Model Curriculumfor B.Voc/

D.Voc

in

Graphics & Multimedia
Batch 2025

AllIndiaCouncil forTechnicalEducation Nelson Mandela Marg, New Delhi

1. Introduction

AllIndia CouncilforTechnicalEducation(AICTE)Ministry ofHRD,GovernmentofIndia has introduced Entrepreneurship oriented Skill development courses of B.Voc/D.Voc/Skill Diploma. These courses will be run by AICTE approved institutes by using available infrastructure and facilities. In these courses the institute will conduct general education content and sector specific skills will be imparted by Skill Knowledge Providers/ Training Providers/ Industries.

KeyFeatures:

Objectives

- To provide judicious mix of skills relating to a profession and appropriate content of General Education.
- To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the programme.
- To provide flexibility to the students by means of pre-defined entry and multipleexit points.
- To integrateNSQF withintheDiploma, undergraduatelevelofhighereducation toenhance employability of the students and meet industry requirements. Such student apart from meeting the needs of local and national industry are also expected to be equipped to become partof the global workforce.
- Toprovideverticalmobilitytostudentsadmittedinsuchvocationalcourses.
- The certification levels willlead to Diploma/Advanced Diploma/B.Voc.Degree in Graphics & Multimedia and will be offered by respective affiliating University/Board of Technical Education.
- StudentsmaybeawardedLevelCertificate/Diploma/AdvanceDiploma /Degreeasout-linedintheTablebelow:

Award	DurationafterclassX	CorrespondingNSQF level
Level3Certificate	1Year	3
Level4Certificate	2Years	4
Diploma	3Year	5
AdvanceDiploma	4Years	6
B.Voc Degree	5Years	7

2. CourseObjectives

After successfully completing the vocational course, the student would have acquired relevant appropriate and adequate technical knowledge together with the professional skills and competencies in the field of Graphics & Multimedia so that he/she is properly equippedtotakeupgainfulemploymentinthisVocation.Thushe/sheshouldhave

acquired:-

A. AdequateProfessionalSkillsandCompetenciesin

(a) Testingdifferent2D/3Dcomponents.
(b) TestingtheperformanceofGraphics&Multimedia.
(c) Locatingthefaultatcomponentlevelandat thestagelevel.

B. AHealthyand ProfessionalAttitudesothatHe/Shehas

(a) Ananalyticalapproachwhileworkingonajob.
(b) Anopenmindwhilelocating/rectifyingfaults.
(c) Respectforworkingwithhis/herownhands.
(d) Respectforhonesty,punctualityandtruthfulness

c. NSQF compliant skills in Qualification developed bysector skill council inMedia sector

2. CourseStructure

Thecoursewillconsistofcombinationofpractice,theoryandhandsonskillsinthe Graphics & Multimediasector.

Curriculum
The curriculumineachofthe yearsoftheprogrammewouldbeasuitable mixofgeneral education and skillcomponents.

SkillComponents:

- The focus of skillcomponents shallbe to equip students with appropriate knowledge, practice and attitude, to become workready. The skillcomponents willbe relevantto the industry as per itsrequirements.
- The curriculum will necessarily embed within itself, National Occupational Standards (NOSs) of specific job roles within the industry.This would enable the students to meet the learning outcomes specified in the NOSs.
- The overall design of the skill development component along with the job roles selected willbe such that it leadsto a comprehensive specialization in few domains.
- Thecurriculumwillfocusonwork-readinessskillsineachoftheyearoftraining.
- Adequate attention will be given in curriculum design to practical work, on the job training, development of student portfolios and project work.

GeneralEducationComponent:
- The general education component adhere to the normal senior secondary and university standards. It will emphasize and offer courses which provide holistic development. However,it willnotexceed 40% of the total curriculum.
- Adequateemphasisisgiventolanguageandcommunicationskills.

The curriculumis designedin amannerthat at the endofeachyearafterclass Xth students can meet below mentioned level descriptors of NSQF:

Level	Processrequired	Professional Knowledge	Professionalskill	Coreskill	Responsibility
Level 3	Person may carry puta jobwhichmay require limited range of activities routine and predictable	Basic facts, processand principleapplied in trade of employment	Recalland demonstrate practicalskill, routine and repetitiveinnarrow rangeofapplication	Communication written and oral withminimum required clarity, skill of basic arithmetic and algebraic principles, personalbanking, basic understanding of socialandnatural environment	Underclose supervision some responsibility for ownwork withindefined limit
Level 4	Workin familiar, predictable,routine, situation of clear choice	Factual knowledgeof fieldof knowledgeor study	Recalland demonstrate practicalskill, routine and repetitivein narrow range of application,using appropriate rule and tool,using quality concepts	Language to communicate written or oral, withrequired clarity,skill to basic arithmetic and algebraic principles, basic understanding of socialpoliticaland natural environment	Responsibility for ownwork and learning
Level 5	Job that requires well developed skill, with clear choiceof proceduresinfamiliar context	Knowledge of facts, principles,processes and general concepts,in afieldof workor study	A range of cognitive and practicalskills required to accomplishtasksand solve problems by selecting andapplyingbasic methods, tools materials andinformation	Desired mathematicalskill, understanding of social,politicaland some skill of collectingand organizing information, communication.	Responsibilityfor own workand learning andsome responsibility for other'sworksand learning

Level 6	Demands wide rangeofspecialized technicalskill, clarity of knowledge and practice in broad range of activity involvingstandard/ non-standard practices	Factualand theoretical knowledgeinbroad contexts within a field of work or study	Arangeof cognitive andpracticalskills requiredtogenerate solutions to specific problems in afieldof work orstudy	Reasonablygood inmathematical calculation, understandingof social,political and reasonably good in data collecting organizing information,and logical communication	Responsibilityfor ownworkand learning and fullresponsibility for other's works and learning
Level 7	Requires a command of wide rangingspecialized theoreticaland practicalskill, involvingvariable routine and non-routine context	Wideranging, factualand theoretical knowledgeinbroad contexts within a field of work or study	Wide range of cognitiveand practicalskills requiredtogenerate solutions to specific problems in afieldof work orstudy	Good logical and mathematicalskill understanding of socialpoliticaland natural environmentgood in collecting and organizing information, communication and presentation skill	Full responsibilityfor output of group anddevelopment

