LOCF/CBCS/B.Sc. (Graphics & Animation)/KUK

Scheme of Examination of B.Sc. (Graphics & Animation) under CBCS/LOCF for Institute of Mass Communication & Media Technology (IMC&MT, KUK) w.e.f. Academic Session 2020-21

Semester-III

Course Code	Course Title	Course Type	Contact Hours per Week				Credits	Total Credits	Marks				Duration of Exam
			L	T	P	Total			T	P	IA	Total	
B-GAG 301	2D Classical and Traditional Animation (Theory)	CC-9	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 302	2D Classical and Traditional Animation(Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 303	3D Modeling and Texturing (Mechanical & Architectural) (Theory)	CC-10	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 304	3D Modeling and Texturing (Mechanical & Architectural) (Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 305	Print Design & Vector Graphics (Theory)	CC-11	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 306	Print Design & Vector Graphics(Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 307	Video Production (Theory)	CC-12	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 308	Video Production (Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 309	Information Security (Theory)	SEC-01	1	-	-	1	1	2	20	-	05	25	1 Hours
B-GAG 310	Information Security (Practical)		-	-	1	2	1		-	20	05	25	2 Hours
						Total Credits		**26**	**Total Marks**			**650**	

Semester-IV

Course Code	Course Title	Course Type	Contact Hours per Week				Credits	Total Credits	Marks				Duration of Exam
			L	T	P	Total			T	P	IA	Total	
B-GAG 401	Compositing & Visual Effects (Theory)	CC-13	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 402	Compositing &Visual Effects (Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 403	User Interface Design (Theory)	CC-14	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 404	User Interface Design (Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 405	2D Digital Animation Technique (Theory)	CC-15	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 406	2D Digital Animation Technique(Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 407	3D Organic Modeling & Texturing (Theory)	CC-16	4	-	-	4	4	6	80	-	20	100	3 Hours
B-GAG 408	3D Organic Modeling & Texturing(Practical)		-	-	2	4	2		-	40	10	50	3 Hours
B-GAG 409	Soft Skills and Personality Development (Theory)	SEC-02	1	-	-	1	1	2	20	-	05	25	1 Hours
B-GAG 410	Soft Skills and Personality Development (Practical)		-	-	1	2	1		-	20	05	25	2 Hours
						Total Credits		**26**	**Total Marks**			**650**	

B-GAG 301: 2D Classical & Traditional Animation (Theory)

Time:3 Hrs.
Credits: 4

Total Marks: 100
Theory: 80
Internal Assessment: 20

Course Objectives: This course is designed to gain the fundamental skills necessary to create 2D Classical and Traditional animations. This course takes the students through various aspects of animation using a variety of 2-dimensional tools and techniques.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 301.1: Defining and Types of Animation
B-GAG 301.2: Understanding the Principals of Animation
B-GAG 301.3: Gain skills in the Character Design and Visual Development
B-GAG 301.4: Explore the Classical Animation Terms and Techniques

Note: - The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

Unit-I

Animation and Drawing

- Drawing Principles and Line of Action
- Structure and form in drawings, and how to keep track of them in a rotating object
- Character Design and Visual Development
- Character fundamentals: Gesture drawing, Line drawing, Exaggeration drawing, Attitude Poses and Silhouettes.
- Dope Sheet (Exposure Sheet& X-Sheet)
- Light Box: Working and Structure
- Screen Play Writing andDialogue
- Create Storyboard: Elements, Tools andIllustrating Action.

Unit-II

Animation Techniques and Tools

- Traditional Animation History, Types and Process: Classical, Traditional, Cutout, Puppet, Stop Motions
- 12 Principles of Animation
- Straight Ahead Action and Pose to Pose Techniques
- Pendulum Animation
- Timing and Spacing Chart: Slow and Fast Action, General principles of timing,

- Frame By Frame Animation: Ball Bounce: weight, and mass physics
- Usage of Acting into animation: Character acting, Mass and weight, Volume, Line ofaction, Path of action
- Walk Cycles: Human (Adult and Old age) and Animal (Two legs and Four legs)

Unit-III

Classical Animation techniques

- Head Rotation: Human, Animal and Bird
- Facial expressions: Lip movement, Eyebrows and Change of expression
- Follow through and overlapping action: Hair and Cloth animation
- Style of Animation-Parallax, Multilane and Morph Animation
- Mechanical Animation: Four wheelers, Airplanes and Ships
- Typographical Animation: Tittle Animation & Logo Animation
- Loop Animation
- Introduction of Animation Camera-Rostrum Camera Technique
- Animatic: Line Testing

Unit-IV

Organic and Partial Animation

- Action Animation: Jump, Punch, Kick and Flip
- Liquid: Rain, Water Waves, Water-Fall and Water Drop
- Explosion: Fire, Smoke loop, Cloud, Snow and Wind

References:

- *The ILLUSION OF LIFE: DISNEY ANIMATION, Ollie Johnston, Frank Thomas*
- *Richard Williams Expanded Edition; The Animator's Survival Kit*
- *Preston Blair; Cartoon Animation*
- *Harold Whitaker and John Halas, Timing for Animation, Focal Press; 2 edition (2 September 2009)*
- *John Culhane, Disney's Aladdin – The Making of an Animated Film Hyperion, Disney Editions; Reprint edition (2 September 1993)*

B-GAG 301: 2D Classical & Traditional Animation (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG301.1	3	3	3	2	3	3	3	3
B-GAG301.2	3	3	3	3	3	3	3	3
B-GAG301.3	3	3	3	3	3	3	3	3
B-GAG301.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG301.1	3	3	2	2	3
B-GAG301.2	3	3	3	3	3
B-GAG301.3	3	3	3	3	3
B-GAG301.4	3	3	3	3	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG301.1	3	3	3	2	3	3	3	3	3	3	2	2	3
B-GAG301.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG301.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG301.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	3	2.75	2.75	3

B-GAG302: 2D Classical & Traditional Animation (Practical)

Time:3 Hrs.   Total Marks: 50
Credits: 2   Theory: 40
                                                              Internal Assessment: 10

Course Objectives: This course is designed for practicing various techniques of traditional animation; provide students with insight and experience to develop skill in 2d classical animation style.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 302.1: Gain understanding of the application of the principals of animation in the 2d Traditional Animation medium
B-GAG 302.2: Able to design, develop and animate simple 2d animation using various traditional animation techniques
B-GAG 302.3: Develop skill in using Industry Standard 2d animation tools and techniques
B-GAG 302.4: Problem solving technical and design issues during the animation process

