PAPER ID-311356

Roll No:

MCA
(SEM I) THEORY EXAMINATION 2024-25
FUNDAMENTAL OF COMPUTERS & EMERGING TECHNOLOGIES

TIME: 3 HRS   **M.MARKS: 70**

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 07 = 14**

Q no.	Question	CO	Level
a.	What are the main differences between input and output devices in computer hardware?	CO1	K1
b.	How do a compiler and an interpreter differ in the context of computer programming languages?	CO1	K1
c.	Define an operating system and explain its primary role in a computer system.	CO2	K2
d.	Differentiate between LAN, WAN, and MAN in terms of their geographical coverage and use.	CO2	K2
e.	Describe the functioning of the World Wide Web (WWW) and its role in the Internet.	CO3	K4
f.	What is block chain and how does it ensure data security and transparency?	CO4	K2
g.	What is Quantum Computing, and how does it differ from traditional computing in terms of processing power?	CO5	K1

SECTION B

2.   **Attempt any *three* of the following:**   **07 x 3 = 21**

Q no.	Question	CO	Level
a.	Define a computer and explain the various components of a computer system. Discuss the roles of hardware and software in the functioning of a computer.	CO1	K2
b.	Discuss the different types of operating systems. Explain their characteristics and provide examples for each type.	CO2	K2
c.	Discuss the basic services provided by the Internet. Explain the function and use of each of these services.	CO3	K4
d.	Discuss the key features of block chain technology. Also explain the limitations of block chain technology.	CO4	K2
e.	Explain the concept of Augmented Reality (AR). Discuss its features and how it enhances the real world by superimposing digital information?	CO5	K2

SECTION C

3.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

Q no.	Question	CO	Level
a.	Describe the various components of computer hardware. Explain the functions of input devices, output devices, Central Processing Unit (CPU), and memory.	CO1	K2
b.	Define computer software. Differentiate between system software and application software. Provide examples of each and explain their respective functions.	CO1	K2

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4.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

Q no.	Question	CO	Level
a.	Explain the concept of data communication in computer networks. Discuss the different methods of data transmission and the importance of protocols in ensuring reliable communication.	CO2	K3
b.	Define network topology and discuss the various types of topologies. Explain the advantages and disadvantages of each topology in terms of performance, cost, and maintenance.	CO2	K3

5.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

Q no.	Question	CO	Level
a.	What is a search engine? Explain how search engines work. Discuss the importance of search engine optimization (SEO) in improving website visibility.	CO3	K4
b.	Define the Internet of Things (IoT). Explain the role of sensors in IoT systems and discuss the different types of sensors and their features.	CO3	K4

6.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

Q no.	Question	CO	Level
a.	Define crypto currency and explain how it works. Discuss the applications of crypto currencies in digital payments, cross-border transactions, and investment.	CO4	K2
b.	Define cloud computing and explain its nature. Discuss the key benefits of cloud computing in data storage and processing.	CO4	K2

7.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

Q no.	Question	CO	Level
a.	Define green computing and explain its importance in reducing environmental impact. Discuss the nature of green computing and its benefits.	CO5	K2
b.	Explain the concept of big data analytics and its significance. Discuss its features, including the 5 V's. Provide examples of how big data analytics is applied in industries.	CO5	K2