Central Institute of Technology Kokrajhar

Deemed to be University, MHRD, Govt. of India

Kokrajhar, BTR, Assam

DIPLOMA SYLLABUS OF

ANIMATION & MUTIMEDIA TECHNOLOGY (AMT)

(To be applicable from August 2021 for batches to start from 2021-22 academic session)

Department of Multimedia Communication and Design

Module: Diploma	**Branch: AMT**	**Year: 1st Year**	**Semester: 1st Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DHSS101	Communication Skills-I	3-0-0	6
DCH101	Chemistry-I (Theory)	2-1-0	6
DPH101	Applied Physics-I (Theory)	2-1-0	6
DMA101	Mathematics-I	3-1-0	8
DAMT101	Fundamentals of Computer Application(Theory)	2-0-0	4
DAMT102	Foundation of Animation(Theory)	1-1-0	4
DCH171	Chemistry-I (Practical)	0-0-2	2
DPH171	Applied Physics-I (Practical)	0-0-2	2
DAMT171	Fundamentals of Computer Application(Practical)	0-0-2	2
DAMT172	Foundation of Animation(Practical)	0 0-6	6
		Contact Hours 29	**46**
Module: Diploma	**Branch: AMT**	**Year: 1st Year**	**Semester: 2nd Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DHSS201	Communication Skills-II	3-0-0	6
DCSE202	Computer Fundamentals and Programming (Theory)	2-0-0	4
DAMT201	Story boarding & Script writing(Theory)	1-0-0	2
DAMT202	Elements of Multimedia(Theory)	2-0-0	4
DAMT203	2D Animation Techniques(Theory)	1-0-0	2
DCSE272	Computer Fundamentals and Programming (Theory)	0-0-2	2
DAMT271	Story boarding & Script writing(Practical)	0-0-4	4
DAMT272	Elements of Multimedia (Practical)	0-0-2	2
DAMT273	2D Animation Techniques(Practical)	0-0-6	6
		Contact Hours 23	**32**
Module: Diploma	**Branch: AMT**	**Year: 2nd Year**	**Semester: 3rd Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DAMT301	Introduction to Digital Modeling (Theory)	1-0-0	2
DAMT302	Basic Concept of Texturing Techniques (Theory)	1-0-0	2
DAMT303	Web Designing (Theory)	1-0-0	2
DAMT304	Digital Photography and Film Making (Theory)	1-0-0	2
DAMT371	Introduction to Digital Modeling (Practical)	0-0-6	6
DAMT372	Basic Concept of Texturing Techniques (Practical)	0-0-6	6
DAMT373	Web Designing (Practical)	0-0-4	4
DAMT374	Digital Photography and Film Making (Practical)	0-0-6	6
DAMT375	Concept Art (Practical)	0-0-6	6
		Contact Hours 32	**36**

Module: Diploma	**Branch: AMT**	**Year: 3rd Year**	**Semester: 4th Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DAMT401	3D Animation (Theory)	1-0-0	2
DAMT402	Concept of Rigging(Theory)	1-0-0	2
DAMT403	Introduction to Multimedia Design(Theory)	2-0-0	4
DAMT404	Art Fundamentals and Graphics Design(Theory)	2-0-0	4
DAMT471	3D Animation (Practical)	0-0-6	6
DAMT472	Concept of Rigging(Practical)	0-0-6	6
DAMT473	Introduction to Multimedia Design(Practical)	0-0-6	6
DAMT474	Art Fundamentals and Graphics Design(Practical)	0-0-6	6
		Contact Hours 30	**36**

Module: Diploma	**Branch: AMT**	**Year: 3rd Year**	**Semester: 5th Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DAMT501	Lighting in Animation (Theory)	1-0-0	2
DAMT502	Compositing & Visual Effects(Theory)	1-0-0	2
DAMT503	Introduction to Gaming Theory (Theory)	2-1-0	6
DAMT504	Concept of New Media (Theory)	2-0-0	4
DAMT571	Lighting in Animation (Practical)	0-0-6	6
DAMT572	Compositing & Visual Effects(Practical)	0-0-6	6
DAMT595	Minor Project	0-0-10	10
		Contact Hours 29	**36**
Module: Diploma	**Branch: AMT**	**Year: 3rd Year**	**Semester: 6th Sem**
Course Code	**Name of Course**	**L-T-P**	**Credit**
DHSS601	Industrial Management and Entrepreneurship	3-1-0	8
DAMT601	Audio Video Editing (Theory)	1-1-0	4
DAMT671	Audio Video Editing (Practical)	0-0-6	6
DAMT695	Major Project	0-0-12	12
		Contact Hours 24	**30**
		Total Credits	**216**

***Students will present/exhibit a Compilation of all their work done at the end of each semester.**

Consolidated statement of total credits in each semester

Semester	L	T	P/S	Credit
1	13	4	12	46
2	9	0	14	32
3	4	0	28	36
4	6	0	24	36
5	6	1	22	36
6	4	2	18	30
Total	42	7	118	216

As per CIT Academic Ordinance:

1 h Lecture (L) per week	2 credit
1 h Tutorial (T) per week	2 credit
1 h Studio Project	2 credit
1 h Practical (P) per week	1 credit
1 h Project Work	1 credit
1 h Seminar / Training / Industrial Training	1 credit

SEMESTER - 1

1. Course Title: COMMUNICATION IN ENGLISH-I

2. Course Code: DHSS101 (L-3, T-0, P-0, C-6)

3. Aim of the course:

The general aim of a course in English language and communication is aimed at the three domains of learning: knowledge, skills and attitudes. In keeping up with this aim, it is attempted to develop all the four skills of language learning in the learner – listening, speaking, reading and writing and also to enable the students to use the grammar of the English language correctly. Since, all these four skills are interrelated to each other, this course is aimed at achieving language proficiency in all the four skills so that at the end of the course the student is a confident user of the General Indian English (GIE), with the added knowledge of the other variants as British English and American English. This, it is attempted to achieve, by building a carefree, tension free classroom atmosphere in which the language classes incorporate activities related to these four skills. It is aimed that at the end of the course, the student can relate to the English language as a language of communication and conduct of everyday affairs.

4. Course outcome:

On completion of the course on Communication in English-I, student will be able to

- CO1 = Comprehend basic sentences in English.
- CO2 = Construct grammatically correct sentences in English.
- CO3 = Use grammatically correct English sentences in everyday situations.
- CO4 = Use varied English vocabulary in everyday situations confidently.
- CO5 = Conduct themselves orally using simple English.