Note: - The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Develop Character
Bouncing Ball: Heavy and Light weigh
Ball or Object Through
Morphing: Shape Morph Organic to Mechanical Animation
Walk Cycle: Adult, Old Age and Heroic Walk
Animal Walk Cycle
Bird fly Cycle
Male and Female Facial Animation By Pencil
Situation based Character Animation : Clay and Cut out
Action and Fight Sequence
Flour Sack Jumping
Stick Figure Fight (Quick motion smear/blur)
Feather falling
Pendulum Animation
Explosion Based Animation

B-GAG 302: 2D Classical & Traditional Animation (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG302.1	3	3	3	3	3	3	3	3
B-GAG302.2	3	3	3	3	3	3	3	3
B-GAG302.3	3	3	3	3	3	3	3	3
B-GAG302.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG302.1	3	3	3	3	3
B-GAG302.2	3	3	3	3	3
B-GAG302.3	3	3	3	3	3
B-GAG302.4	3	3	3	2	3
Average	3	3	3	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG302.1	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG302.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG302.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG302.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	3	2.75	3

B-GAG303: 3D Modeling & Texturing
(Mechanical & Architectural)**(Theory)**

Time: 3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                         Internal Assessment: 20

Course Objectives: This course enables the students to learn 3D Modeling and Texturing skills and its importance for 3d animation industry. This course allows student to learn observation, visualization and visually experiencing the content. This course allows the student to learn and practice 3d modeling for use in Animation Design.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 303.1: Know about 3dmodeling concept
B-GAG 303.2:Know about the different techniques of 3D Modeling
B-GAG 303.3: Understand Texture&Shading
B-GAG 304.4: Develop knowledge of UVW Unwrapping

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Introduction

- Introduction to 3Dimenstions and 2 Dimensions
- 3DS Max Interface: Workspace, Toolbar, Menu and Command Panel
- 3D Production Process
- Project and Reference Setup in 3Ds Max

UNIT-II
Polygon Modelling
- 3D Modeling: Primitives Objects and Compound
- Polygon Modeling Technique: Shift Drag and Extrude
- Polygon Modeling: Creating and Editing 3d models
- Elements of polygon modeling: Vertex, Edges, Boarder, Polygon and Element
- Modifiers: Twist, Bend, Path Deform, Smooth, Mesh Smooth and Turbo Smooth, Boolean, Symmetry, Copy & Clone
- Editing Tools: Attach, Detach Bevel, Chamfer, Extrude, Bridge, Insert Vertex, Weld, Target Weld, Connect.

UNIT-III

Surface Modeling

- Spline Modeling: Creating and Editing 3d models
- Tools of polygon modeling: Vertex, line and Spline
- Patch Modeling: Creating and Editing 3d models
- Tools of polygon modeling: CV and EP Curves

UNIT-IV

Texturing

- Material Editor
- Different Materialand Shader
- Texturing and Mapping
- UVW Maps and Unwrapping
- Creating Texture in Adobe Photoshop
- Different Types of Rendering
- Timeline and Camera Animation

References:

- *Mastering Autodesk 3ds Max by Jeffrey M. Harper*
- *3Ds Max bible by Kelly L. Murdock*
- *3ds Max Modeling for Games Volume II By Andrew Gahan*
- *Architectural rendering with 3ds Max and V-Ray Photorealistic Visualization By Markus Kuhlo, Enrico Eggert (z-lib.org)*

B-GAG303: 3D Modeling & Texturing (Mechanical & Architectural) (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG303.1	3	3	3	2	3	3	3	3
B-GAG303.2	3	3	3	3	3	3	3	3
B-GAG303.3	3	3	3	3	3	3	3	3
B-GAG303.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG303.1	3	2	2	2	3
B-GAG303.2	3	3	3	3	3
B-GAG303.3	3	3	3	3	3
B-GAG303.4	3	3	3	3	3
Average	3	2.75	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG303.1	3	3	3	2	3	3	3	3	3	2	2	2	3
B-GAG303.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG303.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG303.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	2.75	2.75	2.75	3

B-GAG304: 3D Modeling & Texturing
(Mechanical & Architectural)**(Practical)**

Time:3 Hrs.   Total Marks: 50
Credits: 2   Practical: 40
                                                        Internal Assessment: 10

Course Objectives: This course enables the students to learn and 3D Modeling and its importance for Animation. This course allows student to practice and learning through observation. This course allows the student to learn and practice different techniques of 3D modeling for Animation Design.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 304.1: Know about the different techniques of 3D Modeling.
B-GAG 304.2: Understand 3D Tools and Commands
B-GAG 304.3: Understand and Practice3D Texture
B-GAG 304.4: Get to KnowTexturing and Mapping In Photoshop

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Interface, Tools and Panels
Primitive Modeling
Modeling Objects Through Different Modeling Techniques
Introduce Modeling Modifiers
Low Poly Furniture / Architectural / Mechanical Modeling
High Poly Furniture / ArchitecturalModeling
3D Scene / Interior Modeling
Games Assets Modeling
Object Coloring and Texturing
Texturing Through Unwrapping
Create Texture in Adobe Photoshop
Different 3D Maps
Virtual Camera Setup
Timeline and Output

B-GAG304:3D Modeling& Texturing(Mechanical & Architectural)(Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG304.1	3	3	3	3	3	3	3	3
B-GAG304.2	3	3	3	3	3	3	3	3
B-GAG304.3	3	3	3	3	3	3	3	3
B-GAG304.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG304.1	3	3	2	3	3
B-GAG304.2	3	3	3	3	3
B-GAG304.3	3	3	3	3	3
B-GAG304.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG304.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG304.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG304.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG304.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG305: Print Design & Vector Graphics (Theory)

Time: 3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                                Internal Assessment: 20

Course Objectives: This course enables the students to learn and create designs for print and its importance. This course allows student to learn and understand the characteristics of communication material and Content Visualization. This course allows the student to learn and practice on vector graphics tool.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 305.1: Understand Vector Graphic tools
B-GAG 305.2: Able to Create Communication Material
B-GAG 305.3: To Know About Design Process
B-GAG 305.4: Gain Knowledge of Different Printing Technologies

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Introduction

- Design: Function and Process
- User Interface: Title Bar, Menu Bar, Color Palette, and Toolbox
- Page Counter Bar: Add Page, Remove page and Master pages
- Create and Edit Geometric and organic Shapes: Bezier, linear, angular, smooth and close path.
- View Modes: Normal, Wireframe, Draft, EnhancedandPixels
- Selection and Distributing: Skewing, Blending, Curve Lines, Straight Lines, Rotating an Object, Group and Ungroup, Break Apart andColoring.
- Shape tools - Weld, Trim, Intersect, Simplify, and Frontminus Back, Back minus Front.

