

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER– VII EXAMINATION – SUMMER 2026****Subject Code:3171618****Date:05-06-2026****Subject Name: Blockchain****Time: 02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Define (1) Block (2) Nonce (3) Altcoin	03
	(b) Which are different use cases of cryptocurrencies?	04
	(c) Discuss various components of blockchain	07
Q.2	(a) Write various applications of blockchain	03
	(b) Describe consensus mechanism in blockchain	04
	(c) Explain concept of decentralization and distribution in blockchain	07
	OR	
	(c) Describe smart contract with suitable example of any industry	07
Q.3	(a) What is bitcoin mining?	03
	(b) Discuss different types of smart contracts	04
	(c) Analyze Ethereum blockchain and discuss its various use cases	07
	OR	
Q.3	(a) Discuss 51% attack in blockchain	03
	(b) Describe key characteristics of private blockchain	04
	(c) Elaborate any popular public blockchain and discuss its features	07
Q.4	(a) Explain proof-of-work algorithm in blockchain	03
	(b) Discuss consortium blockchain with example	04
	(c) Explain different types of blockchain oracles in detail	07
	OR	
Q.4	(a) Discuss pBFT algorithm	03
	(b) Differentiate public blockchain and private blockchain	04
	(c) Discuss state machine replication in permissioned blockchain	07
Q.5	(a) Discuss about Metamask	03
	(b) Describe important characteristics of Ripple	04
	(c) Elaborate blockchain applications in healthcare sector	07
	OR	
Q.5	(a) What is crypto wallet? Give two examples of crypto wallet	03
	(b) How can blockchain be used in education sector ?	04
	(c) Explain the limitations and challenges in blockchain implementation	07