Chapter no.	Chapter Title	Content / area of focus	Intended Learning Outcome	Duration in hours
1.	Parts of Speech	1.1 Recognition and review of Nouns, Pronouns, Verbs, Adverbs, Adjectives, Prepositions, Conjunctions, Interjections 1.2 Knowledge of Subject, Object and Compliment of the Verb 1.3 Verbals –Infinitival, Gerund and Preposition	1. Explain the different parts of speech. 2. Describe the various parts of sentence.	3
2.	Prepositions of time and place	2.1 Contextual teaching of prepositions of time - on, in , at, since, for, ago, before, to, past, to, from, till/until, by	1. Explain prepositions of time and place.	5

		2.2 prepositions of place: in, at, on, by, next to, beside, near, between, behind, in front of, under, below, over, above, across, through, to, into, towards, onto, from		
3.	Clause, phrases and Relative Clauses	3.1 Basic definitions of clauses and phrases 3.2 Focus on Relative Pronouns and their use in sentences as relative clauses	1. Describe the various types of clauses and phrases with special reference to relative clauses.	2
4.	Subject Verb Agreement	4.1 Rules that guide the agreement of the subject to its verb	1. Explain subject verb agreement.	5
5.	Sentence types and Transformation of sentences	5.1 Assertive sentences, Exclamatory sentences, Interrogative sentences, Negative sentences, Compound sentences, complex sentences, simple sentences, Degrees of Comparison	1. Describe the various types of sentences and their transformations.	5
6.	Voice	6.1 Change from Active Voice to Passive Voice and vice versa	1. Describe Voice.	3
7.	Punctuation	7.1 Use of the comma, semi-colon, colon, apostrophe, exclamation mark, question mark and quotation marks	1. Explain punctuation in different situations and sentences.	5
8.	Word formation	8.1 Change of one part of speech to the other: from Verbs to Nouns, Nouns to Verbs, Adjectives to Nouns, Nouns to Adjectives, Verbs to adverbs, and Adverbs to Verbs	1. Explain the conversion of one part of speech to the other.	2
9.	Affixation	9.1 Prefixes and Suffixes and new word formations	1. Explain the use of various Affixes and the change of meaning with it.	2
10.	Nominal Compounds	10.1 Common nominal compound	1. Describe how different nouns can come together to form a new word.	2
11	Paragraph Writing	11.1 Descriptive Paragraph on various related topics.	1. Describe how to write coherent paragraphs in related words.	5

BOOKS RECOMMENDED:

1. ***Essential English Grammar with Answers*** by Raymond Murphy (Cambridge University Press)
2. ***English for Polytechnics*** **by Dr Papori Rani Barooah (Eastern Book House Publishers)**
3. ***English Grammar*** **by Annie Brinda (Cambridge University Press)**

Course Name: MATHEMATICS – I **L- T – P: Cr**
Course Code: DMA101 **3 – 1 – 0: 08**

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1. ALGEBRA (18 HOURS)

- Vector and Scalar quantities – types of vectors, geometric representation of vectors, addition and subtraction of vectors, magnitude of a vector, product of a vector by a scalar, unit vectors i, j, k.
- Arithmetic and geometric progressions – nth term of A.P. and G.P., Geometric mean between two numbers.
- Complex numbers – origin, general form, polar form, examples
- Binomial theorem – Factorials, positive integral values, binomial expansion, rules, calculation of appropriate value.
  Logarithm and exponential series.
- Determinants: Definition, operations and Cramer's rule for solving simultaneous linear equations.
- Basic concepts of permutation and Combinations.

2. TRIGONOMETRY (10 HOURS)

- Trigonometric functions and ratios.
- Trigonometric functions of allied angles – half, double, triple, compound angles.
- Addition and subtraction formulae.
- Solution of triangles using properties.
- Simplification of trigonometric expressions using different formulae.
- Basic concept of inverse trigonometric functions and hyperbolic functions.

3. CO-ORDINATE GEOMETRY (12 HOURS)

- Co-ordinate Systems, Cartesian and polar co-ordinates, distance between two points, section formula, area of triangle, collinearly and co-planarity.
- Straight Line: Definition, general and standard form of equations, intersection of straight lines: angle between them, bisector of angle between them.
- Change of co-ordinate axes, shifting of origin and rotation of axes.
- Circle: Standard equations and simple problems, tangent and normal.
- Basic idea of parabola, ellipse and hyperbola, their standard equations and basic properties.

Reference Books:

Sl No	Title	Author/ Publisher
1	Mathematics for Polytechniques: Vol – I&II	TTTI, Bhopal
2	Mathematics for Polytechniques	S.P. Deshpande
3	Engineering Mathematics	I.B. Prasad
4	Engineering Mathematics	Grewal
5	Plain Trigonometry	Bansilal
6	College Algebra	Shah and Desai
7	Mathematics Textbook for class XI and XII	NCERT

Course Name: Chemistry-1 (THEORY) **L- T – P: Cr**

Course Code: DCH101 **2 – 1 – 0: 06**

Unit I:Kinetic theory of gases (6L)
Postulates of kinetic theory, Pressure volume correlations, Numerical problems, Liquefaction of gases – Thomson effect, Claude's Method and Linde's Method.
Unit II: Electrochemistry (6L)
Electrolytes, Faraday's law of electrolysis, Numerical problems, application of electrolysis, oxidation and reductions, Redox reactions.
Unit III: States of Matter(6L)
Solid, liquid, gas. Boyle's law, Charles's Law, Avogadro's law, Ideal gas equations, numerical problems.
Unit IV: Periodic table, Atomic structure(6L)
Electrons, protons, neutron, Atomic mass (A), atomic number (Z) isotopes, isobars, isotone, orbit and orbitals, electronic configuration (upto Z=40), Modern periodic table, groups and periods.
Unit V: Organic chemistry-I (6L)
IUPAC nomenclature, Alkane, alkene, alkyne, alcohol synthesis and applications.
Unit VI: Biochemistry(4L)
Carbohydrates, lipids, amino acids, proteins, Nucleic acid--- DNA and RNA, Vitamins and hormones --- sources and application.
Unit VII: Environmental Chemistry (6L)
Defination, Types of pollution, pollutants, Water quality measurements- D.O, B.O.D, C.O.D, hardness, TDS, Green house effect, acid rain, Ozone layer depletion.

Course Title: Chemistry-1 (PRACTICAL) **L T P : Cr**
Course code: DCH171 **0 - 0 - 2 : 2**

Experiment-1: Aim of the experiment: Introduction to chemistry laboratory, precautions, name of common chemicals, apparatus, instruments etc.
Experiment-2: Aim of the experiment: Volumetric analysis and study of apparatus used therein.
Experiment-3: Aim of the experiment: Determine the degree of temporary hardness of water by EDTA titration.
Experiment-4: Aim of the experiment: Determination of solubility of a solid at room temperature.
Experiment-5: Aim of the experiment: To verify the first law of electrolysis (electrolysis of copper sulphate solution using copper electrode).