UNIT-II

Create and Edit

- Font and Different Types of Font Family's: Application and Characteristics
- Text Tool: Entering Artistic Text, Entering Paragraph Text, Converting Text Formatting Text, Font Size Characteristics
- Image Tool: Import, Trace and Edit then Export
- Color: Color Scheme, Color Theory, Gradient tool.
- Effects - Lens, Power Clip, Perspective, Rollover, Convert to Bitmap
- Page Setup: Size Setup and Edit
- Business Card: Size, Elements and Functions

- Poster: Size, Element, Characteristics and Functions
- Logo: Types, Process and Characteristics
- Editing Tools: Attach, Detach Bevel, Chamfer, Extrude, Bridge, Insert Vertex, Weld, Target Weld, Connect.

UNIT-III

- Adobe InDesign: Interface, Menu and Toolbar
- Master page: Function and Characteristics
- Managing and Transforming Objects
- Text Formatting: Heading and Body Text
- Column and Layout: Functions
- Graphics, Styles sheet and Pre-flight, printing and PDF's

UNIT-IV

Printing Technology

- Printing: Definition and Scope
- Various Types of Printing Process: Letter Press, Offset, Flexography, Gravure, Screen Digital and Thermography Printing
- Application and Functions of Different Printing Techniques

References:

- *Corel Draw Training Guide, Author: Satish Jain, M. GeethaBasics of Illustration*
- *Corel draw 2020 User Guide*
- *A Textbook of Vector Calculus by Shanti Narayan (Author), P.K. Mittal (Author)*
- *Guide to Graphics Design By Scott W. Santoro, Library of Congress Cataloging-in-Publication Data, ISBN 978-0-13-230070-4 (pbk.)*
- *Graphic Designer's Essential Reference, Visual Elements, Techniques, and Layout Strategies for Graphic Designers By Timothy Samara, ROCKPORT PUBLISHER*
- The Complete Graphic Design By Ryan Hembree, ROCKPORT PUBLISHER
- Adobe InDesign CC Classroom in a Book by Kelly Kordes Anton, Tina DeJarld

B-GAG305: Print Design & Vector Graphics (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG305.1	3	3	3	2	3	3	3	3
B-GAG305.2	3	3	3	3	3	3	3	3
B-GAG305.3	3	3	3	3	3	3	3	3
B-GAG305.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG305.1	3	2	2	2	3
B-GAG305.2	3	3	3	3	3
B-GAG305.3	3	3	3	3	3
B-GAG305.4	3	3	3	3	3
Average	3	2.75	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG305.1	3	3	3	2	3	3	3	3	3	2	2	2	3
B-GAG305.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG305.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG305.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	2.75	2.75	2.75	3

B-GAG306: Print Design & Vector Graphics(Practical)

Time: 3 Hrs.   Total Marks: 50
Credits: 2   Practical: 40
                                                 Internal Assessment: 10

Course Objectives: This course enables the students to learn and create designs for print and its importance. This course allows student to learn and understand the characteristics of communication material and Content Visualization. This course allows the student to practice on vector graphics tool.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 306.1: Understand and Practice on Vector Graphic tools
B-GAG 306.2: Able to Create Communication Material
B-GAG 306.3: Able to Apply The Design Process to Produces Designs
B-GAG 306.4: Gain Knowledge of Different Printing Technologies

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Business Card: For Company and Individual
Poster : Commercial ,Typography Poster
Logo Design For Commercial and Government Organizations
Label Design
Package Design
Hoarding/banner
Two pagers
Book cover
Newsletter Design
Magazine Cover
Printing Process

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B-GAG306: Print Design & Vector Graphics (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG306.1	3	3	3	3	3	3	3	3
B-GAG306.2	3	3	3	3	3	3	3	3
B-GAG306.3	3	3	3	3	3	3	3	3
B-GAG306.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG306.1	3	3	2	3	3
B-GAG306.2	3	3	3	3	3
B-GAG306.3	3	3	3	3	3
B-GAG306.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG306.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG306.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG306.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG306.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG307: Video Production(Theory)

Time: 3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                                Internal Assessment: 20

Course Objectives: This course enables the students to learn Video Production skills and its importance for industry. This course allows student to learn Video Camera, Camera Techniques and Video Editing Techniques the content. This course allows the student to learn and practice Video Production.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 307.1: To Learn Techniques of Videography
B-GAG 307.2:Understand the basic knowledge of Video Production
B-GAG 307.3:Know about the Techniques and function of video editing
B-GAG 307.4: To Gain Knowledge ofVideo Production Stages

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Introduction

- Camera: Parts and Functions
- Video Camera: Camera Movements, Shots and Angles
- Camera Stands & Camera Rigs
- Single Camera Shoot and Multi-Camera Shoot: Features and Application
- Screenplay and Direction
- Stages of Video Production
- Editing Studio Setup
- Video File Formats and Sizes

UNIT-II

Digital Video Editing

- Video Editing: Function and Types (Liner and NON-Liner)
- Online and Offline Editing
- Adobe Premier Pro: Interface, Tools and Menu
- Project Setup: Import and Organize
- Timeline: Application, Functions and Elements
- Audio Editing: Level's and Mixing

- Joining of shots and scenes: Cut and types
- Video Transitions Types and Functions
- Video Effects and Audio Effects

UNIT-III

Editing Techniques

- Shot to shot transition (Analyze the different juxtaposition of shots)
- Basic techniques of building a scene (Continuity, matching, overlapping)
- Pace & Time(Analyze the techniques of pace& time manipulation during editing)
- Rough cut (To make the primary edit following the script sequentially)
- Final Cut (To make the final cut after re-viewing the rough cut

UNIT-IV

Post-Production

- Superimpose: Tittle, Credits, Ticker and Graphics
- Color Correction and Color Grading
- Export setup: Different file format and File Sizes (H264,Avi,MPEG,MOV&WMV)
- Rendering: Still Image, Sequence Render and Video with Audio
- Effect Control Panel: Transformation and Motion keys
- Chroma Key and Masking

References:

- *Grammar of the Shot, Second Edition by Roy Thompson Christopher J. Bowen, Focal Press is an imprint of Elsevier*
- *Lighting for Digital Video and Television, Third Edition By John Jackma, Focal Press is an imprint of Elsevier*
- *Adobe Premier Pro, Classroom in a book, THE OFFICAL TRANING WORKBOOK FROM ADOBE, By Maxim Jago*
- *THE TECHNIQUE OF FILM AND VIDEO EDITING: HISTORY, THEORY, AND PRACTICE, Fourth Edition BY KEN DANCYGER, Focal Press is an imprint of Elsevier*
- *Video Production Handbook, Fourth Edition ByGerald MillersonJim Owens, Asbury College, Focal Press is an imprint of Elsevier*
- *HOW TO READ A FILM The World of Movies, Media, and Multimedia, Language, History, TheoryThird Edition, Completely Revised and Expanded By Jame s Monaco, New York Oxford OXFORD UNIVERSITY PRESS*

