

	Subject Code: KCA101											101	
Roll No:													

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## **MCA** (SEM I) THEORY EXAMINATION 2021-22 FUNDAMENTAL OF COMPUTERS & EMERGING TECHNOLOGIES

Time: 3 Hours Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SE	C	ГΙ	M	V	A

1	SECTION A Attempt <i>all</i> questions in brief.	2 x 10 =	- 20				
Q no.	Question	Marks	CO				
a.	Which is the fastest memory unit?	2	1				
ь.	Write an algorithm to check whether a given number is even or odd.	2	1				
c.	Give the advantages of Graphical User Interface (GUI).	2	2				
d.	Discuss some differences between LANs and WANs.	2	2				
e.	Discuss crawling, indexing, and ranking in context to search engines.						
f.		2 2	3				
	In what ways is IoT energy efficient?  Name the two types of records that are present in the blockchain database.						
g.		2 2	4				
h.	Summarize the applications of cloud computing.						
i.	Define big data analytics.	2	5				
j.	Compare quantum computing with classical computing.	2	5				
2.	SECTION B Attempt any <i>three</i> of the following:	x3=30					
Q no.	Question	Marks	СО				
a.	Build a flowchart to calculate the factorial of a number.	10	1				
b.	What are the advantages of a Mesh topology?	10	2				
c.	Summarize the applications of Industrial Internet of Things (IIoT).	10	3				
d.	Explain the architecture of Amazon Web Services (AWS).	10	4				
e.	How can augmented reality be used in everyday life? Summarize.	10	5				
	SECTION C		<u> </u>				
3.	Attempt any one part of the following:	10x1=10	)				
Q no.	Question	Marks	CO				
a.	What do you mean by memory? Classify memory hierarchy in terms of speed, size and cost.	10	1				
b.	Outline the difference between application software and system software. Give examples.	10	1				
4.	Attempt any one part of the following:	10x1=10	)				
a.	What is the role of an operating system in resource allocation? Explain how hard real time operating systems are different from soft real time operating systems?	10	2				
b.	What is meant by Data Communication? Explain its characteristics.	10	2				
5.	Attempt any one part of the following:	10x1=10					
a.	What are the elements of Internet architecture? Summarize.	10	3				
b.	On what basis can a city be called a smart city? Illustrate the role of technology for making a city to be a smart city.	10	3				
6.	Attempt any one part of the following:	10x1=10					
a.	Demonstrate the difference between SaaS, PaaS and IaaS related to computing?	o10 cloud	4				
b.	What is blockchain? How is the blockchain created? Explain the use of the Genesis block.	10	4				
7.	Attempt any one part of the following:	10x1=10					
a.	Explain the architecture of Brain Computer Interface. Give its applications.	10	5				
b.	Explain the terms recycling and reusing in context to green computing? Explain in detail.	10	5				