an illegal undertaking may be unfeasible in cloud environments.

2. Data segregation:-

- Data home clients may not deserve to encrypt data because there may be a case when encryption misleads can decrypt the data.

3. Long-term validity:-

- Service providers should double-check the data security on altering enterprise positions, such as mergers and acquisitions.

4. Compromised servers:-

- If a server is compromised, we require to shut down the servers down until they get a backup of the data.

5. Recovery:-

- Cloud service providers should double-check the data security on natural and man-made disasters.

→ Challenges:-

1. Data breaches:-

- Resulting from misconfigurations, weak access controls, or inadequate encryption.

2. Poor identity and access management (IAM):-

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- Inadequate IAM practices including weak passwords, insufficient monitoring, etc.
- 3. weak cloud configurations :-
 - misconfigured cloud environments, such as public access to private data or failing to configure network settings.
- 4. Cloud misconconfigurations:-
 - misconconfigurations, such as public access to cloud storage buckets.
- 5. Insider Threats:-
 - The risk of malicious or accidental actions by employees, contractors, or third-party vendors.

Q.3. Explain on how cloud digital persona.

- Ans. Cloud computing supports rapid, cost-effective app deployment but introduces concerns about security, privacy, and compliance.
- Data protection must be enforced across all platforms with layered security.

→ Security Levels for cloud data:

1. Level 1:

- Encrypt data during transmission using secure protocols (e.g.: HTTPS).

2. Level 2:

- Restrict access to documents, but content is not encrypted.

3. Level 3:

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- Add content encryption along with access control to handle sensitive data.
- Level 4:
 - Includes all level 3 protections plus advanced controls like admin rights, watermarking and content moderation.
- Data protection needs:-
 - Data must be protected across all environments - desktops, networks, mobile devices, and cloud platforms.
 - As data often flows through collaborative and complex workflows, consistent security across all touchpoints is essential.
- Q4. Discusses secure cloud software requirements and examples of tools / platforms for cloud software testing.
 - Cloud software requirements
When enterprises take up cloud computing and establish databases on virtual environments, they run the risk of revealing highly-sensitive data to internal and external attacks.
 - The outsourced environment of the cloud and inherent loss of control proceeds along and hence sensitive data should be made fully supervised to double-check that it is inherently protected.
 - To further complicate things, ensuring double check that it is inherently protected.
 - Virtualization and cloud computing lend larger flexibility and effectiveness by giving you the proficiency

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to proceed servers and add or eliminate assets.

- Software testing tools/platforms for computing:-
- ~~New open with~~ google documents, flickr, Buzzword and Zoho as examples of general purpose applications that use cloud computing technology it is only a matter of time before cloud computing is seen as the most viable option for application development and deployment.
- Visit Testera tools for open source software testing tools and scripts encompassing a dedicated cloud computing testing tools
- Cloud Tools and RightTest are the test makers which comprises of products that will help the future of robust cloud-based software testing & functions.