CurriculumforGraphics&Multimedia

Level	Code	EducationalComponent		Credit	Marks
3 Semester I		**Theory**			
	3.GE.01	Language–I		3	50
	3.GE.02	Applied Chemistry		3	50
	3.GE.03	Applied Physics		3	50
	3.GE.04	AppliedMathematics-I		3	50
		Lab/Practical			
	3.GP.01	AppliedChemistryLab		1.5	50
	3.GP.02	AppliedPhysicsLab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	SetPainterMES/Q3104		(Anyone)	15	200
	SoundAssistantMES/Q3403				
	Clean-upArtistMES/Q0506				
	RotoArtistMES/Q3504				
3 Semester II		**Theory**			
	3.GV.01	GeneralFoundationCourse–I		3	50
	3.GV.02	ITTools(795)		3	50
	3.GV.03	Design&Innovation(772)		3	50
	3.GV.04	AppliedMathematics–II		3	50
	EMC-101-25	**Entrepreneurship Setup and Launch ****		**2**	**50**
	Lab/Practical				
	3.VP.01	Design&Innovation-Lab		1.5	50
	3.VP.02	ITToolsLab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	AnyoneoftheQP'scanbeoptedasofferedinSemesterI		(Anyone)	15	200
4 Semester I		**Theory**			
	4.GV.01	GraphicDesign(071)		3	50
	4.GV.02	GeospatialTechnology(740)		3	50
	4.GV.03	IT foundations&ProgrammingConcept		3	50
	4.GE.01	Language–II		3	50
		Lab/Practical			
	4.VP.01	GraphicDesign -Lab		1.5	50
	4.VP.02	GeospatialTechnology-Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	VFXEditorMES/Q3501		(Anyone)	15	200
	****The department of Higher Education and Languages, Government of Punjab endeavor to AI-powdered entrepreneurship learning platform on the said course. The Institute /Campus shall appoint an assistant professor as faculty coordinator.**				

Level	Code	EducationalComponent		Credit	Marks
	LayoutDesignerMES/Q0503				
	VoiceOverArtistMES/Q0101				
4 Semester II	**Theory**				
	4.GV.04	GeneralFoundationCourse–II		3	50
	4.GV.05	EngineeringGraphics		3	50
	4.GV.06	Multimedia&WebTechnology		3	50
	4.GV.07	ComputerNetworks		3	50
	Lab/Practical				
	4.VP.03	EngineeringGraphics–Lab		1.5	50
	4.VP.04	Multimedia&WebTechnology–Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	AnyoneoftheQP'scanbeoptedasofferedinSemesterI		(Anyone)	15	200
5 Semester I	**Theory**				
	5.GV.01	WebApplications		3	50
	5.GV.02	CommunicationSkill-I		3	50
	5.GV.03	GraphicDesign(BasicSketchingandHumanAnatomyin Drawing)		3	50
	5.GV.04	IllustrationAndPhoto-Editing		3	50
	Lab/Practical				
	5.VP.01	WebApplications–Lab		1.5	50
	5.VP.02	IllustrationAndPhoto-Editing–Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	CharacterDesignerMES/Q0502		(Anyone)	15	200
	StoryboardArtistMES/Q0507				
	EditorMES/Q1401				
5 Semester II	**Theory**				
	5.GV.05	Pre-Production		3	50
	5.GV.06	AudioEditing		3	50
	5.GV.07	VideoEditing		3	50
	5.GV.08	CommunicationSkill-II		3	50

Level	Code	EducationalComponent		Credit	Marks
	Lab/Practical				
	5.VP.03	AudioEditing-Lab		1.5	50
	5.VP.04	VideoEditing-Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	AnyoneoftheQP'scanbeoptedasofferedinSemesterI		(Anyone)	15	200
6 Semester I	**Theory**				
	6.GV.01	PrinciplesofAnimationandTechniquesofAnimation		3	50
	6.GV.02	Basicof3-DModelling		3	50
	6.GV.03	TextureandLighting		3	50
	6.GV.04	CommunicationSkill-III		3	50
	Lab/Practical				
	6.VP.01	DigitalAnimationwithFlash-Lab		1.5	50
	6.VP.02	Maya-Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	ModellerMES/Q2501		(Anyone)	15	200
	AnimatorMES/Q0701				
	RenderingArtist MES/Q3503				
6 Semester II	**Theory**				
	6.GV.05	3DAnimation		3	50
	6.GV.06	Introductionto3DMotionGraphics&VFX		3	50
	6.GV.07	IntroductiontoRendering		3	50
	6.GV.08	CommunicationSkill-IV		3	50
	Lab/Practical				
	6.VP.03	3DAnimationLab		1.5	50
	6.VP.04	Rendering-Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	AnyoneoftheQP'scanbeoptedasofferedinSemesterI		Anyone)	15	200
7 Semester I	**Theory**				
	7.GV.01	DigitalCompositing		3	50
	7.GV.02	3DTexturing		3	50

Level	Code	EducationalComponent		Credit	Marks
	7.GV.03	BasicofAccounts-I		3	50
	7.GV.04	ComputerGraphics		3	50
	Lab/Practical				
	7.VP.01	DigitalCompositing-Lab		1.5	50
	7.VP.02	3DTexturing-Lab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	CompositorMES/Q3505		(Anyone)	15	200
	TexturingArtistMES/Q2503				
	RiggingArtistMES/Q2502				
7 **Semester II**	**Theory**				
	7.GV.05	MuscleSystem		3	50
	7.GV.06	Rigging		3	50
	7.GV.07	AdvancedModellingwithZ-Brush		3	50
	7.GV.08	Basicsof Accounts-II		3	50
	Lab/Practical				
	7.VP.03	MayaMuscle–Lab		1.5	50
	7.VP.04	RiggingwithMayaLab		1.5	50
	On-Job-Training(OJT)/QualificationPacks				
	AnyoneoftheQP'scanbeoptedasofferedinSemesterI		(Anyone)	15	200

DetailedCurriculum

Level3(SemesterI)

(3.GE.01)Language-I

Module1:Readingcomprehension(prescribedtexts)andfunctionalgrammar

A variety of genres – short stories, expository pieces, biographies, poems, plays, newspaper and magazine excerpts have been included. Teaching of grammar has been integrated with the reading texts. The emphasisis on functional grammar.
The following ten prose texts and five poems have been selected for development of different reading skills.

