PAPER ID-411590

Subject Code: KCA101

Roll No: | | | | | | | | | | | | | |

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.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

Q no.	Question	Marks	CO
a.	Which is the fastest memory unit?	2	1
b.	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.	2	3
f.	In what ways is IoT energy efficient?	2	3
g.	Name the two types of records that are present in the blockchain database.	2	4
h.	Summarize the applications of cloud computing.	2	4
i.	Define big data analytics.	2	5
j.	Compare quantum computing with classical computing.	2	5

SECTION B

2. Attempt any *three* of the following: 10x3=30

Q no.	Question	Marks	CO
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

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 cloud computing?	10	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