CBSE | DEPARTMENT OF SKILL EDUCATION

CURRICULUM FOR SESSION 2026-2027

MULTIMEDIA (SUB. CODE – 821)

JOB ROLE: ANIMATOR CLASS – XI

COURSE OVERVIEW:

An Animator is a creative professional who utilizes a blend of artistic vision and technical proficiency to create the illusion of life through sequenced images. The Multimedia (Sub. Code 821) course for Class XI is designed to introduce students to the rigorous professional workflow of the animation industry.

The curriculum transitions from the foundational history and scientific principles of motion—such as the Persistence of Vision—to the practical application of the 12 Principles of Animation. Students will explore a diverse range of techniques, including Stop Motion, Pixilation, and digital 2D animation using Synfig Studio, before advancing to the complex 3D production pipeline in Autodesk Maya. By mastering the stages of Pre-production (storyboarding and scripting), Production (modeling and layout), and Post-production (rendering), students develop the multifaceted skill set required to transform conceptual ideas into professional-grade animated content.

COURSE OUTCOME:

On completion of the course, the students should be able to:

- **Understand** the historical evolution of animation and its transition from traditional to digital mediums.
- **Explain** the scientific concepts of Persistence of Vision and Phi Phenomenon that govern motion perception.
- **Apply** the 12 Principles of Animation effectively to create fluid, weight-based, and believable movement.
- **Demonstrate** proficiency in various animation techniques, including Stop Motion and Pixilation.
- **Identify** the distinct stages of the Animation Production Pipeline (Pre-production, Production, and Post-production).
- **Develop** storytelling, scripting, and storyboarding skills to facilitate visual planning and staging.
- **Navigate** and utilize the User Interface (UI) and essential toolsets of industry-standard 2D and 3D software (Synfig Studio and Autodesk Maya).
- **Execute** basic 3D workflows, including modeling, texturing, and the use of the "Outliner" for scene management.
- **Demonstrate** the importance of timing and spacing in creating realistic physical interactions and character performance.
- **Analyze** and apply professional naming conventions and file management protocols within a collaborative production environment.

SALIENT FEATURES:

This course stands out for its practical, industry-oriented approach that blends creativity with technical skills. It provides hands-on experience in animation production, introduces modern tools and workflows, and prepares students for real-world applications through projects, case studies, and exposure to both 2D and 3D animation techniques. It generates job opportunities in the field of animation industry.

SCHEME OF UNITS

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 as given below.

MULTI-MEDIA (SUBJECT CODE – 821)

CLASS – XI (SESSION 2026-2027)

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-III	10		2
	Unit 2: Self-Management Skills-III	10		2
	Unit 3: ICT 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 SKILLS**	**Theory**	**Practical**	**Marks**
	Unit 1: Foundations of Animation & Stop Motion	20	15	10
	Unit 2: 2D Animation Production	20	35	15
	Unit 3: Introduction to 3D Animation Production	40	60	15
	Total	90	110	**50**
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	**200**		**100**

DETAILED CURRICULUM/ TOPICS:

Part-A: EMPLOYABILITY SKILLS

S. N	Units	Duration in Hours
1.	Unit 1: Communication Skills-III	10
2.	Unit 2: Self-management Skills-III	10
3.	Unit 3: Information and Communication Technology Skills-III	10
4.	Unit 4: Entrepreneurial Skills-III	15
5.	Unit 5: Green Skills-III	05
	TOTAL	**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: Foundations of Animation & Stop Motion
Unit 2: 2D Animation Production
Unit 3: Introduction to 3D Animation Production

Unit 1: Foundations of Animation & Stop Motion

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	1. Explain and analyze the historical development of animation as an evolving visual communication medium. 2. Identify different animation techniques. 3. Create simple stop motion animations using basic materials. 4. Develop visual storytelling and problem-solving skills. 5. Analyse and apply the 12 principles of animation	• What is Animation? • Early Origins of Animation • Traditional Animation (Hand-Drawn Era) • Digital Animation Era • Modern Animation Techniques • The 12 Principles of Animation • Application of Principles of Animation to create weight and personality • Detailed Workflow of Stop Motion Animation • Do's and Don'ts of Stop Motion • Common Mistakes, Tips and Types for Stop Motion	1. Analysis of selected animation works. 2. Presentation on growth of animation industry. 3. Creation of flipbook animation. 4. Demonstration of clay-based stop motion animation. 5. Creation of short animation exercises demonstrating squash and stretch, anticipation and timing. 6. Visit to a Studio to understand the animation industry and its evolution.