Prosetexts(Prescribed)

1. Awarmeroracolderearth(popularscience) Arthur–C.Clark
2. Thetigerinthetunnel(narrative)–RuskinBond.
3. FirsttwoorfourpagesfromSunnyDays(autobiographical)–BySunilGavaskar
4. Caseofsuspension(narrative)
5. Bigbrother(narrative)ShekharJoshi
6. Father,dearfather(newspaperarticleformtheHindu)
7. Faceto face(autobiographical)VedMehta
8. Imustknowthetruth(narrative)SigrunSrivastva
9. IfIwereyou(play)DouglasJames
10. India,herpastandherfuture(speech)JawaharLalNehru

Poems

1. Leisure–WHDavis
2. Theroadnottaken–RobertFrost
3. Wherethemindiswithoutfear-Tagore
4. Mygrandmother'shouse–KamlaDas
5. Thenightofthescorpion–Nissi,Ezekiel

Nonprescribed

Inthissection learnerswill be exposed to newspaper, articles, tables, diagrams,advertisementsetc. whichthey haveto read carefullyand interpret. Intheexaminationsimilar pieceswill beused.

Grammarandusage:

Thefollowingpoints ofgrammarandusagehavebeenselectedfromthereadingpassages.

1. agreement/concord:number–genderetc.
2. Tenses:simplepast(negatives/interrogatives)presentperfect,pastperfectcontinuous, past perfect,expressingfuture time (willand going to)
3. Passivevoice(perfecttensesandmodals)
4. Modals (must,shouldoughtto,would)
5. Linkingwords(tolikebecausealthough,insteadof,if,as,since,who,whichthat,when however,inspite of)
6. Reportedspeech,statements,questions(yes/no)

Module2:Functionalwritingandstudyskills

This module help the learner towrite descriptive and narrative paragraph, letters, reports notices etc. and also practice skills of note making

1. Paragraphwriting
   - Describing objects
   - Describing people
   - Narratingevents,stories
2. Letterwriting
   - Applicationfor leave
   - Applicationfor jobs
   - Asking for information form various agencies (e.g.Lastdateforgettingprospects;price of items before placing doers etc.)
3. Notemaking
4. Ending(punctuation,spelling,appropriatevocabulary,structures)

(3.GE.02)AppliedChemistry

1. **StructureofAtom:**

Rutherford model of the structure of atom, Bohr's theory of electrons, quantum numbers andtheir significance, de-Broglie equation and uncertainty principle, electronic configuration of 1 to 30 elements.

2. **PeriodicPropertiesof Elements:**

Periodic law, periodic table, periodicity in properties like atomic radii and volume, ionic radii, ionization energyand electron affinity.Division of elements into s, p, d and f blocks.

3. **ChemicalBonds:**

Electrovalent, covalent and coordinate bond and their properties. Metallic bonding (electron cloud mode) and properties (like texture, conductance, luster, ductilityand malleability).

4. **FuelandtheirClassification:**

Definition, characteristics, classification into solid, liquid and gaseousfuel.Petroleumandbrief idea of refining into various factions and their characteristics and uses. Calorific value of fuel, Gaseous fuels- preparation, properties, composition anduse ofproducer gas, water andoil gas.

5. **Water:**

Impurities in water, methods of their removal, hardness of water, its types, causes and removal, disadvantagesofhard water inboilers, pHvalueand its determination by calorimetricmethod.

6. **Corrosion:**

Itsmeaning,theoryofcorrosion,prevention ofcorrosion byvarious methods using metallicand non-metallic coatings.

7. **PlasticandPolymers:**

Plastic-thermo-plasticand thermo-setting.Introductionof Polythene.P.V.C.Nylon,synthetic rubber and phenol-formal-dehyde resin, their application in industry.

(3.GE.03)AppliedPhysics

1. **Units & Dimensions:** M.K.S. fundamentals & derived units, S.I. base units supplementary units and derived units, Dimensions of various physical quantities, uses of dimensional analysis.
2. **Surface Tension and Viscosity:** molecular forces, molecular theory of surface tension, surface energy, capillary action, concept of viscosity, coefficient of viscosity, principle and construction of viscometers.
3. **Vibrations:** Vibration as simple spring mass system, elementary and qualitative concept of free and forced vibrations, resonance. Effects of vibrations on building bridges andmachines members.
4. **Heat:** Temperature and its measurement, thermoelectric, platinum resistancethermometers and pyrometers. Conduction through compound media and laws of radiations.
5. **Ultrasonics:** Productions of ultrasonic wavesby magnetostrictionandpiezo-electric effect, application of ultrasonics in industry.
6. **Optics:** Nature oflight, reflection and refraction of a wave from a plane surface. Overhead projector and Epidiascope.

(3.GE.04)AppliedMathematics–I

Sets,RelationsandFunctions

1. Sets
2. RelationsandFunctions-I
3. TrigonometricFunctions-I
4. TrigonometricFunctions-II
5. RelationbetweenSidesandAngles ofAtriangle

SequencesandSeries

1. SequencesandSeries
2. SomeSpecialSequences

Algebra-I

1. ComplexNumbers
2. QuadraticEquationsand Linearinequalities
3. PrincipleofMathematicalInduction
4. PermutationsandCombinations
5. BinomialTheorem

Co-ordinateGeometry

1. CartesianSystemofRectangularCo-ordinates
2. StraightLines
3. Circles
4. ConicSections

StatisticsandProbability

1. MeasuresofDispersion
2. RandomExperimentsand Events
3. Probability

(3.GP.01)AppliedChemistry –Lab

1. Proximateanalysisofsolidfuel.
2. ExperimentsbasedonBombCalorimeter.
3. Determinationofturbidityinagivensample.
4. Todeterminetheflashandfirepointofagivenlubricatingoil.
5. Todeterminetheviscosityofagivenlubricatingoilby Redwoodviscometer.
6. Todeterminecloudandpourpointofagivenoil.

(3.GP.02)AppliedPhysics–Lab

1. Todeterminethesurfacetensionofaliquidbyriseincapillary.
2. Todeterminetheviscosityofagivenliquid.
3. Todeterminethefrequencyoftuningforkusingasonometer.
4. TodeterminethefrequencyofAC mainusingsonometer.
5. Timeperiodofacantilever.

Level3(SemesterII)

(3.GV.01)General FoundationCourse–I

A. BusinessManagementand Entrepreneurship

(a) **EntrepreneurshipOrientation**
Importanceandrelevanceinreallife:Emphasisonself-employment.

(b) **EntrepreneurshipValues andAttitudes**
Innovativeness,Independence, RiskTaking,Analyticalability.

(c) **EntrepreneurialMotivation**
AchievementPlanning,personalefficacy,entrepreneurialgoalsetting.

(d) **LaunchingofaBusinessVenture**
Identificationofproject,steps in setting upa business, informationabout various institutions providing assistance, project formulation.

B. ComputationalSkills

(a) Percentage,ratio&proportion,profit&loss,discount,simpleandcompoundinterest, population growthanddepreciationofvalueof articlesusinglogarithm.

