

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

FOURTH/FIRST YEAR EXAMINATION FOR THE
DEGREE BACHELOR OF SCIENCE (COMPUTER
SCIENCE)

COMP 416: CLOUD COMPUTING

STREAM: R

TIME: 2 HRS

DAY: WED [2.30PM – 4.30PM]

DATE: 14/12/2022

THIS QUESTION PAPER CONSISTS OF THREE (3) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

QUESTION ONE

- (a) Write the name of top ten obstacles and opportunities for adoption and growth of cloud computing? (8 Marks)
- (b) Discuss the role of VIRTUALIZATION in cloud computing. (4 Marks)
- (c) What are the Key Components of a Service-Level Agreement? (4 Marks)
- (d) Define the term cloud computing (2 marks)
- (e) What are the essential characteristics of cloud computing? (6 Marks)
- (f) Discuss three classes, in cloud computing according to the abstraction level of the capability provided and the service model of providers, (4 Marks)
- (g) What do you understand by the term infrastructure as a service IaaS. (2 marks)

QUESTION TWO

- (a) What are system integrators in Cloud Computing? (4 Marks)
- (b) What are the characteristics of cloud architecture that separates it from traditional one? (4 Marks)
- (c) Discuss three "New and Emerging Technologies" in cloud computing. (4 Marks)
- (d) Mention the services that are provided by Window Azure Operating System? (4 Marks)
- (e) What are Factors to be considered which designed Cloud based Architecture? (4 marks)

QUESTION THREE

- (a) What are the SECURITY CONSIDERATIONS in cloud? (4 Marks)
- (b) What implications do the cloud Technologies themselves have for organisational capabilities? (4 Marks)
- (c) Discuss the following top current strategic cloud technology trends named below. (12 Marks)
 - (i) Workload Monitoring.
 - (ii) hybrid clouds,
 - (iii) What is Resource Pool?
 - (iv) What is the goal of Autonomic Cloud bursting?

- (v) Define Load Dynamic.
- (vi) Autonomic cloud bridging

QUESTION FOUR

- (a) Technology trends continue to increase the processing capabilities of mobile devices. The latest smartphones include up to 8 processing cores and often have fairly powerful GPUs as well. In spite of this, it may make sense to offload computation to the cloud or a cloudlet. Describe two circumstances under which it might be beneficial to offload application functionality from such a powerful smartphone? (5 marks)
- (b) List out types of policies in cloud bridging. (5 Marks)
- (c) What are the characteristics of cloud architecture that differ from traditional cloud architecture? (5 Marks)
- (d) State the advantages of cloud service deployment. (5 Marks)

QUESTION FIVE

- (a) Define virtualization. (2 Marks)
- (b) How will you implement storage virtualization at the server level? (4 Marks)
- (c) What is cloud provisioning? (2 Marks)
- (d) List down the risks from multi-tenancy with respect to various cloud environments. (4 Marks)
- (e) Explain the service models of distributed and cloud computing in detail. (2 Marks)
- (f) Describe the different types of virtualization. (4 Marks)
- (g) How to manage resources in inter cloud? Explain. (2 marks)