Experiment-6: Aim of the experiment: Determination of pH of unknown solutions.

Text/Reference Books:
1. Chemistry in Engineering by J.C. Kuriacose and J. Rajaram; Tata McGraw-Hill Publishing Company Limited, New Delhi
2. Engineering Chemistry by Dr. S. Rabindra and Prof. B.K. Mishra ; Kumar and Kumar Publishers (P) Ltd. Bangalore-40
3. A Text Book of Applied Chemistry-I by SS Kumar; Tata McGraw Hill, Delhi
4. Progressive Applied Chemistry –I and II by Dr. G.H. Hugar; Eagle Prakashan.

Course Title: Applied Physics I (Theory) **L T P: Cr**
Course code: DPH101 **2 – 1- 0 : 6**

Category: Basic Science Course

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1. UNITS & DIMENSION (2 L)
1.1. Need of measurement and Unit in Engineering and Science, definition of unit, fundamental and derived quantities and their units, different system of units (CGS and SI), Illustrations.
1.2 Explanation of dimensions of physical quantities, dimensional equations of physical quantities and their uses with examples.
2 BASIC MECHANICS (12 L)
2.1 Introduction to scalar and vector quantities, representation of vector, addition, subtraction and multiplication of vectors, parallelogram law of vector addition,

resolution of vector, dot and scalar product of two vectors (details not required).

2.2 Newton's laws of motion: First law, explanation, definition of force, Concept of Inertia, types of inertia (inertia of rest and inertia of motion), Newton's second law,

momentum, impulse, mass & weight, simple problems, Third law, explanation and its examples, Principle of conservation of linear momentum, statement and simple examples.(e.g. recoil of a gun), numerical problems.
2.3 Circular motion, time period and angular velocity, relation between angular velocity and linear velocity, centripetal and centrifugal force, bending of a cyclist on a curved path, banking of roads and railway track , numerical problems.

2.4 Work, power and energy, its concept, units and dimension, Potential and Kinetic energy, its mathematical relations, Principle of conservation of energy, its proof in case of a free falling body under gravity, numerical problems.

2.5 Simple Harmonic Motion, its geometrical representations and 1derivation of its equations, definition of amplitude, time period, frequency, phase etc., mathematical relations and units, simple pendulum & second's pendulum, numerical problems.

3. GRAVITY AND GRAVITATION (3 L)

3.1 Newton's law of gravitation, acceleration due to gravity, relation between 'G' and 'g', their units, variation of the value of g with altitude and depth, Centre of gravity and Centre of mass, Numerical problems

4 ELASTIC PROPERTIES OF SOLID (3 L)

4.1 Deforming force, restoring force, Elastic and plastic bodies , explanation of stress and strain with their types, Hook's law, elastic limit , Young's modulus, Bulk modulus, Rigidity modulus, Poisson's ratio, their units and numerical problems.

5 HEAT & THERMODYNAMICS (10 L)

5.1 Concept of heat and temperature, thermometer, different scales of temperatures and their conversion formulae, numerical problems.

5.2 Thermal expansion: expansion of Solid, linear, superficial and cubical expansion of solid, their coefficients & their relations; Expansion of liquid: co-efficient of Real and Apparent expansion, their relation, variation of density with temperature, Anomalous expansion of water (experimental determination not necessary). Concept of Absolute scale of temperature.

5.3 Calorimetry: Unit of heat, Joule and calorie, Specific heat, thermal capacity and water equivalent.

5.4 Change of state of a body, melting and freezing point, effect of pressure on melting point, latent heat, Evaporation, difference between vaporisation and evaporation, factors on which rate of evaporation depends.

5.5 Transmission of heat, three modes of heat transfer, conduction, convection and Radiation, good and bad conductor of heat, coefficient of thermal conductivity, its S.I. unit and dimension.

5.6 1st law and 2nd law of thermodynamics, Joule's law and Mechanical equivalent of heat.

6 SOUND (6 L)

6.1 Wave Motion: amplitude, time period, frequency and wavelength, relation between velocity, frequency and wavelength. Transverse and longitudinal waves with examples.

6.2 Propagation of sound wave: Expression of velocity of sound in air, Newton's formula and Laplace's correction, Effect of temperature, and pressure on velocity of sound.

6.3 Audible range, ultrasonic and infrasonic sound, application of ultrasonic sound to calculate the depth of ocean.

6.4 Reflection of sound and its application, Echo and reverberation of sound, acoustic of building

6.5 Doppler's effect with Mathematical expression .

Suggested Reference books.

1. Modern Approach to Physics Part I & II, Dilip Sarma, N G Chakraborty,and K N Sharma, Kalyani Publisher, New Delhi.

2. Applied Physics Part I & II, Manpreet Singh, Dr. Major Singh, and Mrs. Hitashi Gupta, S K Kataria & Sons- New Delhi.

3. Basic Applied Physics, R K Gaur, Dhanpat Rai Publication- New Delhi.

Course Title: Applied Physics I (Practical) **L T P: Cr**
Course code: DPH171 **0 - 0 -2 : 2**

Category: Basic Science Course

1. Vernier Calipers: To determine the volume of a metallic/wooden cube.
2. Screw Gauge : to determine cross sectional area of a wire/ thickness of a glass piece.
3. Spherometer: To determine the radius of curvature of concave and convex mirrors.
4. To determine the value of acceleration due to gravity (g) of a place with simple pendulum.
5. To measure the velocity of sound in resonance tube.
6. To determine the frequency of a tuning fork using a Sonometer.
7. Measurement of Specific gravity of solid, liquid, using Nicolson hydrometer, Hare's apparatus and specific gravity bottles.
8. To determine the atmospheric pressure by using Boyle's law apparatus.
9. To determine water equivalent of a calorimeter by method of mixture.

Course Name: Fundamentals of Computer Application (Theory) **L- T – P: Cr**

Course Code: DAMT101 **2 – 0 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Computer Fundamentals -
Brief history – Babbage machine, Von Neumann. Architecture – Block diagrams, Role of Operating Systems, concept of language and language translators, editors. Memory – different types, functions, concept of I/O devices.
Number System-
Number system and codes: Decimal, binary, octal, hexadecimal number systems and conversion from one system to another, arithmetic operations using these numbers. Representation of a negative number in the different number systems. Complement and complement subtraction. Different codes: ASCII, 8421, Ex-3, 2421, gray, Alpha-numeric, BCD, Seven segment codes etc. and code conversion.
Introduction to Operating System-
Concept of resource management, single user and multi user OS, Various popular OS (DOS, Windows, Unix/ Linux), elementary commands.
Introduction to Internet-
Fundamentals of networking – need of network topology, concept of LAN, WAN, MAN, network devices – NIC, hub, bridge, switch, repeaters, gateway, modem, transmission media. Internet services, concept of global net, different browsers, search engine.
MS – Office- Various products, their introduction and uses.