(b) Areaandvolume:rectangle,parallelogram,circle,cube,cone,cylinder&sphere.

C. EnvironmentalEducation

(a) Environmentandthesociety.

(b) Environmentproperties risks indifferenteconomicenterprises,in use ofraw materials, in processing / manufacturing and designing.

(c) Povertyand environment.

D.RuralDevelopment

(a) Agriculture,thebackboneofIndianEconomy.

(b) RuraldevelopmentprojectsinIndiaincludingIntegratedrural development programme.

(c) Agrobasedruralindustries.

(d) Communityapproach toruraldevelopment.

(3.GV.02)ITTools

I. ComputerOrganization&OS:Userperspective.
- UnderstandingofHardware.
- BasicsofOperatingSystem.

II. NetworkingandInternet.
- NetworkSafetyconcerns.
- NetworkSecuritytoolsandservices.
- CyberSecurity.
- SafepracticesonSocialnetworking.

III. Officeautomationtools:
- Spreadsheet.

- Wordprocessing.
- Presentation.

IV. MultiMediaDesign:(OpenSourceDesignTools)
- InterfaceandDrawingToolsinGIMP.
- ApplyingFilters.
- Creatingandhandlingmultiplelayers.
- UsingStampingandSmudgingtools.
- Importingpictures.

V. Troubleshooting:Hardware,SoftwareandNetworking.
- Commonlyencounteredproblems.
- (Monitor: No display, KB/Mouse not responding, monitor giving beeps, printer not responding, check for virus, Delete temporary files if system is slow, adjust mouse speed).

VI. WorkIntegrated LearningIT–ISM
- IdentificationofWorkAreas.
- WorkExperience.

(3.GV.03)Design&Innovation

Unit–1:Introductionto Design

Session–1:ConceptofDesign

- DesignDefinition.
- DesignversusArt.
- DesignandEnvironment.
- Thebasisof DesignProcess.
- UseDesignintoday'sscenario.

Session–2:DesignFundamental

- PrinciplesofDesign.
- ElementsofDesign.
- ColourTheory.
- UnderstandingofColorwheel.
- Toincreaseandbuildsensitivity totheformsaroundthem.
- Toidentifytherevolvingstilllifeandoutdoorinvicinityofenvironment.
- Torelatethe elementsofdesigntounderstanddesign processfortheirprojects.
- Understandingthecolourquality,intensity, relationship withothercolours, textures, shape.

Unit–2:DesignTools and Techniques Sessions–

1:ProduceDrawing

- DefiningDrawing.
- Differenttechniquesofdrawing.
- Explorationofmedium.
- CompositionsandPerspectives.
- TonalTechniques.
- UseofDreamsandMusicforcreativeDrawing.
- Toidentifytheuseoftoneandvalue,Texture/Frottage.

- Identifytousecontourlinedrawing(continuousorcrosscontour).

Unit–3:Occupational

Health and Safety

Session–1:Work

Safe Review

Module

- SafetyandHealthresponsibility.
- RoleofWarsafeInspector.
- Hazardidentification,RiskassessmentandRiskcontrol.
- PPE.
- Dealingwithemergency.
- Design apromotional posteradvertising whatstudentsneedtoknowaboutSafety and Dangers, or be warned about while workingat College.

(3.GV.04)AppliedMathematics–II

Algebra-II

1. Matrices
2. Determinants
3. InverseofaMatrixanditsApplications

RelationsandFunctions

1. RelationsandFunctions-II
2. InverseTrigonometricFunctions

Calculus

1. LimitsandContinuity
2. Differentiation
3. DifferentiationofTrigonometricfunctions
4. DifferentiationofExponentialandLogarithmicfunctions
5. ApplicationofDerivatives
6. Integration
7. DefiniteIntegrals
8. DifferentialEquations

Vectorsand ThreeDimensionalGeometry

1. IntroductiontoThreeDimensionalGeometry
2. Vectors
3. Plane
4. StraightLine

LinearProgrammingandMathematicalReasoning

1. Linear Programming
2. MathematicalReasoning

Couse Code: EMC-101-25
CourseName: **Entrepreneurship Setup and Launch**

Introduction:

This semester lays the foundation for the learner to understand what entrepreneurship is, beyond just starting a business. It introduces key ideas like problem-solving, value creation, andself-awareness.Thelearnerwillbeginexploringbasicbusinessconceptswhilediscovering their own interests and strengths.

LearnersObjective:

1. Understandthecoreconceptsofentrepreneurshipthrough relatable,real-lifeexamples.
2. Begintoseethemselvesasproblem-solversandcreators.
3. Learnabout businesspathsandchooseonetotrybasedoninterest orlocalfit.
4. Launchamicro-hustle(onlineoroffline)toearntheirfirstincome.
5. Buildconfidenceandself-beliefbydoing.

Outcome: By theend ofthis semester,learners will start asimple businessactivity, earntheir first income, and build belief in their ability to do business.

GuidingPrinciples/Approach:

This syllabus is built on principles of **experiential learning, growth mindset development**, and **identity-first learning**. Drawing from learning science and behavior design,thecourse shiftsstudentsfrompassivelearningto*activedoing*,wheretheytryoutsmallbusinessactivities in real contexts. The design helps students not just learn entrepreneurship but begin to see themselvesasentrepreneurs.Emphasisisplacedon*smallwins,peercollaboration,andlocally relevant opportunities* toensure learning feels achievable and connected to their realities. The curriculum focuses on conceptual understanding without heavy theory, combining *practical action,reflection,andcollaboration.Bymakingprogressvisibleandsuccess feelpossible,itplants theseedsofself-reliance,initiative,andlong-termmotivation.*

SemesterSyllabus:

Format:12weeks,4hours/week|2credits
RevenueTarget:₹10,000

Week	Learning Goal	MeasurableOutcome
1	Understandwhatentrepreneurship isand who can be an entrepreneur	Studentsdefineentrepreneurshipintheir ownwordsandlist 2entrepreneursfrom theirlocalareaor community
2	Connectpersonalidentity to entrepreneurship(strengths, interests, struggles)	Studentscreatea“value map”showinghow askill/interest/problemfromtheirlifecould become a business opportunity

