

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 5 – EXAMINATION – SUMMER 2026

Subject Code: 3154902

Date: 25/05/2026

Subject Name: Animation Principles and Design

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.**

- Q.1**
- (a) Define animation and explain its types with examples **03**
 - (b) Explain how animation is used in the entertainment and advertisement industries with examples. **04**
 - (c) Describe the 12 Principles of Animation in detail. **07**
- Q.2**
- (a) Explain the importance of sequential movement drawing in character animation. **03**
 - (b) Discuss the wave principle and how it contributes to smooth motion in animation. **04**
 - (c) Compare and contrast 'Straight Ahead' and 'Pose to Pose' techniques. **07**
- OR
- Q.2**
- (c) Explain the concept of recoil effects in animation. How are these related to the physical properties of matter? **07**
- Q.3**
- (a) Explain Line of Action and Path of Action with suitable examples. **03**
 - (b) Explain the principle of "Exaggeration" in animation with an example. **04**
 - (c) Discuss the character development process in animation. **07**
- OR
- Q.3**
- (a) Differentiate between caricature, drama, and humour in animation. **03**
 - (b) Explain the structure of a basic walk cycle and how it differs between animals and humans. **04**
 - (c) Describe the process of lip-syncing in character animation. Provide key steps and techniques used. **07**
- Q.4**
- (a) Describe the process of creating animation using sand or paint on glass. **03**
 - (b) Explain with examples: **04**
 - i. Cut-Out Animation
 - ii. Puppetry Animation
 - (c) Write the complete process of frame-by-frame animation. **07**
- OR
- Q.4**
- (a) Explain the basic steps involved in creating a Claymation animation without armatures. **03**
 - (b) How are puppets manipulated in stop-motion animation for realistic movement? **04**
 - (c) Describe different 2D animation techniques in detail. **07**

Q.5	(a) Explain how animators simulate rain in animated scenes.	03
	(b) Distinguish between "Primary Action" and "Secondary Action" in animation. Why are both essential?	04
	(c) Analyze how explosions are animated. Discuss timing, breakdown, and impact.	07
	OR	
Q.5	(a) Describe techniques for creating water ripples and waves in 2D animation.	03
	(b) Discuss the impact of the Dawn of Digital Animation on the animation industry.	04
	(c) Explain how to animate a flame realistically in different environments (e.g., wind).	07