Course Name: Fundamentals of Computer Application (Practical) **L- T – P: Cr**

Course Code: DAMT171 **0 – 0 – 2: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books:

1. DOS quick reference: RajibMathur
2. Learning Word for Windows : RajibMathur
3. Learning Windows step by step: RajibMathur
4. Microsoft office unleashed: Techmedia
5. ABC of Office: Han
6. Mastering Excel: Chester
7. Excel 97 Bible: John Walkenbach
8. Teach yourself MS Access in 24 hours: Eddy and Buchanan
9. Microsoft Access 2000 fast and easy: Primatech BBP
10. Unix: S. Das

Course Name: Foundation of Animation (Theory) **L- T – P: Cr**

Course Code: DAMT102 **1 – 1 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Different Types of Animation, Introduction to Pre-Production, Scripting, Storyboarding, Layout, Character Designing, Props Designing, Background Designing, Camera Angles, Frame Lengths, Voice recording, Introduction to 2D Animation. Introduction to Production, Introduction to 3D animation, Modeling, Texturing, Rigging, Animation. Lighting, Dynamics, VFX, Introduction to Post-Production, Compositing, Rendering, Tools of the trade. Scope of Animation, Various positions in the Animation Industry,

Rapid sketching, Drawings with the help of basic shapes, Animal study, Human anatomy, Shading techniques, Live model study, Head study, hand and feets, full figure study. Gesture drawing.

Posing for Animation.Shapes and forms, About 2d and 3d drawings, Caricaturing – fundamentals, Exaggeration, Attitude, Silhouettes, Boundary- breaking exercises and warm ups, gesture drawing, Line drawing and quick sketches, Drawing from observation, memory and imagination.12 animation principles.

Course Name: Foundation of Animation (Practical) **L- T – P: Cr**

Course Code: DAMT172 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Beginner's Guide to Animation" – by Mark Murphy; Watson-Guptill Publication

- "Producing Animation" – by Catherine Winder & Zahra Dowlatabadi; Focal Press
- "Drawn to Life: 20 Golden Years of Disney Master Classes: Volume 1" – by Walt Stanchfield;
- Focal Press
- "Successful drawing " by Andrew Loomis
- "Constructive Anatomy" by George Bridgman

SEMESTER - 2

Course Name: Communication Skill-II **L- T – P: Cr**

Course Code: DHSS201 **3 – 0 – 0: 06**

Aim of the course:

The general aim of a course in English language and communication is aimed at the three domains of learning: knowledge, skills and attitudes. In keeping up with this aim, it is attempted to develop all the four skills of language learning in the learner – listening, speaking, reading and writing and also to enable the students to use the grammar of the English language correctly. Since, all these four skills are interrelated to each other, this course is aimed at achieving language proficiency in all the four skills so that at the end of the course the student is a confident user of the General Indian English (GIE), with the added knowledge of the other variants as British English and American English. This, it is attempted to achieve, by building a carefree, tension free classroom atmosphere in which the language classes incorporate activities related to these four skills. It is aimed that at the end of the course, the student can relate to the English language as a language of communication and conduct of everyday affairs.

Course outcome:

On completion of the course on Communication in English-II, student will be able to

- CO1 = Comprehend meaning of a passage in English.
- CO2 = Arrive at the gist of a passage and also write the gist in one's own words.
- CO3 = Understand the differences between general English and official English.
- CO4 = Face an interview with confidence and fluency and a positive attitude.

Chapter no.	**Chapter Title**	**Content / area of focus**	**Intended Learning Outcome**	**Duration in hours**
1.	Letter Writing	1.1 Formal letter formats, greetings, salutation, body of the letter,	1. Explain how to write different types of formal letters	5

		practice of letter writing in different situations: Order letter, Complaint letter, Letter of Adjustment, Quotation letter , Letter to the Editor, Application for leave of absence		
2.	Job Application and Cover Letter, Resume, Curriculum Vitae, bio data	2.1 Format of a job application, Cover Letter, formats of Resume and CV for a fresher and for someone with experience, Differences between Resume, CV, Bio-data, and choice of referees	1. Explain how to write Job Applications, Cover Letter, Resume, Curriculum Vitae, bio data	5
3.	Paragraph Writing	3.1 Definition, Cohesion and Linkage using Transition words on everyday topics	1. Describe how to compose coherent passages.	3
4.	Summary writing	4.1 Definition, Use of Transition words, important points to remember while summarizing	1. Explain how to arrive at a summary of a paragraph / text.	2

5.	Reading Comprehension	5.1 Developing the comprehension skill of the students and the ability to reproduce grammatically and semantically correct English sentences	1. Describe how to comprehend passages for understanding.	2
6.	Memo Writing	6.1 Definition and format	1. Explain how to write a formal Memo.	2
7.	Amplification	7.1 Definition and format	1. Explain how to write a formal memo	2
8.	Report writing	8.1 Definition, types of reports with a focus on annual report, non-profit annual report, technical and academic report, necessity and purpose of writing a report, qualities of a good report, language used in a report, different formats of reports and sample reports	8.1 Definition, types of reports with a focus on annual report, non-profit annual report, technical and academic report, necessity and purpose of writing a report, qualities of a good report, language used in a report, different formats of reports and sample reports	2
9.	E- mail writing	9.1 writing the perfect e-mail, steps to the perfect e-mail, formal and informal	1. Explain how to write formal and informal emails.	2

		greetings, requests through an e-mail, writing an apology, complaint and seeking help and information in an e-mail, informing about a file attached in in an email, writing the formal ending of an e-mail		
10.	Facing an interview and dress code	10.1 How to approach, what to speak, how to speak in an interview and answer interview questions, the business etiquettes to maintain, body language , negative body language, handling an awkward situation in an interview, the perfect handshake, points to remember while applying for a job	1. Discuss how to face an interview for success.	3
11.	British English and American English	10.1 Difference between American and British English words – vocabulary and spelling	1. Distinguish between British English and American English.	2

BOOKS RECOMMENDED:

1. ***Student's handbook of Written English and Phonetics*** by Dr Papori Rani Barooah (Eastern Book House Publishers) 2. ***Strengthening your writing*** -V.R. Nayaranswami (Orient Longman)

Course Name: Computer Fundamentals and Programming (Theory) **L–T–P: Cr**

Course Code: DCSE202 **2–0–0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Module 1: Computer Fundamentals **Contact hours: 10**

1.1 Brief history
1.2 Block diagram and different components
1.3 Memory & its different types
1.4 I/O devices
1.5 Introduction to Operating System, Types and Role of OS
1.6 Computer languages, translator software, editor.
1.7 Data, different types of data, information and its characteristics
1.8 Introduction to computer network and the Internet

Module 2: Number System and codes **Contact hours: 10**

2.1 Different number systems - decimal, binary, octal, hexadecimal number system
2.2 Number Conversions
2.3 1's and 2's Complement, subtraction using complements.
2.4 Different codes- ASCII, BCD, Ex-3, Gray
2.5 Conversion from Gray to binary and vice-versa
2.6 BCD Addition.