B-GAG307: Video Production (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG307.1	3	3	3	2	3	3	3	3
B-GAG307.2	3	3	3	3	3	3	3	3
B-GAG307.3	3	3	3	3	3	3	3	3
B-GAG307.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG307.1	3	2	2	2	3
B-GAG307.2	3	3	3	3	3
B-GAG307.3	3	3	3	3	3
B-GAG307.4	3	3	3	3	3
Average	3	2.75	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG307.1	3	3	3	2	3	3	3	3	3	2	2	2	3
B-GAG307.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG307.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG307.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	2.75	2.75	2.75	3

B-GAG308: Video Production (Practical)

Time:3 Hrs.
Credits: 2

Total Marks: 50
Practical: 40
Internal Assessment: 10

Course Objectives: This course enables the students to learn Video Production skills and its importance for industry. This course allows student to learn Video Camera, Camera Techniques and Video Editing Techniques the content. This course allows the student to learn and practice Video Production.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 308.1: Understand and Practice Different Camera Techniques
B-GAG 308.2: Abel to Produce Video on Particular Topic
B-GAG 308.3: To know and Apply Different Editing Techniques
B-GAG 308.4: Abel to do Color Correction on RAW Footage

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Camera Working and Elements
Camera Shots and Movements
Editing Software Working and Features
Create Cut to Cut Rough Sequence
Product Video Shoot and Edit
Film and Edit an Interview with Multi Camera Setup
Edit Single and Multi Camera Footage
Create Promo of Film
Produce B-Roll Video
Dubbing with Audio Treatment
Create University Promotion Video / Documentary Production

B-GAG308: Video Production (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG308.1	3	3	3	3	3	3	3	3
B-GAG308.2	3	3	3	3	3	3	3	3
B-GAG308.3	3	3	3	3	3	3	3	3
B-GAG308.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG308.1	3	3	2	3	3
B-GAG308.2	3	3	3	3	3
B-GAG308.3	3	3	3	3	3
B-GAG308.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG308.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG308.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG308.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG308.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG309: Information Security (Theory)

Time:1 Hrs.   Total Marks: 25
Credits: 1   Theory: 20
                                                 Internal Assessment: 05

Course Objectives: This course is designed to explain various information security threats and controls for it.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 309.1: Demonstrate advance in the field of cyber and information security.
B-GAG 309.2: Understand CIA triad of Confidentiality, Integrity and Availability.
B-GAG 309.3: Appreciate the difficulties that arise when valuable information needs to be shared.
B-GAG 309.4: Understand the various IT Acts.

Note: -The question paper will be divided into three Units containing five questions. Students are required to attempt three questions in all. There will be two questions in Unit I & II. The students are required to attempt one question each from Unit I & II. Each question will carry 5 marks. Unit-III will have only one Compulsory question of 10 marks containing six short notes covering the entire syllabus and students are required to attempt any five.

UNIT I

- What is Information: CIA Model
- Attract and Security
- Computer Security System
- Information Superhighway
- Information and Technology Act. (IT Act)
- Copy Right Act.
- Plagiarism

UNIT II

- End to End Encryption
- Key Pair: Private Key & Public Key
- Cyber Crime Types
- Tempering with Computer System
- Hacking with Computer System
- Publishing of obscene Information in Electronic Form
- Breach Confidentiality & Privacy

Reference

- *A Guide to cyber Laws and Information Technology Act, 2000 with Rules and Notification by NandanKamatha*
- *Guide to cyber Laws by Rondey, D.Ryder*
- *Cyber Crime by YogeshBarua&Denzy*
- *Information Technology: Law and Practice by Sharma, Vakul*
- *Cyber & E-Commerce Laws by bakashi, R.M.*
- *Cyber Law in India (Law of Internet) by Farooq Ahmad*

B-GAG309: Information Security

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG309.1	3	3	3	3	3	3	3	3
B-GAG309.2	3	3	3	3	3	3	3	3
B-GAG309.3	3	3	3	3	3	3	3	3
B-GAG309.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG309.1	3	3	2	3	3
B-GAG309.2	3	3	3	3	3
B-GAG309.3	3	3	3	3	3
B-GAG309.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG309.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG309.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG309.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG309.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG310: Information Security (Practical)

Time:2 Hrs.   Total Marks: 25
Credits: 1   Practical: 20
                                                           Internal Assessment: 05

Course Objectives: This course is designed to explain various information security threats and controls for it.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 310.1: Demonstrate advance in the field of cyber and information security.
B-GAG 310.2: Understand CIA triad of Confidentiality, Integrity and Availability.
B-GAG 310.3: Appreciate the difficulties that arise when valuable information needs to be shared.
B-GAG 310.4: Understand the various IT Acts.

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
End to End Encryption
Antiviruses
Publishing of obscene Information in Electronic Form
Plagiarism

B-GAG310: Information Security (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG310.1	3	3	3	3	3	3	3	3
B-GAG310.2	3	3	3	3	3	3	3	3
B-GAG310.3	3	3	3	3	3	3	3	3
B-GAG310.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG310.1	3	3	2	3	3
B-GAG310.2	3	3	3	3	3
B-GAG310.3	3	3	3	3	3
B-GAG310.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG310.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG310.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG310.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG310.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG401: Compositing & Visual Effects (Theory)

Time: 3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                                     Internal Assessment: 20

Course Objectives: This course enables the students to learn theoretical perspective of VFX and Composition and its importance. This course allows student to learn observation and visualization. This course allows the student to learn and practice VFX Techniques for use in Animation and VFX Industry.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 401.1: Understand the Concept of Composition and Visual Effects
B-GAG 402.2:To Know different Techniques of Post Production
B-GAG 403.3: Gain Knowledge about Post Production Tools
B-GAG 403.4: Learn about functions of keys as tool

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Introduction

- Introduction to after effects
- Adobe After Effect Interface: Workspace, Toolbar and Menu
- Project Setup: Elements of Project Panel
- Create and Edit Composition
- Slide Show of Multiple Images

UNIT-II

Compositing
- Timeline: Elements and Parts of Timeline
- Layer Parenting (Parent and Child Relationship)
- Animation: Key, and Types of Keys
- Graph Editor: Curve Tools
- 2D Composition, Pre Comp and 3D Composition
- Motion Graphics: Typography, lines, Shapes and Images

