CBSE | DEPARTMENT OF SKILL EDUCATION
CURRICULUM FOR SESSION 2024-2025

MULTI - MEDIA (SUB. CODE-821)

JOB ROLE: ANIMATOR

CLASS XI & XII

1. Introduction

An Animator is an artist who creates multiple images, which when displayed in rapid sequence give an illusion of movement called animation. An Animator needs to refer to the concept of artwork prepared by animation artists to produce a sequence of 2D or 3D images by producing multiple images called frames, which when sequenced together rapidly create an illusion of movement. The images can be made up of digital or hand-drawn pictures, models or puppets. An Animator has the responsibilities of developing animation as per client requirement and work with editors to composite the various layers of animation.

2. Course Objectives

1. Apply effective oral and written communication skills to interact with people and customers;
2. Identify the principal components of a computer system;
3. Demonstrate the basic skills of using computer;
4. Demonstrate self-management skills;
5. Demonstrate the ability to provide a self-analysis in context of entrepreneurial skills and abilities;
6. Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection;
7. Demonstrate the knowledge of uses and applications of Animation;
8. Demonstrate the knowledge of principles of Animation
9. Demonstrate the knowledge of basics compositing
10. Demonstrate the knowledge of various features of 2D Animation
11. Demonstrate the knowledge of the concept of 3D production pipeline
12. Demonstrate the concept of bouncing balls and various other steps of animation
13. Demonstrate the knowledge of project setting and animation rendering

3. Curriculum

This course is a planned sequence of instructions consisting of Units meant for developing employability and Skills competencies of students of Class XI & XII opting for Skills subject along with general education subjects.

Theory	50 marks
Practical	50 marks
Total Marks	**100 marks**

The unit-wise distribution of Periods and marks for Class XI & XII is given on the next page.

MULTI-MEDIA (SUBJECT CODE – 821)

CLASS – XI (SESSION 2024-2025)

Total Marks: 100 (Theory-50 + Practical-50)

The unit-wise distribution of periods and marks for Class XI is as follows:

	Units	No. of Periods for Theory and Practical		Max. Marks for Theory and Practical
Part A	**Employability Skills**			
	Unit 1: Communication Skills-III	10		2
	Unit 2: Self-management Skills- III	10		2
	Unit 3: Information and Communication Technology Skills- III	10		2
	Unit 4: Entrepreneurial Skills- III	15		2
	Unit 5: Green Skills- III	05		2
	Total	**50**		**10**
Part B	**Subject Specific Skill**	**Theory**	**Practical**	
	Unit 1: Introduction to Animation	20	20	20
	Unit 2: Principles of Animation	20	20	
	Unit 3: Introduction to 2D Animation	60	70	20
	Total	**100**	**110**	**40**
Part C	**Practical Work**			
	Practical Examination	--		15
	Written Test	--		10
	Viva Voce	--		10
	Total	--		**35**
Part D	**Project Work/Field Visit**			
	Practical File/Student Portfolio	--		10
	Viva Voce			05
	Total	--		**15**
	Grand Total			**100**

CONTENTS

PART A: EMPLOYABILITY SKILLS

	Units
1.	Communication Skills -III
2.	Self-management Skills- III
3.	Information and Communication Technology Skills- III
4.	Entrepreneurial Skills -III
5.	Green Skills -III
	Detailed curriculum of Employability Skills is available separately

PART B: SKILLS

	Units
1.	Introduction to Animation
2.	Principles of Animation
3.	Introduction to 2D Animation

UNIT 1: INTRODUCTION TO ANIMATION		
Learning Outcome	**Theory**	**Practical**
1. Describe the history of animation	1. Evolution of animation, with examples 2. History of animation	1. Visit to a Studio to understand the animation industry and its evolution 2. Demonstration of the use of animation
2. Identify various traditional methods of animation	1. Various traditional methods of animation (e.g. hand drawn animation)	1. Identification of traditional methods of animation 2. Demonstrate the knowledge of hand drawn animation and Claymation (animation using clay)
3. Identify modern methods of Animation – e.g. Stop Motion Animation	1. Methods of animation – modern animation and traditional animation 2. Meaning of Stop Motion Animation	1. Differentiation of modern animation and traditional animation 2. Demonstration of the procedure adopted for Stop Motion Animation
4. Identify the various elements involved process of computer Animation (2D and 3D Animation)	1. Concepts of computer animation 2. Advantages of computer animation (2D Animation using Adobe Flash and for 3D Animation using Autodesk MAYA) over traditional animation methods	1. Differentiation of 2D and 3D animation 2. Demonstration of Digital animation approaches (frame by frame, shape and motion tweening) 3. Identification of pivot point locations of nodes, groups and other 3D animation
Learning Outcome	**Theory**	**Practical**

5. Demonstrate the knowledge of production pipeline	1. Concept of production pipeline	1. Demonstration of steps involved in the animation production pipeline
6. Describe the process of preproduction and story- boarding	1. Concepts of pre-production and story-boarding activities	1. Explanation of preproduction activities 2. Development of a short storyboard

