**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **4BT7162** | Roll No. | Total Printed Pages: 2 |
| **4BT7162** |  |
| B. Tech. IV Year VII-Semester (Back) End Semester Examination, November 2022  **(CC)** | |
| **BCC07105.3 : OpenStack Cloud** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **1. --------------------------Nil--------------------** **2. ------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** |
| **Q.1** | **(a)** | Elucidate various deployment models of Openstack with examples. | **(6)** |
|  |  |  |  |
|  | **(b)** | On the time-line graph, explain various releases of Openstack with their components. | **(6)** |
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|  |  | **OR** |  |
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| **Q.2** | **(a)** | Discuss Openstack licensing and core services provided by Openstack cloud. | **(6)** |
|  |  |  |  |
|  | **(b)** | With the help of a diagram, discuss how various components in logical architectures of OpenStack are deployed. | **(6)** |
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|  |  | **UNIT-II (CO2)** |  |
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| **Q.3** | **(a)** | With the help of a diagram, discuss various process & their functions in the image service of Openstack. | **(6)** |
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|  | **(b)** | Demonstrate the architecture of Network-as-a-service in Openstack for the provision of network resources for on-demand services via software. | **(6)** |
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|  |  | **OR** |  |
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| **Q.4** | **(a)** | Discuss the implementation of object storage services & swift data model in Openstack. | **(6)** |
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|  | **(b)** | Demonstrate the monitoring and metering services in Ceilometer component of Openstack cloud. | **(6)** |
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|  |  | **UNIT-III (CO3)** |  |
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| **Q.5** | **(a)** | Analyse & discuss the implementation of three different nodes in Openstack cloud. | **(6)** |
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|  | **(b)** | Give detailed description on security requirements & various security domains for Openstack cloud deployment | **(6)** |
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|  |  | **OR** |  |
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| **Q.6** |  | Demonstrate & write all the steps to configure an open source cloud computing platform that allows businesses to control large pools of compute, storage and networking in a data centre to ensure high availability of user applications. Assuming single node implementation. | **(12)** |
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|  |  | **UNIT-IV (CO4)** |  |
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| **Q.7** | **(a)** | Write & describe the steps to obtain a network and a router through user interface on Openstack cloud. | **(6)** |
|  |  |  |  |
|  | **(b)** | Explain the requirement of managing the security groups and further discuss the steps to create security group and few rules for external traffic to connect to the instance. | **(6)** |
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|  |  | **OR** |  |
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| **Q.8** |  | Demonstrate & write all the steps for launching an instance in the internal network and access it from the physical network. | **(12)** |
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|  |  | **UNIT V (CO5)** |  |
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| **Q.9** | **(a)** | Give an illustration of Designate in a multi-tenant DNS-as-a-service for hosting multiple projects/organization. | **(6)** |
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|  | **(b)** | Draw the block storage service architecture and discuss the implementation of cinder as a block storage management component. | **(6)** |
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|  |  | **OR** |  |
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| **Q.10** | **(a)** | With the help of an example diagram, give the illustration of the distribution of incoming request between designated instances using LBaaS. | **(6)** |
|  |  |  |  |
|  | **(b)** | Write a note on cloud orchestration using heat service. | **(6)** |