UNIT-III

Techniques
- Motion Tracking: Single Point and Multi Point
- 3D Tracking with MOCHA
- Masking: Create, Edit and Animate

- Roto-Scoping: Roto Brush and Organic and Geometrical Mask
- Stamp Tool: Wire Removal and Object Removal
- Rig or wire removal with clone stamp tool

UNIT-IV

Effects & Rendering
- Wiggle, Stroke, Beam, CC Sphere and Blur
- Particles: Create, Edit and Animation
- Keying: Chroma Key, Colour Range
- Colour Correction and Colour Balance
- Camera: Create, Edit and Animate
- Rendering Setup: Sequence and Video with Audio

References:

- *Adobe Creative Cloud AFTER EFFECT CC 2015, Classroom in a book, The official training workbook from adobe, By - Brie Gyncild& Lisa Fridsma*
- *Secrets of Hollywood Special Effects by Robert E. McCarthy, Focal Press*
- *Creating Motion Graphics with After Effect, third edition: Volume-2: Advanced Techniques by Trish & Chris Meyer, CMP BOOKS*
- *Creative After Effects 7Workflow Techniques for Animation, Visual Effects and Motion Graphics ByAngie Taylor, Focal Press is an imprint of Elsevier*
- *The VES Handbook of Visual Effects, Industry standard VFX Practices and Procedures Edited By: Jeffery A. Okun and Susan Zwerman, Focal Press is an imprint of Elsevier*
- *HOW TO READ A FILM The World of Movies, Media, and Multimedia, Language, History, TheoryThird Edition, Completely Revised and Expanded By Jame s Monaco, New York Oxford OXFORD UNIVERSITY PRESS*

B-GAG401: Compositing & Visual Effects (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG401.1	3	3	3	2	3	3	3	3
B-GAG401.2	3	3	3	3	3	3	3	3
B-GAG401.3	3	3	3	3	3	3	3	3
B-GAG401.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG401.1	3	2	2	2	3
B-GAG401.2	3	3	3	3	3
B-GAG401.3	3	3	3	3	3
B-GAG401.4	3	3	3	3	3
Average	3	2.75	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG401.1	3	3	3	2	3	3	3	3	3	2	2	2	3
B-GAG401.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG401.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG401.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	2.75	2.75	2.75	3

B-GAG402: Compositing & Visual Effects (Practical)

Time:3 Hrs.
Credits: 2

Total Marks: 50
Practical: 40
Internal Assessment: 10

Course Objectives: This course enables the students to learn theoretical perspective of VFX and Composition and its importance. This course allows student to learn observation and visualization. This course allows the student to learn and practice VFX Techniques for use in Animation and VFX Industry.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 402.1: Understand and Practice on prost production tool
B-GAG 402.2: Able to Provide Treatment to Raw Footage
B-GAG 402.3: Able to Create Motion Graphics
B-GAG 402.4: Practice Different Techniques of Visual Effects

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Interface, Tools and Panels
Project Setup, Key Animation
2D Composition: Slide Show of Images
Typography Animation
Motion Poster
Opening Titling / Logo Animation
Produce a video based on Character Cloning
Motion Graphics Advertisement
Roto-scoping: Copy Character from Video and Compose it in New Video
Tracking: Track Organic and Non- Organic Objects
News Channel Interface Animation

B-GAG402: Compositing & Visual Effects (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG402.1	3	3	3	3	3	3	3	3
B-GAG402.2	3	3	3	3	3	3	3	3
B-GAG402.3	3	3	3	3	3	3	3	3
B-GAG402.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG402.1	3	3	2	3	3
B-GAG402.2	3	3	3	3	3
B-GAG402.3	3	3	3	3	3
B-GAG402.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG402.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG402.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG402.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG402.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

B-GAG403: User Interface Design (Theory)

Time: 3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                                     Internal Assessment: 20

Course Objectives: This course enables the students to learn Digital Graphics and User Interface and its importance. This course allows student to know application and functions of Digital Design

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 403.1: Understand the Function and Application of Advertising
B-GAG 403.2:Learn The Techniques to Create Digital Graphics.
B-GAG 403.3: To Know the Process of User Interface Designing
B-GAG 403.4: Understand The Elements of Digital Design

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Advertising

- Meaning and Definition of advertising
- Types, Elements &Principles of Advertising
- Production process of Advertising and Graphics
- Function and Characteristics of Advertising

UNIT-II

Tools and Techniques

- Interface: Workspace, Tools, Rulers, Grids, Guides, and Crop Marks and other panels
- Concept of Art board and Layer, Page Property
- Create and Edit Shapes, Shape Builder Tool
- Align and Distribution, Grouping, Blending Modes, Clipping masks
- Image: Import, Placement, Tracing and Edit
- Color & Painting:Colors Selection, Color Swatches, Color Guide, Brushes and Strokes, Gradient panel and Gradient tool

UNIT-III

Effects & Output

- Masking: Function and Characteristics
- Drop shadows, Glow, 3D Effect and Distortion and Transformation
- Path finder, Rasterize, Stylize and Wrap
- Export: Export for Web and Print, Export Selection
- Function and application of Different File Formats: .PDF, PNG JPEG, SVG, TIFF

UNIT-IV

Adobe Experience Design (XD)

- Overview of User Experience Design (UX) vs. User Interface Design (UI)
- Understanding common file formats and Working with the Design and Prototype views
- Principals and Process of User Interface Design
- Create Prototypes: low fidelity and high fidelity
- Create and Combine Shapes, Add Images
- Buttons: Types and Functions
- Information Hierarchy, Color: Solid, Gradient and Transparent
- Text: Choose and Treatment
- Drop Shadow, Background Blur, Stroke size and Color
- Navigating around the user interface **UI Kits:**Android and IOS

References:

- *The Essential Guide to User Interface Design An Introduction to GUI Design Principles and Techniques, Third Edition By Wilbert O. Galitz, Wiley Publishing, Inc.*
- *The Elements Of Graphic Design, Second Edition By Alexw. White, Published By Allworth Press*
- *A Designer's Research Manual, Second Edition By Jenn + Ken Visocky O'Grady*
- Adobe Illustrator CC, Classroom in a Book, The official training workbook from Adobe By Brian Wood, ADOBE PRESS
- UI Design with Adobe Illustrator By Rick Moore, ADOBE PRESS
- *Adobe XD in CC,Classroom in a Book, The official training workbook from Adobe By Brian Wood, ADOBE PRESS*
- *UX AND UI DESIGN STRATEGY A STEP-BY-STEP GUIDE ON UX AND UI DESIGN By PAMALA B. DEACON, Printed in the United States of America 2020 by Pamala B. Deacon*