3	Learn about 5 business paths: contentcreation,drop-shipping, cloudkitchen/foodbusiness,gig economyand localservices	Students explore 1–2 examples from each domainandshareonethey'remostcurious to try and why
4	Chooseapathandgenerateabasic business idea	Studentswritedownaclearoffer(what,for whom, why) and one way to reach their customer
5	Takefirst realaction:message, post,pitch,orsell	Studentsreachouttoorserve1realpotential customerandrecordwhat happened
6	Reflectonfirstattempt andshare with peers	Studentssharetheirresult,achallenge faced, andoneideatoimprovenext time
7	Improveandtryagain:aimforfirst ₹100	Studentsapplyachange,tryagain,and aim tomaketheirfirst₹100orgetmeaningful response
8	Learn how to identify and understandyourtargetcustomer	Students talk to 2 potential customers or observethemandlist3insightsabouttheir needs
9	Learnhowtoserveyourtarget audience better	Students improve one part of their offer (product, delivery, messaging, or interaction)basedoncustomerfeedbackor need
10	Explorecoreentrepreneurial values(resilience,honesty, effort)	Studentsreflecton1valuethey're building andshowitinabusinesstaskorpeerstory
11	Focusonearningandstaying consistent	Studentscompleteasecondearningtaskand tracktheirconsistency(e.g.,sameproductor messagefor3 days)
12	Reflectonearnings,grit,andhow to keep going	Studentsrecordtotalearnings,oneresilience moment, and one support system or habit they'llcontinuewith

WeeklyComponent:

Component	Duration	Description
Learning Module	~1.5hrs	- Introduceskeyconceptsinasimpleandengagingway - Includes,examples,and1–2interactivediscussionsor quizzes
ActionLab	~2hrs	- Hands-ontaskontheweeklyconcept - Includesstep-by-stepguidance,templates,and worksheets - Endswithasubmission(e.g.,video,reflection,orproofof action)
Resources	Self-paced	-Supplementaryvideos,shortreadings,real-lifestories,and tools to deepen understanding at their own pace

EvaluationCriteria

Evaluation Component	Description	Weightage
WeeklyTask Completion	Timelysubmissionofweeklytasksincluding reflections,activities,quizzesetc.	40%
Target Completion	Performance-basedevaluationonhitting**revenueor profittargets**(e.g.,generating₹10,000revenue)	30%
FinalProject	Acomprehensiveprojectbasedonthe semester's theme	30%

Week1:WhatisEntrepreneurship?WhoCanBeanentrepreneur?

INTRODUCTION:Could*You*Beanentrepreneur?

When people hear “entrepreneur,” they often think it means having a company, investors, or an MBA. Some even believe it's only for toppers or those with high grades. But entrepreneurship is more about mindset than qualifications: it's about seeing a problem and doingsomethingaboutit.Likesomeonewhostartssellingsnacksbecausetheirschoolcanteen isalwaysshut, or a friend who fixes brokenchargersforothers.Ifyou'veeverspottedaneedand thought, “I can solve this,” - you’ve already taken your first step.

Component1:LearningModule(~1.5hours)Unit1:

Whatis Entrepreneurship?

1. *Solvingproblemsorcreatingvalueinexchangeformoney.*
2. Entrepreneurshipisnotjustaboutstartingacompany:it’saboutinitiative, resourcefulness, and value creation.
3. Differenttypesofentrepreneurs:smallshopowners,streetvendors, YouTubers, local tailors, mechanics, and more.
4. Entrepreneursbuildopportunitiesinsteadofwaitingforthem.

SimpleSlide/VisualAidTip:

A circle that says "Problem", an arrow pointing to "Solution", then anarrowto "Earn". That’s entrepreneurship.
<Avideothatvisuallyshowshowentrepreneurshipstartswithspottingaproblem (e.g., long food lines), creating a solution (e.g., pre-order lunch service), andearning fromit:illustrating the simple flow: Problem →Solution → Earn>

MCQ1

Q:Whatbestdescribesentrepreneurship?

A. Gettingajobinacompany
B. Solvingproblemsforothersandearningfromit
C. Studyingbusinessincollege
D. Buyingexpensivethings

Feedback:

1. *Correct!Entrepreneurssolveproblemsoroffervalueandgetpaidforit.*
2. *Notquite! Entrepreneurshipisaboutcreatingsomethinguseful,notjustgettingajob or studying.*

Unit2:WhoCanBeanentrepreneur?

Entrepreneurshipstartswithspottingaproblem,findingasolution,andcreatingvalue.Today, anyonewithaphoneandaninternetconnectioncanstartabusiness:moneyhelps,butmindset and initiative matter more at the start.

Youjust need:

1. Aproblemtosolve
2. Asimpleskillorproduct
3. Thecouragetostartsmall

ExamplesCarousel(Swipeablecards)

1. **Pooja(India)**–SellshandmaderakhisonInstagram,learneddesigningonYouTube. ***Problemshesaw****:Expensiveorgenericrakhisinthemarket;nopersonal touch.*
2. **Luis(Mexico)**–Repairsusedphonesinhisgarage,nowhasloyal customers. ***Problemhesaw****:Manypeoplecouldn'taffordnewphonesordidn'ttrustlocalrepair shops.*
3. **Sana(Kolkata)**–Startedtiffindeliveryfromherhomekitchen,nowearns₹500/day. ***Problemshesaw****:Officeworkersstruggledtofindaffordable,homemade meals.*
4. **Sal Khan (USA)** – Started Khan Academy with YouTube lessons to help his cousin. ***Problemhesaw****:Hiscousinneededhelpwithmath,butgoodlearningresourceswere hard to access.*

MCQ

Q:Whichofthesecanbe aformofentrepreneurship?

A. Makingreelsonskincaretipsandsellinghomemadefacepacks
B. Buyingnewclothesfrommalls
C. Studyingengineering
D. Playinggameswithoutsharingorstreaming

Feedback:

1. *Correct!Sharingusefultips+sellingaproduct=solvinganeed!*
2. *Tryagain!Entrepreneurshipisaboutcreating valueandhelping others.*

ReflectionPrompt

1. Ifyouhadtoearn₹100thisweek,whatwouldyou do?

Component 2:Action

Lab (~2 hours) Task

Find&Learnfrom2Ent

repreneursNearYou

Steps(Checklist):

1. Lookaroundyourneighborhoodoronline:find2peoplewhoearnthroughtheirownwork
2. Askorobserve:

a) Whatdotheydo?
b) Howdothey earn?

c) Whatmakesthementrepreneurial?

3. Usethe**EntrepreneurTrackerTemplate**(availableintheresourcestab)

FinalDeliverable

Learnersubmits:

1. Ashortdefinitionofentrepreneurship(intheirwords)
2. 2entriesfromtheEntrepreneurTracker(name,whattheydo,what learner learned)

→Submittedinthesubmissionstab.