Unit 2: 2D Animation Production

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	1. Develop stories and scripts for animation 2. Design and construct effective storyboards demonstrating visual sequencing and shot composition 3.Apply layout principles for staging and perspective using Synfig Studio/Krita. 4. Creating rough and clean 2D animations using Synfig Studio/Krita. 5. Application of digital tools for coloring and finishing 6. Demonstrate creativity, collaboration, and digital literacy	**Pre-Production** • Story Development and Scripting: • Visualizing the script and defining shot composition **Production (The Workflow)** • Layout: Designing staging and perspective • Clean-Up and In betweening (Tweening): Fluid motion and line clarity • Digital Ink & Paint: Coloring characters digitally	1. Preparation of 2D animation workflow chart. 2. Development of animatic from storyboard. 3. To develop a simple story idea and convert it into a written script suitable for a 2D animated sequence. 4. To set up the scene with proper staging, character placement, and camera framing (using different types of camera shots) inside Synfig Studio/Krita. 5. Design a scene layout using Synfig Studio / Krita that includes: ○ Background elements ○ Character placement ○ Camera framing and depth 6. To animate the character by creating key poses and adding breakdowns. 7. Create a rough animation sequence (24–36 frames) showing: Walking / Jumping /Waving

Unit 3: Introduction to 3D Animation Production

S. No	LEARNING OUTCOMES	THEORY	PRACTICAL
1	1. Explain the fundamentals of 3D production in Autodesk Maya. analyze the structural logic of the 3D production pipeline 2. Design technical pre-production blueprints including Model Sheets and Animatics 3. Evaluate the specialized roles within a studio (Modeler, Rigger, Animator, Texture Artist) 4 Apply the "Box Concept" (UV logic) to understand the relationship between 2D textures and 3D depth. 5. Demonstrate operational mastery of the Maya interface	1. Introduction to 3D animation production pipeline. 2. The 3D Pipeline Overview • Concept of the 3D production pipeline. • Understanding the flow: Pre-production -> Production -> Post-production. • Story & Scripting, Storyboarding & The "Shot List", Character Design, Animatic 3. Basic concepts of modeling, texturing and animation in Maya. 4. Rendering, Compositing, Color Correction and Sound Design & Foley 5.Maya Interface & Basics • Maya Workspace: Menu Sets, Shelf, Workspace, Viewports, Timeline, Outliner and Toolbox, Sidebar • Camera Navigation, Basic navigation (Pan, Zoom, Rotate) • Creating Primitives (Cube, Sphere).	1. Demonstration of Maya interface and workspace. 2. Creation of basic 3D objects using primitives. 3. Understanding how the pipeline handles a simple object. 4. Learn to manipulate the workspace to suit your specific project needs. 5. Apply navigation and transformation skills to create a basic 3D structure. 6. Construct a structured 3D object using multiple primitives and standard transformation tools (Translate, Rotate, Scale)..

LIST OF EQUIPMENT/ MATERIALS:

The list given below is suggestive and an exhaustive list should be compiled from the feedback given by various teachers teaching the subject. 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.

S. No.	ITEM NAME, DESCRIPTION & SPECIFICATION	QUANTITY
A	**HARDWARE**	
1.	Computer with latest configuration and minimum 16 GB RAM, 512 GB HDD or SSD, 17" LED Monitor, NIC Card, 3 button Mouse, 105 keys key board and built-in speakers and mic.	15
2.	Laser Printer - Black	01
3.	Smartphone / DSLR-Camera	01
4.	Tripod	01
5.	Clay, paper, objects	-
6.	Inkjet Printers (Colour & Black)	01
7.	Scanner	01
8.	Air Conditioner 1.5 ton	02
9.	Broadband Connection for Internet	01
B	**SOFTWARE**	
1.	GUI Operating System	
2.	Text Editor (Notepad)	
3.	Web Browser.	
4.	Stop motion software(Synfig Studio/Krita)	
5.	3D Animation Software(Autodesk Maya)	
C	**FURNITURE**	
1.	Class room chairs and desks	25
2.	Computer Tables	15