B-GAG403: User Interface Design (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG403.1	3	3	3	2	3	3	3	3
B-GAG403.2	3	3	3	3	3	3	3	3
B-GAG403.3	3	3	3	3	3	3	3	3
B-GAG403.4	3	3	3	3	3	3	2	3
Average	3	3	3	2.75	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG403.1	3	2	2	2	3
B-GAG403.2	3	3	3	3	3
B-GAG403.3	3	3	3	3	3
B-GAG403.4	3	3	3	3	3
Average	3	2.75	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG403.1	3	3	3	2	3	3	3	3	3	2	2	2	3
B-GAG403.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG403.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG403.4	3	3	3	3	3	3	3	2	3	3	3	3	3
Average	3	3	3	2.75	3	3	3	2.75	3	2.75	2.75	2.75	3

B-GAG404: User Interface Design (Practical)

Time:3 Hrs.
Credits: 2

Total Marks: 50
Practical: 40
Internal Assessment: 10

Course Objectives: This course enables the students to learn and 3D Modelling and its importance for Animation. This course allows student to practice and learning through observation. This course allows the student to learn and practice different techniques of 3D Modelling for Animation Design.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 404.1: Understand and Practice Tools of Digital Design
B-GAG 404.2: To Know Different Parameters of Digital Advertisements
B-GAG 404.3: Learn to Develop User Interface for Digital Application
B-GAG 404.4: Practice and Use Different Digital Platforms for Designing

Note: -The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Interface of Adobe Illustrator
Web banners / Social Media Post Design
Google ad Banners
Classified Advertisements
Newspaper Advertisement
Social Media Cover Design
E-Mailers Design
Interface of Adobe XD
Button and Card Design
User Interface design
Prototype Design for Android and IOS

B-GAG404: User Interface Design (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG404.1	3	3	3	3	3	3	3	3
B-GAG404.2	3	3	3	3	3	3	3	3
B-GAG404.3	3	3	3	3	3	3	3	3
B-GAG404.4	3	3	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG404.1	3	3	2	3	3
B-GAG404.2	3	3	3	3	3
B-GAG404.3	3	3	3	3	3
B-GAG404.4	3	3	3	2	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG404.1	3	3	3	3	3	3	3	3	3	3	2	3	3
B-GAG404.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG404.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG404.4	3	3	3	3	3	3	2	3	3	3	3	2	3
Average	3	3	3	3	3	3	2.75	3	3	3	2.75	2.75	3

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B-GAG 405: 2D Digital Animation Technique (Theory)

Time:3 Hrs.
Credits: 4

Total Marks: 100
Theory: 80
Internal Assessment: 20

Course Objectives: This course is designed to gain the fundamental skills necessary to create 2D animations digitally. This course takes the students through various aspects of animation using a variety of 2-dimensional software.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 405.1: Defining and understanding the 12 principles of animation
B-GAG 405.2: Understanding the principal of motion, timing, action and how they are applied digitally to bring sequential drawings to life
B-GAG 405.3: Gain skills in the use of industry standard animationtools for 2d traditional and Advanced animation
B-GAG 405.4: Understanding the use and depiction of physical attributes such as weight, force, speed, construction, and flexibility of objects in 2d digital animation

Note: - The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

Unit-I
2D Animation Techniques

- History and Development of Computer Animation
- Process and Types of Digital Animation
- Animation: Frame by Frame Animation, Motion Tween, Motion Guide, Shape Tween and Classic Tween
- Model Sheets, Expression sheet X-Sheets, Storyboard, and Animatic
- Understanding 12 Principals of animation in context of 2d Digital Animation
- Pixel and resolution: Vector and Bitmap Graphics

Unit-II
Introduction to Flash

- Interface of Flash: Work area, Tools and Panels
  Drawing: BackgroundIllustrations, Tracing and Editing
- Color: Flat Color, Highlights and Shadows
- Import: Image, Audio and Video
- Timeline: Function, Tools and Elements
- Frames: Key frames, Blank Frame, Static Frame
- Key Poses, Breakdowns and In-betweens
- Onion Skin: Types and Function

- Frame Rate: 10Fps, 12Fps and 24Fps Difference and Functions
- Movie Clip, Graphics Symbols and Button
- Publishing for Flash, HTML5 etc.

Unit-III
Traditional and Advance Techniques in Flash Animation

- Scenes: Add and Edit
- Lip Sync. And Masking
- Eyes and Expression
- Special Effect Animation
- Nested Animation
- Easing, Editing Property Curves
- Camera: Features and Application
- Bones and Workflows, Inverse Kinematics, Disabling and Constraining Joints

Unit-IV
Object and Character Animation in 2D

- Extreme Poses and Personality Walks
- Pendulum Animation Theory
- Bouncing Ball Animation Theory
- Walk Cycle Study
- Run Cycle Study
- Character Jump Study

References:

o *Adobe Animate CC Classroom Book 2018 | Animation | First Edition | By Pearson*
o *Richard Williams Expanded Edition; The Animator's Survival Kit*
o *Harold Whitaker and John Halas, Timing for Animation, Focal Press; 2 edition (2September 2009)*
o *Animation from Pencil to Pixel by Tony White, Focal Press ,* ISBN 13: 978-0-240-80670-9
o *The Teachers' Animation Toolkitby Britta Pollmüller and Martin Sercombe, Continuum International Publishing Group*

B-GAG 405: 2D Digital Animation Technique (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG405.1	3	3	3	2	3	3	3	3
B-GAG405.2	3	3	3	3	3	3	3	3
B-GAG405.3	3	3	3	3	3	3	3	3
B-GAG405.4	3	3	3	3	3	2	3	3
Average	3	3	3	2.75	3	2.75	3	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG405.1	3	3	2	2	3
B-GAG405.2	3	3	3	3	3
B-GAG405.3	3	3	3	3	3
B-GAG405.4	3	3	3	3	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG405.1	3	3	3	2	3	3	3	3	3	3	2	2	3
B-GAG405.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG405.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG405.4	3	3	3	3	3	2	3	3	3	3	3	3	3
Average	3	3	3	2.75	3	2.75	3	3	3	3	2.75	2.75	3

B-GAG 406: 2D Digital Animation Technique (Practical)

Time:3 Hrs.   Total Marks: 50
Credits: 2   Theory: 40
                                                     Internal Assessment: 10

Course Objectives: This course is designed for practicing various techniques of digital animation; provide students with insight and experience to develop skill in industry standard digital animation software's.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 406.1: Gain understanding of the application of the principals of animation in the 2d digital Animation medium
B-GAG 406.2: Able to design, develop and animate simple 2d animation using various digital animation techniques
B-GAG 406.3: Develop skill in using Industry Standard 2d animation tools and techniques
B-GAG 406.4: Problem solving technical and design issues during the animation process