Module 3: Introduction to C programming **Contact hours: 15**

3.1 Fundamentals of programming-Algorithm & Flowchart
3.2 Source code and object code
3.3 Basic structure of C programs
3.4 Executing a C program
3.5 C Tokens, Keywords and Identifier, Constants, Variables, Storage Class and Data types.
3.6 Operators and expression
3.7 Input Output function like printf, scanf, getchar, putchar, gets, puts
3.8 Decision making and branching using IF..Else, Switch
3.9 Looping using for, while, and do-while
3.10 Array

Books / References:

1. Computer Fundamentals Paperback by Priti Sinha Pradeep K.Sinha (Author), BPB Publication
2. Byron Gottfried, "Programming with C", Tata McGraw Hill.
3. Herbert Schildt, "The complete Reference C", TMH
4. Balagurusamy, E. (2019). Programming in ANSI C, 8/e. McGraw-Hill Education.
5. YashwantKanetkar, "Let us C", BPB Publication

6. Henrry Mulish, Herbert L. Cooper, “The Spirit of C: An Introduction to Modern Programming”, Jaico Books.
7. Briain W. Kenigham and Dennis Ritchie, “C Programming language”, Prentice Hall of India.

Course Name: Computer Fundamentals and Programming (Practical) **L–T–P: Cr**

Course Code: DCSE272 **0–0–4: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Module 1: Basic Commands for Computer System **Contact hours: 2**

Module 2: Preparation of Documents **Contact hours: 6**

2.1 Introduction to Word processing: Opening a document, preparing documents, inserting diagrams and tables

2.2 Editing document- (a) Character, word and line editing, (b) Margin Setting, Paragraph alignment, (c) Block Operations, (d) Spell Checker, (e) Saving a document, (f) Mailmerge.

Module 3: Information Presentation through SpreadSheet **Contact hours: 8**

3.1 Application of SpreadSheet

3.2 Structure of spreadsheets

3.3 Preparing table for simple data and numeric operations

3.4 Using formulae and functions in excel operations, Creation of graphs, Pie charts, bar charts.

Module 4: Preparation of presentation **Contact hours: 6**

4.1 Creation of electronic slides on any topic

4.2 Practice of animation effect

4.3 Presentation of slides

Module 5: Programming in C **Contact hours: 10**

5.1 Editing a C program

5.2 Defining variables and assigning values to variables

5.3 Arithmetic and relational operators, arithmetic expressions and their evaluation

5.4 Practice on input/output functions like getchar, putchar, gets, puts, scanf, printf etc.

5.5 Programming exercise on simple if statement, If..else statement, switch statement

5.6 Programming exercise on looping with do-while, while, for loop and array.

Books / References:

1. Foundations of Information Technology Coursebook 9: Windows 7 and MS Office 2007 (With MS Office 2010 Updates)-Sangeeta Panchal, Alka Sabharwal
2. Microsoft Office 2016 Step by Step by Joan Lambert and Curtis Frye
3. Herbert Schildt, “The complete Reference C”, TMH
4. YashwantKanetkar, “Let us C”, BPB Publication
5. Balagurusamy, E. (2019). Programming in ANSI C, 8/e. McGraw-Hill Education.
6. Henrry Mulish, Herbert L. Cooper, “The Spirit of C: An Introduction to Modern Programming”, Jaico Books.
7. Briain W. Kenigham and Dennis Ritchie, “C Programming language”, Prentice Hall of India.

Course Name: Story boarding & Script writing (Theory) **L- T – P: Cr**

Course Code: DAMT201 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Story development process, idea and motivation, plot and premise, story structure, formats and genre, synopsis, outline and treatment, scene and sequence, screenplay elements and format, drafting and final script.

Introduction to storyboard, compositing and framing concept,foreground,middle ground and background, basics of cinematography, camera shots and angles, camera movement.

Thumbnails planning and layouts, character model sheet and action chart, expression chart, beat sheet and beat board, scene and shot breakdown, screen direction, flow of action,continuity,language of film,transistion,montage, intercut, hook up, pitching and pacing, storyboard and sound design for animatics,voice track ,final storyboard and animatics.

Course Name: Storyboarding & Scriptwriting (Practical) **L- T – P: Cr**

Course Code: DAMT271 **0 – 0 – 4: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Writing the Short Film" by Patricia Cooper and Ken Dancyger
- "The Art of layout and storyboarding" by Mark T Bryne
- "Screenplay" by Syed Field

Course Name: Elements of Multimedia (Theory) **L- T – P: Cr**

Course Code: DAMT202 **2 – 0 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Unit-I: Introduction to Multimedia

Multimedia definition, Multimedia Application, Multimedia System, Characteristics of Multimedia Systems, Components of Multimedia, Multimedia Data. Static and Continuous media, Analog and Digital Signals, Analog to Digital and Digital to Analog Conversion, Data Compression, Compression Algorithms.

Unit-II: Elements of Multimedia

Text, Images, Graphics, Animation, Audio and Video.

Text: Typefaces, Fonts, Cases, Symbols and Icons, Buttons, Text Printing Orientation, HTML, ASCII, Unicode, Hypermedia and Hypertext.

Unit-III: Animation

2D and 3D Animation, Animation in Multimedia, Advantages and Disadvantages of Animation, Interactive Animation, Concept Development and Storyboarding, 2D and 3D Animation Tools, Animation File Formats.

Unit-IV: Images and Graphics

Definition, Colour Perception, Vector and Raster Graphics, Image Depth, Alpha Channel, Basic Colour Theory, Colour Wheel, Colour Characteristics, Dithering, Anti-Aliasing, Resolution, Colour Models, Image and Graphics File Formats, Basic Image Processing, Layers, Filters, Image Manipulation, Colour Printers, Digital Still Cameras.

Unit-V: Audio

Definition of Sound, Basics of Acoustics, Psychoacoustics, Limits of Sound Perception, Types of Audible Sounds, Characteristics of Musical Sound, MIDI, MIDI Files, Synthesis of MIDI Sounds, Digital Audio, Common Audio Editing Tools, Audio File Formats, Microphone, Amplifiers.

Unit-VI: Video

Definition, Video Frames, Frame Rate, Scan Line, Fields, Interlacing and Progressive Videos, Aspect Ratio, TV Broadcast Standards, Vertical and Horizontal Resolution, Types of Video Cameras, Component and Composite Video, Stereoscopic Video, Digitization Basics, Spatial Resolution, Bandwidth, Sampling, Nyquist Theorem, Video Formats. Video Editing Tools.

