

**APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY  
08 PALAKKAD CLUSTER**

Q. P. Code : 08CSE19-6052A-1

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Name: .....

Reg. No:.....

**SECOND SEMESTER M.TECH. DEGREE EXAMINATION MAY 2019**

**Branch: Computer Science and Engineering Specialization: Computer Science and Engineering**

**08 CS 6052 (A) : CLOUD COMPUTING**

(Common to CSE)

Time:3 hours

Max. marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	Differentiate private public and hybrid cloud	3
<b>Answer b or c</b>		
b	Illustrate an overview of NIST cloud computing reference model	6
c	Distributed computing systems are mainly classified into five categories. Discuss any two systems in detail	6
Q.no.	Module 2	Marks
2.a	Why OS level virtualization is needed?	3
<b>Answer b or c</b>		
b	Virtualization can be applied into different levels, "ranging from hardware to application". Comment your opinion with explanation	6
c	Depending on the position of the virtualization level, here are several classes of VM architectures are available. Explain any two in detail.	6
Q.no.	Module 3	Marks
3.a	What is the role of IGG in dynamic resource deployment	3
<b>Answer b or c</b>		
b	Identify six open challenges in cloud architecture development	6
c	Consider the following issues in cloud infrastructure management. how this issues are solved by VM managers	6
	i. Resource management of independent service jobs	
	ii. Execution of third party cloud application	

<b>Q.no.</b>	<b>Module 4</b>	<b>Marks</b>
<b>4.a</b>	Construct a comparison table of MapReduce++ sub categories	<b>3</b>
<b>Answer b or c</b>		
<b>b</b>	Illustrate the data flow in running a job in Hadoop	<b>6</b>
<b>c</b>	Consider the following dataset regarding the electrical consumption of an organization. It contains the monthly electrical consumption and the annual average for various years.	<b>6</b>

Small Sample: [You can add some more lines to the input file].

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1979	23	23	2	43	24	25	26	26	26	26	25	26
1980	26	27	28	28	28	30	31	31	31	30	30	30
1981	31	32	32	32	33	34	35	36	36	34	34	34
1984	39	38	39	39	39	41	42	43	40	39	38	38
1985	38	39	39	39	39	41	41	41	00	40	39	39

Write a Mapreduce Application to find year wise average electrical consumption  
[Note: record output only if average > 30]

<b>Q.no.</b>	<b>Module 5</b>	<b>Marks</b>
<b>5.a</b>	What are the five broad classes of instances in amazon AWS	<b>4</b>
<b>Answer b or c</b>		
<b>b</b>	Different cloud providers use different storage services in their cloud system. Explain how Amazon EC2 and Google App engine handle storage services	<b>8</b>
<b>c</b>	Cloud software environments have importance in emerging cloud technologies. Discuss any two software environments	<b>8</b>

<b>Q.no.</b>	<b>Module 6</b>	<b>Marks</b>
<b>6.a</b>	List out the six phases of SDLC?	<b>4</b>
<b>Answer b or c</b>		
<b>b</b>	Discuss data, application and virtual machine security in detail	<b>8</b>
<b>c</b>	Identify the security challenges in cloud	<b>8</b>