SupplementaryResources(Optional)

1. DannyO'Neill-Gettingstarted|Entrepreneurship|KhanAcademy
2. TheBetterIndia–Storiesoflocalentrepreneurs

***

Week2:Can I Be an entrepreneur?

INTRO–WhatMakesanentrepreneur?

Youdon'tneedasuit,adegree,oralotofmoneytobeanentrepreneur.
Youneedonething:amindset.Entrepreneursnoticeproblemsaroundthem:anddosomething about it. From the boy fixing bikes outside his housetothegirlteachingdanceonInstagram, theyallstartedsmall.What matters most is not what you have: it's how you think and act.

Component1:Learnin

gModule(~1.5hours)

Unit 1: What Makes

an entrepreneur?

KeyConcepts:

1. **Entrepreneurs are driven by curiosity:** they ask questions, explore possibilities, and seek better ways to do things.
2. **Theytakeinitiative:**theyact,experiment,andcreateusing limitedresourceswith creativity and courage
3. **Theylearnbydoing:**embracingmistakesassteppingstonestoprogress.
4. **They take full ownership:** one day they're the marketer, thedelivery person, and the customer support, all in one.
5. **Theyareresilient:**theypersistthroughchallenges,adapttochange,andkeep moving forward with purpose.

Real-LifeExamples:

1. Nithin & Nikhil Kamath (Zerodha) – Started India's largest stock brokerage without formaldegreesorexternalfunding,justdeepcuriosityaboutstockmarketsandadesire to simplify investing.
2. *Qualities:Tookinitiativeearlyandstayedpersistentthroughchallenges.*
3. PrajaktaKoli(MostlySane)–Startedbymakingcomedysketchesabouteveryday Indianlife:family,school,relationships:andbecameoneofIndia'stopdigitalcreators.
4. *Qualities:Stayedconsistent,adaptedovertime,andbuiltstrongaudience trust.*
5. TilakMehta(PapernParcels)–Asateenager,launchedacourierstartupusing Mumbai'sdabbawalanetworkfordelivery.
6. *Qualities:Thoughtcreativelyandactedwithconfidenceatayoungage.*

***

Unit2:StartSmall:BuildIdeasfromWhatYouKnow

In thelastunit,youlearnedthat entrepreneurs don'tjusthaveideas:they act,solveproblems, and use what they have.
Butthebigquestionnowis:

"WhatcanIoffer?"

That'swheretheValueMapcomesin.It helpsyoutake yourfirststeptowardthinkingand acting like an entrepreneur: in your own way.

WhatisaValue Map?

AValueMapconnectsthreesimplethings:

A. **Whatpeoplearoundyouneed**
   → *Look around: is there something people often struggle with or something that could be better?*
B. **Whatyou*enjoy*orare*willingtotry***
   →*Youdon'tneedtobeanexpert.Startwithsmallthingsyou like doing: talking to people, fixing, organizing, helping, designing, or learning something new.*
   →*Evenifyou'rejustcuriousaboutsomething:that'senoughto begin.*
C. **Whatsolutionyoucancreate**
   → *Use what you enjoy or are learning to try solving a realneed around you: even in asmall way*

Visuals:

3overlappingcircles:

1. "PeopleNeed"
2. "ICan"
3. "MyOffer"

Examples:

1. **PeopleNeed→Affordablemeals**
   ICan→Cook+haveaccesstohomekitchenMyOffer→₹40tiffin service
2. **PeopleNeed→StudytipsinPunjabi ICan→Speakclearly+loveteaching**
   MyOffer→3-minutevideotipsonInstagram

MCQ

Q:What'sthefirststeptobeinganentrepreneur?

A. Waitingfortheperfectidea
B. Solvingaproblemwithyourskills
C. Buyinga shop
D. Studyingforyears

Feedback:

1. *Correct!Entrepreneursstartbysolvingsmallproblemsusing whattheyalreadyhave.*
2. *Tryagain!It'snotaboutwaiting:it'sabout starting.*

ReflectionPrompt

1. Ifsomeonegaveyou ₹500 andaskedyouto earnfromit, whatwould you do?

Component2:ActionLab(~2 hours)

Task:CreateYourPersonalValueMapSteps(checklistin app):

1. Thinkof2–3problemspeoplefacearoundyou(hunger,phonerepair,boredom,etc.)
2. Listyourownskills,interests,orresources.
3. Matcheachproblemwithsomethingyoucouldoffer.
4. Usethe**ValueMapTemplateintheresources**toorganizeyourideas.

FinalDeliverable(SubmittedinApp):

1. Yourcompleted**ValueMap**(in3columns:Need,Skill,Offer)
2. Highlight**1idea**you'dliketoexploreforyourfuturehustle

SupplementaryResources(Optional)

1. "StartwithWhy"bySimonSinek
2. 10CharacteristicsofSuccessful Entrepreneurs|Business:Explained

(3.VP.01)Design&InnovationLab

PracticalWorkshop

Session–1:KnowledgeWorkshop

- Sourceandapplydesignindustryknowledge.

- Sourceandapply informationonthehistory andtheory ofdesign.
- Project1:ResearchonaContemporarydesigner.
- Project2:PhotographandReportonSignageandWindowdisplay.
- Project3:CritiquetheDesignofaProduct.

Session–2:DesignConceptsWorkshop

- Designconceptsworkshoproadsigns.
- Designconceptsworkshopzoologicalandbotanicallogo.
- DesignconceptsworkshopT-shirtsdesign.

Session–3:GraphicDesignWorkshop

- ProduceDesignsforClothingRange,ShoesorCDCover.
- ColorzonesappliedColourassessment.
- PosterDesignforanOperaorBallet.