Unit-VII: Overview of Internet and Virtual Reality

Browsers, Internet Services- URL, Dial-ups, ISDN, E-mail, Chat, Cross-Platform Features, Audio & Video streaming, Internet applications – Audio & Video Conferencing, Internet Telephony, World Wide Web, Computer Networks, Virtual Reality.

Reference Books:

"Multimedia, Making IT Work" – by Tay Vaughan; 9th Edition, Osborne McGraw Hill.
"Multimedia Demystified" – by Jennifer Coleman, Dowling; McGraw Hill.

Course Name: Elements of Multimedia (Practical) **L- T – P: Cr**

Course Code: DAMT272 **0 – 0 – 2: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Book

- Multimedia Systems" – by Buford; Addison Wesley
- "Multimedia Systems" – by Agrawal & Tiwari; Excel

Course Name: 2D Animation Techniques (Theory) **L- T – P: Cr**

Course Code: DAMT203 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to animation history, different mediums and pioneers, early optical illusions concept devices, full and limited style, the 12 principles of Disney, traditional process, bouncing ball animation, adding squash and stretch, pendulum exercise, prop design and bg design. Tools and interface, tween animation, masking, text, bone tool, preset motion, character design, turnaround, line of action and posing, expression chart, character rigging and walk cycle animation. Progressive walk. Run and jump, making a short clip.

Course Name: 2D Animation Techniques (Practical) **L- T – P: Cr**

Course Code: DAMT273 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "The illusion of life" by Frank Thomas and Ollie Johnston
- "Animator Survival Kit" by Richard William
- "Adobe Flash professional CS6 Classroom in a Book" by Adobe Creative Team

SEMESTER - 3

Course Name: Introduction to Digital Modelling (Theory) **L- T – P: Cr**

Course Code: DAMT301 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Maya Interface, Control the display of attributes in the Channel Box, Introduction to Polygon Modeling, Concept of NURBS, Combine and Separate, Extract, Fill Hole, Loft Option, Mirror Geometry, Polygons Menu, Normals, Soft Selection, Smooth Mesh, Models for Games and Production, Boolean Operation, Editing NURBS, Creating NURBS curves. Importing and Exporting files, Use Curves in 3D Modeling, Concepts of Sculpting, The Outliner, High Poly Character Model, Low Poly Model, Gaming Models, Inorganic Modeling, Organic Modeling.

Course Name: Introduction to Digital Modelling (Practical) **L- T – P: Cr**

Course Code: DAMT371 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Getting Started in 3D with Maya: Create a Project from Start to Finish: Model, Texture, Rig, Animate, and Render in Maya" by Adam Watkins
- "Thinking Animation: Bridging the Gap Between 2D and CG" by Angie Jones, Jamie Oliff

Course Name: Basic Concept of Texture Techniques (Theory) **L- T – P: Cr**

Course Code: DMCD302 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Adobe Photoshop, Photoshop tool Knowledge, RGB Colour, basic Image Manipulation: Bit map Images, Vector Images, Image size and resolution Settings, Creating Images, Color Concepts, Paint Tools Concept, Layer Basics, Masking, Definition of Textures, Introduction to UV Mapping, , Planar Mapping, Spherical Mapping, Cylindrical Mapping, Automatic Mapping, Matte Painting, Digital Painting, Ramp Shader, Displacement Map, 3D Motion Blur, Still Photography, Paint Effect.

Course Name: Basic Concept of Texture Techniques (Practical) **L- T – P: Cr**

Course Code: DAMT372 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Getting Started in 3D with Maya: Create a Project from Start to Finish: Model, Texture, Rig, Animate, and Render in Maya" by Adam Watkins
- "Thinking Animation: Bridging the Gap Between 2D and CG" by Angie Jones, Jamie Oliff
- "Advanced Maya Texturing and Lighting" by Lee Lanier

Course Name: Web Designing (Theory) **L- T – P: Cr**

Course Code: DAMT303 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

The Internet – concept, types, connections – structure and features of internet – Internet and Intranet, Protocols, Browsers, Search engines, Web structure, Web structure, Web blogs. Internet services—URL, Dial—ups, ISDN, e-mail, chat, cross platform features, audio & video streaming, Internet applications—Audio & video conferencing, Internet telephony, virtual reality, artificial intelligence. Fundamentals of web designing – tools – design techniques – Web site organization – file structure, naming conventions, pages, folders, navigation, hyperlinks and adding sound. Websites – features – portals – content- corporate sites – commercial cites—functions. Content planning – Analysis – Objectives—Content strategies – developing content tactics – defining content matter. Web authoring tools – Adobe Photoshop, Front Page, Dream weaver, Flash, using peripherals for website enhancements. Adobe Dreamweaver—features – tools. Microsoft front page – features – tools

Course Name: Web Designing (Practical) **L- T – P: Cr**

Course Code: DAMT373 **0 – 0 – 4: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Internet for everyone, Leno et al., Lone Techworld, Chennai 1998"
- "Building a website, Tim Worsley, Orling Kindersely, New Delhi, 2000

Course Name: Digital Photography and Film Making (Theory) **L- T – P: Cr**

Course Code: DAMT304 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to Photography, History of camera, Types of camera, Principles of photography, Rule of Third, Golden Ratio, Aperture, shutter speed, lens, filters and flash, Camera films, What is lighting? Importance of lighting in photography, Lighting equipment and control, Lighting techniques and problems. Origin of Colour, Colour Temperature, White Balance: Process and Need.

History of Cinema, Research-Development of Classical Indian & Hollywood Cinema, Overview of writing for different mediums like, TV, radio, newspaper and other performing art format, Development of Story: Basic elements,

Principles and tools of script writing, Role of language, Introduction of subject, theme, plot, Definition and explanation of story writing, Theory of projection of conflict, presentation of plot, Characterization-case studies with successful writers, Direction: The thought process of director. Film Grammar for Scriptwriting-Interpretation of story, scripts and storyboard to develop an overall vision of production, Working with a script/screenplay,

Production models: Preproduction & post production activities, Directing and analysing a film, Animation film Techniques, An introduction to screen grammar: What is a shot? The various elements of shot-taking: Image Size, Camera Angles, Movements, Lenses, Lighting, Camera Speed, Stocks, Graphics, Colour. The Rule of Thirds & the Golden Points. Depth of Field and Selective Focus. Concept of Sound.

