



PAC INSTITUTE OF TECHNOLOGY AND SOCIAL STUDIES SEPTEMBER – DECEMBER 2025 ASSESSMENT

FORMATIVE ASSESSMENT

Course : ANIMATION AND DIGITAL MEDIA
Level : 6
Unit of Competency : 3D CHARACTER RIGGING 2

WRITTEN ASSESSMENT TIME: 3 HOURS

INSTRUCTIONS TO THE CANDIDATE:

- 1. Read all the instructions carefully before attempting the questions.*
- 2. This paper consists of two sections, A & B.*
- 3. You are allowed 3 Hours to Answer the questions.*
- 4. Marks for each question are indicated in brackets.*
- 5. Write your responses in the Separate Answer booklet provided.*
- 6. Do not write anything on this question paper.*

SECTION A: (40 MARKS)

Answer ALL questions in this section.

1. Define the term character rigging. (2 marks)
2. Identify TWO types of character rigs used in 3D animation. (2 marks)
3. List THREE main features of a 3D software interface relevant to rigging. (3 marks)
4. State ONE purpose of conducting a character analysis before rigging. (2 marks)
5. Name any TWO examples of 3D software commonly used for character rigging. (2 marks)
6. Define the term Forward Kinematics (FK). (2 marks)
7. Define the term Inverse Kinematics (IK). (2 marks)
8. Identify TWO major differences between FK and IK. (3 marks)
9. List any THREE types of rig controllers used in 3D rigging. (3 marks)
10. Name any TWO rig constraints and their basic function. (3 marks)
11. State TWO reasons for testing character rig controllers. (2 marks)
12. Identify TWO key aspects to check when testing rig constraints. (2 marks)
13. List THREE methods of integrating a character rig with a 3D model (skinning). (3 marks)
14. Define the term vertex weighting in skinning. (2 marks)
15. Identify THREE deformation areas to test after rigging. (3 marks)
16. State TWO ways to ensure realistic facial deformation. (2 marks)

SECTION B: (60 MARKS)

Answer any THREE questions in this section.

17. You have been hired as the technical artist for a 3D animation studio producing a series featuring multiple characters performing everyday movements such as walking, lifting objects, dancing, and interacting with props. Before animation can begin, you are required to build complete character rigs that support both simple and complex motions. As part of your task, you must understand the full rig-development pipeline and choose appropriate control systems to ensure smooth and realistic animation.
- a) Explain the major steps involved in developing a character rig from start to finish, highlighting both automated and custom rig processes. (10 marks)
 - b) Differentiate between Forward Kinematics and Inverse Kinematics (10 marks)
18. You are preparing a 3D character for an animated project and must ensure the rig performs correctly before it is approved for production. As part of this process, you are required to test all rig components and evaluate how well the skinning supports natural movement.
- a) Describe the process of testing a character rig, including how you would inspect the effectiveness of rig controllers, constraints, and deformation results. (10 marks)
 - b) Examine the importance of skinning in 3D character rigging (10 marks)
19. Compare and contrast automated and customized rigging systems, citing specific FIVE advantages and FIVE disadvantages of each in professional 3D animation production. (20 marks)
20. Design and formulate a simple test plan for evaluating the rig performance of a humanoid character, including at least FIVE test parameters. (20 marks)