3.	Straight back revolving & adjustable chairs (Computer Chairs)	15
4.	Printer Tables	02
5.	Trainers Table	01
6.	Trainers Chair	01
7.	Steel cupboards drawer type	02
8.	Cabinet with drawer	01
9.	Steel Almirah - big size	01
10.	Steel Almirah- small size	01

TEACHER'S/ TRAINER'S QUALIFICATIONS:

Qualification and other requirements for appointment of teachers/trainers for teaching this subject, on contractual basis should be decided by the State/ UT. The suggestive qualifications and minimum competencies for the teacher should be as follows:

Qualification	**Minimum Competencies**	**Age Limit**
Bachelor of Engineering/ Technology in Computer Science/ Information Technology from AICTE approved Institute/ University or M.Sc. Computer Science / IT or MCA / DOEACC 'B' level The suggested qualification is the minimum criteria. However higher qualifications will also be acceptable.	• The candidate should have a minimum of 1 year of work experience in the same job role. • S/He should be able to communicate in English and local language. • S/He should have knowledge of equipment, tools, material, Safety, Health & Hygiene.	• 24-37 years (as on Jan. 01 (year)) • Age relaxation to be provided as per Govt. rules

Teachers/Trainers form the backbone of Skill (Vocational) Education being imparted as an integral part of Rashtriya Madhyamik Shiksha *Abhiyan* (RMSA). They are directly involved in teaching of Skill (vocational) subjects and also serve as a link between the industry and the schools for arranging industry visits, On-the-Job Training (OJT) and placement.

These guidelines have been prepared with an aim to help and guide the States in engaging quality Teachers/Trainers in the schools. Various parameters that need to be looked into while engaging the Vocational Teachers/Trainers are mode and procedure of selection of Teachers/ Trainers, Educational Qualifications, Industry Experience and Certification/ Accreditation.

The State may engage Teachers/Trainers in schools approved under the component of scheme of Vocationalisation of Secondary and Higher Secondary Education under RMSA in following ways:

i. Directly as per the prescribed qualifications and industry experience suggested by the PSS Central Institute of Vocational Education (PSSCIVE), NCERT or the respective Sector Skill Council (SSC).

OR

ii. Through accredited Vocational Training Providers accredited under the National Quality Assurance Framework (NQAF*) approved by the National Skill Qualification Committee on 21.07.2016. If the State is engaging Vocational Teachers/Trainers through the Vocational Training Provider (VTP), it should ensure that VTP should have been accredited at NQAF Level2 or higher.

** The National Quality Assurance Framework (NQAF) provides the benchmarks or quality criteria which the different organizations involved in education and training must meet in order to be accredited by competent bodies to provide government- funded education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications.*

The educational qualifications required for being a Teacher/Trainer for a particular job role are clearly mentioned in the curriculum for the particular NSQF compliant job role. The State should ensure that teachers/ trainers deployed in the schools have relevant technical competencies for the NSQF qualification being delivered. Teachers/Trainers preferably should be certified by the concerned Sector Skill Council for the particular Qualification Pack/Job role which S/he will be teaching. Copiesof relevant certificates and/or record of experience of the teacher/trainer in the industry should be kept as record.

To ensure the quality of the Teachers/Trainers, the State should ensure that a standardized procedure for selection of (Vocational) Teachers/Trainers is followed. The selection procedure should consist of the following:

(i) Written test for the technical/domain specific knowledge related to the sector;
(ii) Interview for assessing the knowledge, interests and aptitude of trainer through a panel ofexperts from the field and state representatives; and
(iii) Practical test/mock test in classroom/workshop/laboratory.

In case of appointment through VTPs, the selection may be done based on the above procedure by a committee having representatives of both the State Government and the VTP.

The State should ensure that the Teachers/ Trainers who are recruited should undergo induction training of 20 days for understanding the scheme, NSQF framework and Vocational

Pedagogy before being deployed in the schools.

The State should ensure that the existing trainers undergo in-service training of 5 days every year to make them aware of the relevant and new techniques/approaches in their sector and understand the latest trends and policy reforms in vocational education.