Course Name: Digital Photography and Film Making (Practical) **L- T – P: Cr**

Course Code: DAMT374 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Film Directing shot by shot: Visualizing from Concept to Screen."bySteve Katz.
- "Cinematography for Directors: A guide for Creative Collaboration" by Jacqueline B Frost
- "Teaching Analysis of Film Language" by David Wharton and Jeremy Grant

Course Name: Concept Art (Practical) **L- T – P: Cr**

Course Code: DAMT375 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Prop Designing,Layout and Planning,Perspective drawings,Background Design-Interior and Exterior,Character Design,Model sheet- turnaround,Expression and Posing,Anthropomorphic character design,Building background story and Concept Art.

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- Character Mentor by Tom Bancroft
- Mastering Fantasy Art: Drawing Dynamic Characters by John Stanko
- The Art of Perspective by PHIL METZGER
- Dream Worlds:Production Design for Animation by Hans P Bacher

SEMESTER - 4

Course Name: 3D Animation (Theory) **L- T – P: Cr**

Course Code: DAMT401 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Animation Techniques-Types of Animation Techniques and Principles of Animation. Posing-Pose, Primary function of pose, Line of action, reversing the line of action, Uses of vertical line of action, Flow lines, Proper weight in posing and staging, Silhouette.Keyframe- Keys, Extremes, Breakdowns, in-betweens, Blocking, Graph editor, Cleanup and In-between, Understanding key frames, Non-Linear Animation – Motion Path Animation –Deformers, Motion trail, Turntable

Course Name: 3D Animation (Practical) **L- T – P: Cr**

Course Code: DAMT471 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Animation Survival Kit" by by Richard Williams
- "Understanding 3D Animation using Maya." by John Edgar Park
- "Tony White's Animator's Notebook" by Tony White
- "Acting for Animators" by Ed Hook

Course Name: Concept of Rigging (Theory) **L- T – P: Cr**

Course Code: DAMT402 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to Rigging-What is rigging and why it is needed, Character rigging in a 3D production.Basic concepts needed for Rigging: pivot, Parenting v/s Grouping, Constraints, types of constraints. Maya Skeletons-Understanding joints, Bone set-up**,** importing character in Maya**,** Setting up bones for biped character**,** managing hierarchies**.** Kinematics**:** introduction and overview of IK and FK.

Character set-up-Anatomy study**:** Study of human skeleton, Starting to rig a character (biped)**:** Setting up the skeleton**,** rigging the leg and the feet using reverse foot**,** rigging the hand in IK and FK (IK/FK switch), Deformers**.**

Course Name: Concept of Rigging (Practical) **L- T – P: Cr**

Course Code: DAMT472 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Understanding 3D Animation using Maya"by John Edgar Park
- "An Essential Introduction to Maya Character Rigging" by Cheryl Cabrera

Course Name: Introduction to Multimedia Design (Theory) **L- T – P: Cr**

Course Code: DAMT403 **2 – 0 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Multimedia presentation and authoring, professional development tools, the Stages of a Multimedia Project, Requirements of a Multimedia Project, Building up a Team, Duties of a Project Manager, Multimedia Designer, Interface Designer, Content Writer, Video and Audio Specialist, Multimedia Programmer, Implementing Multimedia with the World Wide Web.

Course Name: Introduction to Multimedia Design (Practical) **L- T – P: Cr**

Course Code: DAMT473 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "Multimedia, Making IT Work" – by Tay Vaughan; Osborne McGraw Hill

Course Name: Art Fundamentals and Graphics design (Theory) **L- T – P: Cr**

Course Code: DAMT404 **2 – 0 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

The Elements of Art and the Principles of Art.Introduction to elements of graphic design - Text and image, grids and layout, composition, form and function, figure and ground phenomenon.Gestalts laws,

Typographic fonts and their characters. Typographic parameters: x-height, ascenders, descenders, kerning, tracking and leading. Variations of body text, headlines and display text.Hands on practice using application of fundamentals of Graphic Design.

Introduction to Printing Technology. Introduction to Digital Media Technology.

Course Name: Art Fundamentals and Graphics design (Practical) **L- T – P: Cr**

Course Code: DAMT474 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text: A History of Western Art 5th Edition by Laurie Schneider Adams

SEMESTER - 5

Course Name: Lighting in Animation (Theory) **L- T – P: Cr**

Course Code: DAMT501 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Basics of Lighting, Color theory, Direct and Indirect Light, Types of Lights in Maya, 3-point Lighting, Light attributes, Shadows, Shadow Maps

Working with Layers, Rendering in Layers, Rendering in passes, Lighting Passes, Depth of Field, Cameras

Basics of Caustics, Mental Ray, Photons, Global Illumination, Raytracing, Final Gather

Basic Lighting Techniques, Indoor and Outdoor lighting Techniques, Special Lighting Techniques, Materials and Rendering Algorithms.

Course Name: Lighting in Animation (Practical) **L- T – P: Cr**

Course Code: DAMT571 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- Digital Lighting and Rendering I, II - by Jeremy Birn.
- Essential CG Lighting Techniques - by Darren Brooker
- Advanced Lighting and Materials with Shaders - by Kelly Dempski and Emmanuel Viale.

Course Name: Compositing & Visual Effects (Theory) **L- T – P: Cr**

Course Code: DAMT502 **1 – 0 – 0: 02**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to Visual Effects-Understanding Visual Effects, Categories, Types. Exploring Particles-Particle Simulation, Particle Emitters, Particle Rendering.Fluid Mechanics-Understanding Fluids, Building Simulation.Compositing-Understanding Compositing, Physical Compositing, Mattes and Compositing, Digital Matting Methods and tools, Compositing Techniques, Digitally Processing Image and Footages.Green and Blue Screens-Understanding Green/Blue Screen and Composting, Rotoscoping Techniques.

Course Name: Compositing & Visual Effects (Practical) **L- T – P: Cr**

Course Code: DAMT572 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- "The Green Screen Handbook" by Jeff Foster
- "Maya Studio Projects Dynamics" by Toddo Palamar
- "The Visual Effects Arsenal" by Bill Byrne
- "Creative After Effects" by Angie Taylo

Course Name: Introduction to Gaming Theory **L- T – P: Cr**

Course Code: DAMT503 **2 – 1 – 0: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to Video Games, History of Video Games, Definition of Play, Games as digital media, brainstorming game ideas, introduction to key concepts.Narratology and Ludology, The Classification of games, Game Types, Game Genres, MMOGs, Player Perspectives, Designer Perspectives, Games and Learning.Introduction to Game Analysis, Cheating, Rules and fiction,

Beyond the Rules of the game, Playing with the Rules, Interface and Immersion, Player Experience, Types of players, Hardcore Vs Casual Players, Identity.Gaming platforms, Gaming Hardware, Building a Gaming rig, Fictional Worlds, Games as Simulations, Gaming in Virtual Reality.Game Aesthetics, Criticism and Journalism, Game Culture: Communities, Violence, Nature and Significance of Play as a Cultural Phenomenon, Play and Work.