(3.VP.02)ITToolsLab

- Spreadsheets, Word,Presentation
- MultimediaDesign
- Troubleshooting
- Project/PracticalFile
- VivaVoce

Level4(SemesterI)

(4.GV.01)GraphicDesign

UNIT–I DesignProcessesand Practices

1. RoleofDesigninSociety
   a) FunctionsofDesign
   b) ImplicationsandImpactof Graphic Design
   c) RoleofGraphicDesigner
   d) ContemporaryGraphicDesigninIndia
2. GraphicDesignProcesses
   a) MethodologyofGraphicDesign

UNIT–II PrinciplesandElementsofDesign

3. SketchingandDrawing
   a) IntroductiontoDrawing:anaidinvisualrepresentation
   b) Typesofdrawing
      - Drawingfrommemoryandimagination
      - Drawingfromobservation
      - DrawingfromDimensionalinformation
   c) Virtuesofdrawing
4. Colour
   a) Colourstheories
   b) Colourwheel
   c) ColourHarmonies orColourSchemes
   d) ColourSymbolism
5. FundamentalsVisualComposition
   a) Introduction
   b) PrinciplesandElementsofComposition
6. Typography
   a) Classification
   b) Anatomyof Font
   c) FeaturesofaFont
   d) TextFormatting
   e) MultilingualTypography
7. PrinciplesofLayoutDesign
   a) Themeandcontent
   b) TypesofLayout
   c) ColoursinLayout
   d) CopyandType
   e) DesignforPublication

UNIT–III MediaandDesign

8. DigitalImagingandPrinting
   a) TypesofDigitalImages
   b) DigitalimageEditing

c) DigitalPrinting

9. AdvertisingDesign
   a) WhatisMediaPlanning
10. Campaign Design
   a) Kinds of Campaign
   b) PlanningaCampaign
   c) Research&DataCollection
   d) CreativeAspects
   e) DevelopingaConcept
   f) DepartmentsofanAdvertisingAgency
11. IntegratedMethodsofAdvertising
   a) Kinds of Events
   b) PublicRelations
   c) Media
   d) Visual Communicationandits Impact
12. Graphic DesignforInteractiveMedia
   a) BasicConcepts
   b) TypesofWebsites
   c) TheWebsiteDevelopmentandManagementProcess
   d) GraphicDesignApproach
   e) DesigningNavigation

(4.GV.02)GeospatialTechnology

Chapter–1:RemoteSensing(RS)

- Introduction.
- SpectralReflectanceSignature.
- DigitalImageProcessing.
- VisualInterpretationofSatellitedata.
- AerialPhotoandItsInterpretation.
- AdvancedRemoteSensing Technologies.
- AdvantagesandBenefitsofRS.

Chapter–2:Geographic InformationSystem(GIS)

- Introduction.
- GISDataElementandDataStructure.
- FundamentalsofDatabaseConcept.
- DataInputtoGISSystem.
- GISDataEditing.
- Attribute DataLinking.
- Spatial andNonSpatialdataAnalysis.
- MapProjectionandCoordinateSystem.
- DigitalCartography.
- AdvantagesandBenefitsofGIS.

Chapter–3:GlobalPositioningSystem(GPS)

- Introduction.
- GPSAccuracyand Accuracyfactors.
- TypesofGPS.
- ListofGlobalNavigationSystem.
- GPSToday&LimitationsofGPS.
- UsesofGPSTechnology.

Chapter–4:TrendsinGeospatialTechnology

- Introduction.
- RemoteSensingTrends&Technology.
- GISTrends&Technology.
  i. WebBasedGIS.
  ii. EnterpriseGIS.
  iii. MobileGIS.
  iv. 3-DVisualizationandFly through.
  v. OpenGIS.
- GPSTrends&Technology.

Chapter–5:ApplicationsofGeospatialTechnology

- WatershedStudies.
- FloodStudies.
- GroundwaterStudies.
- HealthIssues.
- UtilityStudies.
- SecurityandDefenseStudies.
- UrbanandinfrastructureStudies.

(4.GV.03)ITFoundations&ProgrammingConcept

- Introduction:Introductiontocomputersystem,uses,types.
- DataRepresentation: Numbersystemsandcharacterrepresentation,binaryarithmetic
- Human Computer Interface: Types of software, Operating system as user interface, utility programs Devices: Input and output devices (with connections and practical demo), keyboard, mouse, joystick, scanner, OCR, OMR, bar code reader, web camera, monitor, printer, plotter
- Memory: Primary, secondary, auxiliary memory, RAM, ROM, cache memory, hard disks, opticaldisks
- Computer Organisation and Architecture: C.P.U., registers, system bus, main memory unit, cache memory, Inside a computer, SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, processors.
- Overview of Emerging Technologies: Bluetooth, cloud computing, big data, data mining, mobile computing and embedded systems.

- UseofComputersinEducationandResearch:Dataanalysis,Heterogeneousstorage,e- Library, Google Scholar, Domain specific packages such as SPSS, Mathematics etc.
- BasicprogrammingelementsandconceptsinC++

(4.GE.01)Language- II

Module–3:Listeningandspeakingskills

Inthis module the learners will be exposed to a varietyof listening activitiesrecorded on audiotapes. These willbesamples of goodspoken English,whichthelearners canuse as models. Work sheetswillaccompany the listening material.
Thismodulewillincludethefollowing:

1. Introducingyourself/friendsinformalandinformalsituations.
2. Invitingpeople (overthephone and faceto face)giving details ofoccasion,timeplace and date. Acceptanceand refusal of invitation – formaland informal.
3. Seekingandsupplyinginformation(exampleopeninganaccountinabank,applyingfor loansetc.)
4. Talkingandconveyingmessages(overthephoneandfaceto face).
5. Givingdirections/instruction.
6. Discussingcontemporaryissuesrelatedtoenvironment,childlabour,gender bias etc.
7. Listeningtoexceptsformtelevisionandradio.
8. Listeningtopoems/plays(prescribed).
9. Listeningtospeeches/ talks.
10. Listeningtosongslike“Weshallovercome”.

Module–4to6
(Englishforspecificpurposes)(optanyone)

Theremodules are being offered.Alearner has to opt forany one. Thefirst is foracademic purposes and the next twoare for vocationalpurposes. The focusisnot on the teaching ofthe subjectmatter likescienceand literature butonthe wayinwhichlanguage is used inthe deferent subjects.

Module4:EnglishforScience
Thiscoursewillintroducelearnerstosomeinterestingpieces ofpopularscience

1. Health andhygiene
2. Conservationof(nearlyextinct)animals.
3. Plantlife.
4. Biogas/solarenergy.

These piecesillustrate the useof Englishin scientificwriting: givinginformationfactually, logically and objectively.

Module4:EnglishforReceptionist

Thismodule will introducethelearnersto avarietyof exercises, tasks andmeaningful activities related tothereceptionist’s use ofEnglish.Theprinted course materials willbesupported bytapes. The followingcompetencies be developed:

1. Receivingmessages, makingrequest etc.
2. Supplyinginformation

3. Givingadviceandmakingsuggestions
4. Dealingwithcomplaints
5. Makingentriesinanappointmentbook,register etc.

Module4:English for OfficeUse

Thiscourse willhelp thelearner touse English effectivelyandappropriatelyinthe office environment.The competencies will be developed.