Note: - The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Pendulum
Ball BounceAnimation (tennis ball, bowling ball, ping pong ball etc.)
Cartoon Character Head Turn
Eye Blink and Facial Expression
Breathing Animation
Human Walk Cycle
Heroic Walk Cycle
Character jumping and Run Cycle
Special Effect Animation
Two Character Fight
Animation Based Advertisement

B-GAG 406: 2D Digital Animation Technique (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG406.1	3	3	3	3	3	3	3	3
B-GAG406.2	3	3	3	3	3	3	3	3
B-GAG406.3	3	3	3	3	3	3	3	3
B-GAG406.4	3	3	3	3	2	3	3	3
Average	3	3	3	3	2.75	3	3	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG406.1	3	3	3	2	3
B-GAG406.2	3	3	3	3	3
B-GAG406.3	3	3	3	3	3
B-GAG406.4	3	3	3	3	3
Average	3	3	3	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG406.1	3	3	3	3	3	3	3	3	3	3	3	2	3
B-GAG406.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG406.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG406.4	3	3	3	3	2	3	3	3	3	3	3	3	3
Average	3	3	3	3	2.75	3	3	3	3	3	3	2.75	3

B-GAG-407 3D Organic Modeling &Texturing (Theory)

Time:3 Hrs.   Total Marks: 100
Credits: 4   Theory: 80
                                               Internal Assessment: 20

Course Objectives: This course is designed for theoretical understanding of basic 3D Animation MAYA software and its components, functioning and its application literally industry basis.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 407:**1** Understand the basic3D animation MAYA software
B-GAG 407:**2** Know about the different types ofModelling.
B-GAG 407:3 Production Stages how to build the character.
B-GAG 407:**4** Understand the basics types of texturing.

Note:- The question paper will be divided into five Units containing nine questions. Students are required to attempt five questions in all. There will be two questions in each unit from I to IV and students are required to attempt one question from each unit. Unit V will have only one Compulsory question containing six short notes covering the entire syllabus and students are required to attempt any four. All questions will carry equal marks.

UNIT-I

Introduction

- 3D Animation: Features and Application
- Production Pipeline of 3d Animation
- Overview of 3D Animation Industry and Artist Profiles in Industry
- Interface of Autodesk 3Ds Maya: Workspace, Tools, Menu and other Panels
- Create and Edit: Standard Primitive & Extended Primitives Objects, Pivoting andAligning etc.
- Modifiers and Environment Effects

UNIT-II

Quadruped Modeling

- 3D Modeling Types and Characteristics
- Modeling Tools and Techniques
- Objects and Gaming Assets Modeling
- Environment and Scenes Modeling
- Concept Character Modeling

UNIT-III

Biped Modeling

- Human Body Parts with Low poly and High poly Modeling and anatomy
- Upper Body Modeling
- Lower Body Modeling
- Mesh-flow of Face and Head Models
- Cloth and Hair Modeling

UNIT-IV

Texturing

- Hypershade: Features and Application
- Material and Shader: Types, Features and Application
- Texturing Maps (Opacity, Bump, Reflection)
- Process of UVW Unwrapping (Flatter, Cylindrical, Spherical)
- Create 2d Texture in Adobe Photoshop

References::

o *Autodesk Maya 2019 Workbook Author: Sham Tickoo*
o *Advanced Maya Texturing and Lighting Paperback – Illustrated, 29 May 2015 by Lee Lanier .*
o *Mastering Autodesk Maya 2016: Autodesk Official Press BY Palamar T.*

B-GAG-407 3D Organic Modelling &Texturing (Theory)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG407.1	3	3	3	2	3	3	3	3
B-GAG407.2	3	3	3	3	3	3	3	3
B-GAG407.3	3	3	3	3	3	3	3	3
B-GAG407.4	3	3	3	3	3	2	3	3
Average	3	3	3	2.75	3	2.75	3	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG407.1	3	3	2	2	3
B-GAG407.2	3	3	3	3	3
B-GAG407.3	3	3	3	3	3
B-GAG407.4	3	3	3	3	3
Average	3	3	2.75	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG407.1	3	3	3	2	3	3	3	3	3	3	2	2	3
B-GAG407.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG407.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG407.4	3	3	3	3	3	2	3	3	3	3	3	3	3
Average	3	3	3	2.75	3	2.75	3	3	3	3	2.75	2.75	3

B-GAG 408: 3D Organic Modeling & Texturing (Practical)

Time: 3 Hrs.   Total Marks: 50
Credits: 2   Practical: 40
                                                  Internal Assessment: 10

Course Objectives:This subject will empower students to practice the 3D Animation design. The subject enhances the 3D Modeling &texturingskills required for 3D Animation though various modeling techniques. It lays the foundation to visualization ability for 3D Modeling & Texturing and imparts knowledge and skill to design layout compositions for 3D Animation.

Course Learning Outcomes:
After completing the Course, the student will be able to:
B-GAG 408:1the professional skills and competencies acquired during the 3D Animation
B-GAG 408:**2**Students learn design skills with 3D Animation   desire and demand in market
B-GAG 408:**3**Know about the elements and structure of 3D Design
B-GAG 408:**4**Design skills acquired in 3D Production planning, of modeling & Texturing

Note: - The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hardcopy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva voce.

List of Practical Exercises:
Object Modeling and Texturing
Environment and Scenes Modeling
Environment and Scenes Texturing
Human Body Parts Modeling and Texturing
Lower Body Modeling of Character
Upper Body Modeling of Character
Face and Head Modeling
Cloth and Hair Modeling
Skin Texturing
Concept Character Modeling

B-GAG 408: 3D Organic Modeling & Texturing (Practical)

CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG408.1	3	3	3	3	3	3	3	3
B-GAG408.2	3	3	3	3	3	3	3	3
B-GAG408.3	3	3	3	3	3	3	3	3
B-GAG408.4	3	3	3	3	2	3	3	3
Average	3	3	3	3	2.75	3	3	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG408.1	3	3	3	2	3
B-GAG408.2	3	3	3	3	3
B-GAG408.3	3	3	3	3	3
B-GAG408.4	3	3	3	3	3
Average	3	3	3	2.75	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG408.1	3	3	3	3	3	3	3	3	3	3	3	2	3
B-GAG408.2	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG408.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG408.4	3	3	3	3	2	3	3	3	3	3	3	3	3
Average	3	3	3	3	2.75	3	3	3	3	3	3	2.75	3

B-GAG409
SOFT SKILLS AND PERSONALITY DEVELOPMENT (Theory)

Time: 1 Hrs.   Total Marks: 25
Credits:1   Theory:20
                                                     Internal Assessment:05

Course Objectives: This course is designed the help the students to groom their personality by learning effective communication and presentation skills.The course will help them to be good professionals as well as establish themselves as intelligent citizens of the society.