Text/Reference Books

- "Understanding Video Games: The Essential Introduction – By Jonas Heide Smith, Simon Egenfeldt-Nielsen and Susana Pajares Tosca.
- "The Ultimate History of Video Games" – by Steven Kent
- "The Art of Video Games: From Pac-Man to Mass Effect."
- "The Art of the Video Game" – by Josh Jenisch.

Course Name: CONCEPT OF NEW MEDIA (Theory) **L - T – P: Cr**

Course Code: DAMT504 **2 – 0 – 0: 04**

Full Marks: 100 **Theory: 28/70** **Sessional: 15/30**

DESCRIPTION: To match with today's digital world, this course is introduced to students to give them the knowledge and understanding of how New Media evolved with the evolution of technology. Students will learn about the fundamental principles, history and various applications of New Media in this course.

OBJECTIVE: The objective of this course is to teach students the theoretical part of New Media including history to understand the subject, as well as studio exercise on application of New Media through –

- Installation art – by using different forms of new media
- Digital media exploration
- TV, cinema as modern era communication media etc.

Course Content:

UNIT 1: Introduction to New Media

- Evolution of New Media - History to modern era
- Technology in New Media
- New Media culture – conventions and technique of old media

UNIT 2: Principles of New Media

- Discrete representation
- Numerical representation
- Automation
- Variability

UNIT 3: Concept of New Media

- Changing relationship of representation.
- Database as genre of new media.
- Logic of remediation.

- Concept of digital dialectic.
- Digital Cinema and the history of moving Image.
- The new language of cinema.

UNIT 4: Forms of New Media

- Installations - Sound art, Net art.
- Free software movement and open source.
- New media art installation and cross-media practice.
- Interactivity and interface: Models of interactive systems.

STUDIO EXERCISE

Students will be taught to understand the basic concept of New Media and how it is being used in different areas. Also students will have to perform small projects using New Media forms and different types of installations.

Text books / Reference books:

1. R. Grusin and J. D. Bolter, *Remediation: Understanding New Media*, MIT Press, 2000.
2. L. Manovich, *The Language of New Media*, MIT Press, 2001.
3. P. Lunenfeld (ed.), *The Digital Dialectic: New Essays on New Media*, MIT Press, 1999.
4. N. Wardrip-Fruin and N. Montfort (eds.), *The New Media Reader*, MIT Press, 2003.

Course Name: Minor Project **L – T – P:Cr**

Course Code: DAMT595 **0 – 0 – 10: 10**

Full Marks: 100 **Practical: 25/50** **Sessional: 25/50**

Students will be given a small project which may be a short movie, animated or live, graphic design based project, other technical skill based project. etc. in proper pipeline, which will be executed under specific guide/mentor. The final output should reflect all production stages in details .The final output along with proper documentation and presentation should be submitted in complete form.

SUBMISSION:

- Project Report Documents
- Video of Documentary/Short Movie
- Final presentation

SEMESTER - 6

Course Name: **Industrial Management and Entrepreneurship** **L- T – P: Cr**

Course Code: DHSS601 **3 – 1 – 0: 08**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Meaning and concept of Management, Principles and functions of Management, Labour turnover, Payment of wages – factors determining the wage, Methods of payment of wages.Leadership and Decision Making, qualities and styles of Leadership, decision making process.

Elements of costs, Analysis and classification of expenditure for cost accounts, preparation of cost sheet, Marginal costing and Break Even Analysis.

Factories Act -1948, Definitions, Main Provisions regarding Health, Safety and welfare of workers.

Industrial Dispute Act – 1947, Definitions, Preventive measure, Machinery for settlement of Industrial Dispute in India.

Trade Union Act - Meaning and function of Trade Union.

Meaning and function of Entrepreneurship

Forms of Business organization: Sole Trader, Main features, merits and demerits, Partnership – main features, merits and demerits. Joint stock company – main features, difference between private and public limited companies. Introduction to co-operative and public undertaking.

Small scale industries: Definitions, scope with reference to self-employment, procedure to start small scale industries, Sources of finance - Bank, Government and Financial institutions etc. Selection of site for factories, Industrial Estate, Growth Centre, Ancillary Industries.

System of Distribution – Wholesale and Retail Trade.

References:

- General Principle and Practice of Management – L M Prasad
- Management Concepts and Practice – Kanchan Bhatia and Shweta Mittal
- Micro Economics – Sandeep Garg
- Self-Employment through Entrepreneurship – J.C. Kalita
- Entrepreneurship Development & Small Business Management – Dr. BhawnaBhatnagar and AnkurBudhiraja.
- Labour and Industrial Law of India – S.K. Misra
- Industrial Safety and Health for Administrative Services---Charles D. Reese

Course Name: Audio Video Editing (Theory) **L- T – P: Cr**

Course Code: DAMT601 **1 – 1 – 0: 04**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Introduction to Audio Editing, MIDI, Digital Audio, Firewire -Types of Wires and the peripherals, Voice-over recording, , Filters, Codecs.Introduction to Digital Video and Video Editing, Principles of editing, Introduction to Video Editing Tool; Adobe Premier, Final Cut Pro.Linear and Non-linear Editing, on-line and off-line editing, In-Camera Editing,Timeline, Three Point Edit, Transitions, Video Formats and Broadcast systems, Continuity, Cut in, Cut away, Jump cut, time remap, Rule of 180 Degree, Rule of 30 Degree.Framing effective shots--Field of View, Headroom, Noseroom and Lead room, Types of Camera, Lens, Camera angles, shots, movements, Image Formats - sizes, Single and Multi-camera shoots.

Course Name: Audio Video Editing (Practical) **L- T – P: Cr**

Course Code: DAMT671 **0 – 0 – 6: 06**

Total Marks: 100 **Theory: 28/70** **Sessional: 15/30**

Practical practices based on the theory part demonstrated and guided by the Course Instructor as per requirement of the course.

Text/Reference Books

- Audio Production Work text; *Concept, Technique and Equipment 6th Edition By David E. Rose, Lynne S. Gross, Brain Bross*
- Grammar of the Edit, *Author; Roy Thompson, Christopher J. Bowen*
- Grammar of the Shot, *Author;Roy Thompson, Christopher J. Bowen*

Course Name: Major Project **L- T – P: Cr**

Course Code: DAMT695 **0 – 0 –12: 12**

Full Marks: 200 **Practical: 40/100** **Sessional: 40/100**

Students will have to do a major project with a guide who has specialized in the area the students have chosen to pursue. The major project would serve as their Show Reel or Demo Reel, which in turn would enable the student to apply for a position in any Animation/Multimedia industry after they have passed out.

SUBMISSION:

- Project Report Documentation with Final Presentation
- Video Show Reel/Demo Reel (1-3 min duration)

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