UNIT 2: PRINCIPLES OF ANIMATION		
Learning Outcome	**Theory**	**Practical**
1. Identify the principles of animation	1. Twelve principles on which animation is established: • Squash and Stretch • Exaggeration • Anticipation • Ease in and Out • Arcs • Overlapping Action and Follow- through • Pose to Pose and Straight-Ahead Animation • Reference and Planning • Timing • Staging • Appeal • Personality 2. Application of each of the above mentioned principles	1. Demonstration of the twelve basic principles of animation 2. Enlisting the advantages and limitations of different animation techniques 3. Demonstration of the uses of a combination of these 2,3 or 4 principles to get the necessary feel and action in a shot and scene

UNIT 3: INTRODUCTION TO 2D ANIMATION		
Learning Outcome	**Theory**	**Practical**
1. Demonstration the concept of 2D Animation using Adobe Flash	1. Basics of 2D animation 2. Concept of production, preproduction and post-production	1. Demonstration of making of storyboard image 2. Demonstration of the phases pre-production, production and post-production
Learning Outcome	**Theory**	**Practical**

2. Demonstration different types of 2D Animation using Adobe Flash	1. Path animation and stop-motion animation 2. Frame composition 3. Camera blocking 4. Situation using different frame composition: MS- Mid Shot; Cu- Close Up Shot; ECu- Extreme Close Up Shot; WS- Wide Shot; EWS- Extreme Wise Angle Shot; WEV- Worm Eye View; BEV – Birds Eye View	1 Demonstration of the process of different 2D animation 2. Demonstration of the details on functionality 3. Explain the situation of using each of the frame composition (MS, Cu, ECu, WS, EWS, WEV, BEV, DA) 4. Explain the reason of camera blocking and animation timing
3. Describe the basic process of 2D animation using Adobe Flash	1. Work cycle of 2D animation 2. The process of creating a torsion	1. Differentiation of between 2D and 3D animation 2. Demonstration of creating a torsion
4. Demonstrate the application of Adobe Flash Animation	1. Process of limited animation or cut out animation 2. Email as a mode of capturing conversations 3. Meetings as a mode of capturing Conversations	1. Demonstration of creation of flash cartoon

2. TEACHING ACTIVITIES

The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained teachers. Teachers should make effective use of a variety of instructional or teaching aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

PRACTICAL WORK IN LABORATORY/WORKSHOP

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the teacher to the Head of the Institution

3. ORGANISATION OF FIELD VISITS/EDUCATIONAL TOURS

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least three field visits should be conducted in a year.

4. LIST OF EQUIPMENT AND MATERIAL

The list given below is suggestive and an exhaustive list should be prepared by the teacher. Only basic tools, equipment and accessories should be procured by the Institution so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

1. 3-Hole Punched Paper
2. Adobe After Effects
3. Adobe Flash
4. Adobe Photoshop
5. Adobe Premiere Pro
6. Art Gum Eraser
7. Autodesk Maya
8. Brushes
9. Computer System
10. Demonstration Charts
11. Digital Camera
12. Drawing Pencil Sets
13. Drawing sheets
14. Flipbook
15. Internet Connection
16. Marker/Chalk
17. Non-Photo Blue Pencils
18. Paints
19. Printer
20. Scanner
21. Watercolors, Markers, and Pastels
22. Whiteboard

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Class XII

Total Marks: 100 (Theory- 50 + Practical- 50)

	UNITS	NO. OF HOURS for Theory and Practical		MAX. MARKS for Theory and Practical
Part A	**Employability Skills**			
	Unit 1: Communication Skills- IV	10		2
	Unit 2: Self-Management Skills- IV	10		2
	Unit 3: ICT Skills- IV	10		2
	Unit 4: Entrepreneurial Skills- IV	15		2
	Unit 5: Green Skills- IV	05		2
	Total	**50**		**10**
Part B	**Subject Specific Skills**	**Theory**	**Practical**	**Marks**
	Unit 1: 3D Production Pipeline	20	20	10
	Unit 2: Basics of Video and Sound Editing	20	40	10
	Unit 3: Basic Tools and Techniques of Animation inAutodesk MAYA	50	60	20
	Total	**90**	**120**	**40**
Part C	**Practical Work**			
	Practical Examination			15
	Written Test			10
	Viva Voce			10
	Total			**35**
Part D	**Project Work/ Field Visit**			
	Practical File/ Student Portfolio			10
	Viva-Voce			05
	Total			**15**
	GRAND TOTAL	**260**		**100**

DETAILED CURRICULUM/ TOPICS FOR CLASS XII:

Part-A: EMPLOYABILITY SKILLS

S. No.	Units	Duration(in Hours)
1.	Unit 1: Communication Skills- IV	10
2.	Unit 2: Self-management Skills- IV	10
3.	Unit 3: Information and Communication Technology Skills- IV	10
4.	Unit 4: Entrepreneurial Skills- IV	15
5.	Unit 5: Green Skills- IV	05
	TOTAL DURATION	**50**

Note: The detailed curriculum/ topics to be covered under Part A: Employability Skills can be downloaded from CBSE website.