The Head Master/Principal of the school where the scheme is being implemented should facilitate and ensure that the (Vocational) Teachers/Trainers:

- Prepare session plans and deliver sessions which have a clear and relevant purpose and which engage the students;
- Deliver education and training activities to students, based on the curriculum to achieve the learning outcomes;
- Make effective use of learning aids and ICT tools during the classroom sessions;
- Engage students in learning activities, which include a mix of different methodologies, such as project- based work, team work, practical and simulation-based learning experiences;
- Work with the institution's management to organize skill demonstrations, site visits, on job trainings, and presentations for students in cooperation with industry, enterprises and other workplaces;
- Identify the weaknesses of students and assist them in up-gradation of competency;
- Cater to different learning styles and level of ability of students;
- Assess the learning needs and abilities, when working with students with different abilities
- Identify any additional support the student may need and help to make special arrangements for that support;
- Provide placement assistance

Assessment and evaluation of (Vocational) Teachers/Trainers is very critical for making them aware of their performance and for suggesting corrective actions. The States/UTs should ensure that the performance of the (Vocational) Teachers/Trainers is appraised annually. Performance based appraisal in relation to certain pre-established criteria and objectives should be done periodically to ensure the quality of the (Vocational) Teachers/Trainers.

Following parameters may be considered during the appraisal process:

- Participation in guidance and counseling activities conducted at Institutional, District and State level;
- Adoption of innovative teaching and training methods;
- Improvement in result of vocational students of Class X or Class XII;
- Continuous up-gradation of knowledge and skills related to the vocational pedagogy, communication skills and vocational subject;
- Membership of professional society at District, State, Regional, National and International

level;

- Development of teaching-learning materials in the subject area;
- Efforts made in developing linkages with the Industry/Establishments;
- Efforts made towards involving the local community in Vocational Education
- Publication of papers in National and International Journals;
- Organization of activities for promotion of vocational subjects;
- Involvement in placement of students/student support services.

CAREER OPPORTUNITIES:

The creative industry is one of the most dynamic and rapidly growing domains in the modern digital economy. India's **Animation, Visual Effects, Gaming, and Comics (AVGC)** sector is expanding at an exceptional pace, positioning the country as a global hub for creative production and generating thousands of new professional opportunities every year.

Students completing the **Multimedia (821)** course with the job role of **Animator** can explore various specialized paths within the production pipeline and the broader digital landscape:

1. Core roles in the Animation Production Pipeline

- **3D Modeler (The Builder):** Responsible for taking 2D concept art and building the "digital clay" or wireframe for characters and environments.
- **Character Animator (The Actor):** The professional who makes models move by setting keyframes and defining character performance.
- **Rigger (The Puppet Maker):** A technical role focused on adding digital "bones" and controls inside a model so it can be animated.
- **Texture/Surfacing Artist (The Painter):** Defines how a model feels—whether it is rusty, metallic, or soft—by applying 2D images (texture maps) to 3D surfaces.
- **Storyboard Artist:** Visualizes the narrative core of the script into sequential panels to plan the film's visual flow.
- **Layout Artist:** Translates storyboards into accurate, production-ready shots by defining camera angles, staging, and perspective.
- **Compositor:** Operates at the final stage of the pipeline, layering characters, backgrounds, and special effects into a cohesive final scene.
- **Rendering & Render Lead:** Manages the technical process of calculating lights, shadows, and materials to generate final images.

2. Broader Multimedia & Digital Paths

- **Graphic Designer / UI/UX Designer:** Utilizing visual communication and user-experience principles for digital platforms.
- **E-Learning Developer:** Creating interactive, animated educational modules for the global learning market.
- **VFX (Visual Effects) Artist:** Creating immersive digital elements for cinematic blockbusters and advertisements.
- **Social Media Content Creator:** Utilizing storytelling and animation skills to develop engaging content for digital marketing and entertainment.
- **Game Artist:** Designing stylized characters and assets for the rapidly evolving mobile and

immersive gaming industry.

3. Vertical Mobility (Higher Education Paths)

Students can further enhance their expertise by pursuing higher studies in these domains:

- **Graduation** in Multimedia, Animation, or Graphic Website Designing.
- **Engineering** in Computer Science or Information Technology (IT).
- **Specialized PG Diplomas** in Game Design, Web Development, or Internet Technologies.