Course Learning Outcomes:After completing the course the student will be able to:
B-GAG409.1:learn soft presentation skills, etiquette and manners
B-GAG409.2: re-engineer the personality, attitude and understand the influence of habits and body language
B-GAG409.3: use yoga and meditation to control stress, anger and time management
B-GAG409.4: hone the skills of resume, interview and group discussion for today's job market.

Note:- The question paper will be divided into three units containing five questions. Students are required to attempt three questions in all. There will be two questions in unit I & II. The students are required to attempt one question each from unit I & II. Each question will carry 5 marks. Unit-III will have only one Compulsory question of 10 marks containing six short notes covering the entire syllabus and students are required to attempt any five.

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Unit-I
- Soft Skills: soft and hard skills, decision making and leadership skills .
- Public Speaking and Presentation Skills: Types skills, content, audience analysis.
- Personality: Personality Development, Self-Disclosure, Self-Awareness, SWOT analysis.
- Habits, attitude and behavior
- Body Language: Posture and Gestures, Eye-Contact, Facial Expression Timing, space.

Unit-II
- Importance of Yoga and meditation for personal well being
- Time management: importance, time management strategies, time planning,tools and techniques
- Resume / CV Writing: Difference between resume/CV and bio-data, Types, Layout & draft, resume in digital age, Cover letter
- Interview: Types of interviews, preparing for interviews, facing interviews, reviewing during and after the interview.
- Group Discussions: Importance, planning, elements, group discussion skills.

Suggested Readings:

o Johnson, D.W. (1997). Reaching out – Interpersonal Effectiveness and Self Actualization. 6th
o ed. Boston: Allyn and Bacon.
o Sherfield, R. M.; Montgomery, R.J. and Moody, P, G. (2010). Developing Soft Skills. 4th ed.
o New Delhi: Pearson.
o Robbins, S. P. and Hunsaker, Phillip, L. (2009). Training in Interpersonal skills. Tips for
o managing people at work. 5th ed. New Delhi: PHI Learning.
o Schafer, W. (1998). Stress Management for Wellness. 4th edition. Australia: Thomson &
o Wadswoth.
o Robbins, S. P. and Hunsaker, Phillip, L. (2009). Training in Interpersonal skills. Tips for
o Frey, D and Carlock , C. (1989). Enhancing Self Esteem. 2nd edition. Indiana:
o Accelerated Development INC.
o Hurlock, E.B (2006). Personality Development, 28th Reprint. New Delhi: Tata McGraw Hill.
o Andrews, Sudhir. How to Succeed at Interviews. 21st (rep.) New Delhi.Tata McGraw-Hill 1988.
o Heller, Robert.Effective leadership. Essential Manager series. Dk Publishing, 2002
o Hindle, Tim. Reducing Stress. Essential Manager series. Dk Publishing, 2003
o Lucas, Stephen. Art of Public Speaking. New Delhi. Tata - Mc-Graw Hill. 2001
o Mile, D.J Power of positive thinking. Delhi. Rohan Book Company, (2004).
o Pravesh Kumar. All about Self- Motivation. New Delhi. Goodwill Publishing House. 2005.

B-GAG 409: SOFT SKILLS AND PERSONALITY DEVELOPMENT (Theory)

Process <u>CO-PO Mapping Matrix</u>

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG 409.1	3	3	3	3	3	3	2	3
B-GAG 409.2	3	3	3	3	3	3	3	3
B-GAG 409.3	3	3	3	3	3	3	3	3
B-GAG 409.4	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG409.1	3	2	3	3	3
B-GAG 409.2	3	2	3	3	3
B-GAG 409.3	3	3	3	3	3
B-GAG 409.4	3	3	3	3	3
Average	3	2.5	3	3	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG409.1	3	3	3	3	3	3	2	3	3	2	3	3	3
B-GAG 409.2	3	3	3	3	3	3	3	3	3	2	3	3	3
B-GAG 409.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG 409.4	3	3	3	3	3	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	2.75	3	3	2.5	3	3	3

B-GAG410
SOFT SKILLS AND PERSONALITY DEVELOPMENT (Practical)

Time: 2 Hrs.   Total Marks: 25
Credits:1   Practical:20
                                                    Internal Assessment:05

Course Objectives: This course is designed the help the students to groom their personality by learning effective communication and presentation skills.The course will help them to be good professionals as well as establish themselves as intelligent citizens of the society.

Course Learning Outcomes:After completing the course the student will be able to:
B-GAG 410.1:learn soft presentation skills, etiquette and manners
B-GAG 410.2: re-engineer the personality, attitude and understand the influence of habits and body language
B-GAG 410.3: use yoga and meditation to control stress, anger and time management
B-GAG 410.4: hone the skills of resume, interview and group discussion for today's job market.

Note:- **The students will do practical assignments assigned by the concerned teacher throughout the whole semester and will submit them in the form of hard copy/softcopy to the teacher. External Examiner will evaluate the work done by the student, will conduct the practical and viva-voce.**

List of Practical Exercises
1.Resume writing
2.Self Introduction and Mock Interviews.
3.Group Discussions and Presentations.
4. Submit any two case study assignment that illustrates effective communication.
5.Classroom presentations on contemporary issues.

B-GAG 410: SOFT SKILLS AND PERSONALITY DEVELOPMENT (Practical)

Process CO-PO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
B-GAG 410.1	3	3	3	3	3	3	2	3
B-GAG 410.2	3	3	3	3	3	3	3	3
B-GAG 410.3	3	3	3	3	3	3	3	3
B-GAG 410.4	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	2.75	3

CO-PSO Mapping Matrix

CO	PSO1	PSO2	PSO3	PSO4	PSO5
B-GAG 410.1	3	2	3	3	3
B-GAG 410.2	3	2	3	3	3
B-GAG 410.3	3	3	3	3	3
B-GAG 409.4	3	3	3	3	3
Average	3	2.5	3	3	3

CO-PO-PSO Mapping Matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
B-GAG 410.1	3	3	3	3	3	3	2	3	3	2	3	3	3
B-GAG 410.2	3	3	3	3	3	3	3	3	3	2	3	3	3
B-GAG 410.3	3	3	3	3	3	3	3	3	3	3	3	3	3
B-GAG 410.4	3	3	3	3	3	3	3	3	3	3	3	3	3
Average	3	3	3	3	3	3	2.75	3	3	2.5	3	3	3