Part-B – SUBJECT SPECIFIC SKILLS

Unit 1: 3D Production Pipeline

Learning Outcome	Theory	Practical
1. Describe the Pre-production activities	1. Story boarding – layouts modelsheets and animatic 2. Use of Adobe Photoshop for UVMapping and Texturing 3. 3D animation in Autodesk MAYA	1. Demonstration of pre-production activities 2. Preparation of a flow chart of pre- production activities and required materials/ equipment 3. Identification of the various drawing and text tools and the utility of the same (geometric, line, pen, brush, text, stroke, fill, point, erase, etc.)
2. Demonstrate the conceptof texturing in Adobe Photoshop and modeling in Autodesk MAYA (Production 1)	1. Texturing and modeling 2. Basic standards followed in texturing and modeling	1. Creation of model for stop motion 3D animation 2. Texturing of character
3. Demonstrate the conceptof lighting and rigging in Autodesk MAYA (Production 2)	1. Lighting and rigging 2. Basic standards followed in lighting and rigging	1. Demonstration of the concept oflighting and rigging 2. Demonstration of use of lighting to create a bright image 3. Importance of lighting in animation

4. Demonstrate the post - production activities	1. Animatics 2. Creating .avi files to see the flowof animation and its timing 3. Creating Animatics 4. Post-production process ofanimation 5. Exporting animation sequencesand rendering	1. Demonstration of Post- production activities 2. Preparation of a flow chart of post-production activities and required materials/ equipment

Unit 2: Basics of Video and Sound Editing

Learning Outcome	Theory	Practical
1. Use Adobe PremiereCS/CC	1. Concept of work spaces 2. Video and Sound editing projectsand its creation	1. Demonstration of the use of tool boxof Adobe Premiere CS/CC
2. Edit the video	1. Video editing work flow 2. Timeline panel 3. Basic standards followed in editinga video 4. Clips and its types	1. Demonstration of editing the video 2. Handling the linking Audio or Back- ground Music with the Video in AudioTracks in Adobe Premiere
3. Use Adobe SoundBooth	1. The procedure of increasing ordecreasing the amplitude of arrange by using the volume pop-up menu	1. Demonstration of the use of AdobeSound Booth 2. Giving the demo of editing of the beginning or end of an audio track
4. Edit the sound	1. Various ways of editing audio track 2. Multi Track Sound Editing 3. Rendering the output audio file forplaying in any Media Player	1. Demonstration of increasing or decreasing the length of the range by clicking and dragging the start and endpoints of the audio track 2. Demonstration of editing the soundtrack 3. Demonstrate audio output in .WAV and .MP3 audio file format

Unit 3: Basic Tools and Techniques of Animation in Autodesk MAYA

Learning Outcome	Theory	Practical
1. Demonstrate the use of edit keys in timeline	1. Key Frame Animation 2. Use of Auto Keying Animation 3. Disadvantages of auto key 4. Maya timeline	1. Demonstration of the use of Maya timeline, workspace, view ports, tools 2. Changing the settings in Maya timeline
2. Demonstrate the purpose of frames, timing, frame rate and key frames	1. Frame, timing and frame rate 2. Reasons for using key frame 3. Aspects of key frame? (picture size,position, rotation) 4. Concept of setting key frames 5. Importance of the Set key	1. Identification of number of frames, timing, frame rate and key frame in animation 2. Demonstration of the difference between tweening and key frame 3. Demonstration of setting key frames

3. Create and edit animation sequence graph using Graphic Editor	1. Use of Graphic Editor 2. Editing animation curves usingGraphic Editor	1. Demonstration of editing animationsin the Graphic Editor
4. Create a bouncing ball	1. Representation of differentbouncing balls 2. Details of bouncing ball 3. Implementing the principles of animation on bouncing ball(e.g. Squash and Stretch, Ease In/Out)	1. Demonstration of the knowledge ofuse of middle-mouse button 2. Creating bouncing ball - animation of200 frames by implementing two principles of animation

TEACHING ACTIVITIES

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SKILL ASSESSMENT (PRACTICAL)

Assessment of skills by the students should be done by the assessors/examiners on the basis of practical demonstration of skills by the candidate, Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include hands-on practical exam and viva voce. For practical, there should be a team of evaluators. The same team of examiners will conduct the viva voce.

Project Work (individual or group project) is a great way to assess the practical skills on a certain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation. Field visits should be organised as part of the project work. Field visits can be followed by a small-group work/project work. When the class returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

Student Portfolio is a compilation of documents that supports the candidate's claim of competence. Documents may include reports, articles, photos of products prepared by students in relation to the unit of competency.

Viva voce allows candidates to demonstrate communication skills and content knowledge. Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the subject. Viva voce should also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

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