MULTI - MEDIA (SUB. CODE-821)

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 of use of middle-mouse button 2. Creating bouncing ball - animation of200 frames by implementing two principles of animation

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.

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.

6. ORGANISATION OF FIELD VISITS/EDUCATIONAL TOUR

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.

7. 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