Subject Code: BBC101

PAPER ID-311406

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(SEM I) THEORY EXAMINATION 2024-25

FUNDAMENTALS OF COMPUTER

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.	Match various output devices with their ideal use cases in different professional fields, explaining why certain devices are preferred over others.	1	K1, K2
b.	Discuss how advancements in printing technology are shaping industries like manufacturing and healthcare.	1	K1, K2
c.	Explain how data access speed and volatility impact system performance.	2	K2
d.	Demonstrate the role of RAM and ROM in a computing system.	2	K2
e.	Model a real-world application where binary arithmetic is crucial.	3	K3, K4
f.	Compare the features of Windows, Linux, and macOS operating systems.	4	K2
g.	Define the architecture of the World Wide Web.	5	K1, K2

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

Q no.	Question	CO	Level
a.	Relate the importance of software classification in determining system performance, security, and usability. Compare proprietary and open-source software in terms of their advantages and limitations.	1	K1, K2
b.	Translate a given high-level language code snippet into machine code, explaining each step of the translation process.	2	K2
c.	Build a step-by-step framework for converting numbers between binary, octal, decimal, and hexadecimal systems. Explain the importance of each system in computing.	3	K3, K4
d.	Demonstrate the step-by-step process of setting up a computer network, including hardware requirements, configuration settings, and security measures.	4	K2
e.	Relate the importance of email communication in professional environments, discussing best practices and security concerns.	5	K1, K2

SECTION C

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

Q no.	Question	CO	Level
a.	Label the different types of software used in modern computing environments, categorizing them into system software, application software, and middleware. Explain their interdependencies with relevant examples.	1	K1, K2

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b.	List the key differences between primary input devices and advanced input devices. Discuss the impact of these devices on user accessibility and efficiency.	1	K1, K2

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

Q no.	Question	CO	Level
a.	Illustrate the process of data retrieval from a hard disk drive, comparing it with solid-state drives. Discuss the implications of SSD technology on data-intensive applications.	2	K2
b.	Infer the significance of different programming languages in software development. Compare high-level, low-level, and machine-level languages with examples of their usage.	2	K2

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

Q no.	Question	CO	Level
a.	Experiment with different binary complement methods to perform signed number arithmetic. Explain how these methods simplify subtraction operations.	3	K3, K4
b.	Identify the significance of hexadecimal representation in memory addressing and discuss its advantages over binary and decimal representations.	3	K3, K4

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

Q no.	Question	CO	Level
a.	Illustrate the working of a LAN, WAN, and MAN with real-world examples, explaining how data transmission differs in each type.	4	K2
b.	Infer the impact of cloud computing on traditional networking models, highlighting the benefits and challenges of cloud-based infrastructure.	4	K2

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

Q no.	Question	CO	Level
a.	Label different types of multimedia components. Explain their role in enhancing user experience in digital platforms.	5	K1, K2
b.	List various internet protocols and describe how they facilitate seamless data transmission across networks.	5	K1, K2

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