1. Usingthetelephonetakingandpassingmessages.
2. Receivingmessages
3. Markingnotingonfilesandcircular.
4. Writingofficenotes,memos,notices,agendasformeetings.
5. Telegramsandfaxmessages.
6. Writingbusinessletters,applicationenquires,complaints.
7. Fillinginforms,cheques,payinslips etc.

(4.VP.01)GraphicDesignLab

1. (i)FunctionsofDesign
   (ii) GraphicDesignProcess

2. (i)TypesofDrawing
   (ii) ColouranditsTheories
   (iii) ElementsofComposition
   (iv) TypesofLayoutandaCompleteDesignforPublication.

3. (i)TypesofDigitalImages,EditingandPrinting
   (ii) AdvertisementDesignPlanning
   (iii) MeansofCampaignDesigning
   (iv) TypesofVisualCommunicationandDesignaPoster/Hoarding/Book-cover,etc.
   (v) Layoutof a Website Home - Page on a Chosen Field.
   (Institution/organization/sports/art/eventetc.)

(4.VP.02)GeospatialTechnologyLab

- DataInputtoGISSystem.
- GISDataEditing.
- Attribute DataLinking.
- SpatialandNonSpatialdataAnalysis.
- MapProjectionandCoordinateSystem.
- DigitalCartography.
- AdvantagesandBenefitsofGIS.

Level4(SemesterII)

(4.GV.04)GeneralFoundationCourse–II

A. BusinessManagementand Entrepreneurship

ManagementofBusiness, Elementarytreatment/exposure to basicconceptual frame workofthe topic listed below:

(a)BasicFunction(b)MarketingManagement(c)FinancialManagement(d)Production Management(e) Personnel Management

B. ComputationalSkills

1. (a)Solutionoflinearequationsandtheirapplicationtoproblemofcommercialmathematics.

(b)Systemoflinearequationsandinequationintwovariables.Applicationsinformationof simplelinear programming problems.

2. Statistics: Raw data, bar charts and Histogram; Frequency Tables; Frequency Polygon; Ogive;Menu, Median and Mode ofungroupedandgroupeddata;StandardDeviation;Introductionto Mortality tables; Price Index etc. Introduction to Computers.

C. EnvironmentalEducation&Rural Development

EnvironmentalEducation:

a. Modernization of agriculture and environment, irrigation, water logging, use of fertilizers, pesticides, soil erosion, land degradation (desertification and deforestation), silting and drying of water resources.
b. Rational utilization, conservation and regeneration of environmental resources (soil, air, water, plant, energy, minerals).

2. RuralDevelopment

Principlesandgoalsofruraldevelopment,majorproblems/constraintsinruraldevelopmentin India.

(4.GV.05)Engineering Graphics

UnitI:IsometricProjectionofSolids

i. Construction of isometric scale showing main divisions of 10mm and smaller divisions of1mm, also showing the leading angles. Drawing helping view/s such as triangles, pentagon, hexagon, etc., using isometric scale.
ii. Isometric projection (drawn to isometric scale) of solids such as cube, regular prism and pyramids (triangular, square, pentagonal and hexagonal), cone, cylinder, sphere, hemi-sphere, frustum of right regular pyramids (triangular, square, pentagonal, hexagonal) and cone, when theyare cut bya plane parallel to the base. The axis and the base side ofthe solid should be either perpendicular to HP / VP or parallel to HP and VP. (Indicate the direction of viewing)

iii. Combination of two solids (except "frustum" of Pyramids and Cone) Keeping the base side parallel or perpendicular to HP/VP and placed centrally together, axis of both the solids should not be given parallel to HP.

UnitII:MachineDrawing

A. Drawingofmachineparts

i. Drawingtofull sizescalewithinstruments.
Introduction of threads: Standard profiles of screw threads square, knuckle, B.S.W., Metric (external and internal). Bolts (Square, Hexagonal, Tee and Hook); Nuts: (Square and Hexagonal), Plain washer, combination of nut and bolt with orwithout washer for assembling two parts together, Single riveted lap joint with standard dimensions.

ii. Free-handsketches
Conventional representation of external and internal threads; studs (plain, square-neck and collar); screws (round-head, cheese-head, 900 flat counter sunk-head, hexagonal socket head and grub-screw). Types of rivets:- snap head, pan head-without tapered neck, flat head and 600 countersunk flat head. Types of sunk-keys (rectangular taper, woodruff and double-head feather key with gib head on both ends).

B. AssemblydrawingsandDis-Assemblydrawings

(4.GV.06)Multimedia&WebTechnology

Unit1:IntroductiontoDatabaseManagement

- Introductiontodatabaseconceptsanditsneed
- DatabaseTerminology:Data,Record/Tuple,Table,Database,field/attribute
- ConceptofKeys:Candidatekey,Primarykey,Alternatekey,andForeignkey
- Examples of common Database Management System: MySQL, Ingres, Postgres, Oracle, DB2, MS-SQL Server, Sybase etc.
- DatabaseTool:
  Introduction to MySQL: Using MySQL creating Database and table, defining primary key, inserting records, displaying records using SELECT command, WHERE clause, modifying records using UPDATE, deleting records

Unit2:NetworkingAndOpenStandards

- ComputerNetworking:EvolutionofNetworking:ARPANET,WWW,Internet
- NetworkTopologies:Bus,Star,Tree
- TypesofNetwork:PAN,LAN,WAN, MAN
- WiredTechnologies:Twistedpaircable,coaxialcable,opticalfiber
- WirelessTechnologies:Bluetooth,infrared,radiolink,microwavelink,radiolinkandsatellite link
- Networkdevices:MODEM,Hub,switch,repeater,gateway–andtheirfunctions

- Identifying computers and users over a network: Basic concept of domain name, MAC (Media Access Control) and IPAddress,domain name resolution
- Wireless/MobileCommunication:GSM,CDMA,GPRS,WLL,3G,4G
- InternetApplications:SMS,Voicemail,e-Mail,Chatand Videoconferencing
- NetworkSecurityConcepts:Cyberlaw,firewall,cookies,hackersandcrackers
- Open Source Concepts: Proprietary and open source software(OSS), common FOSS/FLOSS examples (e.g. GNU/Linux, Firefox, OpenOffice, Linux, Mozilla web browser, Apache server, MySQL, Postgres,Pango, Tomcat, PHP, Python)
- Indian Language Computing: character encoding, UNICODE, different types of fonts (open type vs true type, static vsdynamic),EnteringIndianLanguageText – phonetic andkey map based

Unit3: WebPageDevelopment

- ReviewofHTML/DHTML,JavaScriptcoveredinClassXI
- InstallationandManagingWEB-Server:IIS/XAMPP/LAMP;
- PHP:ConceptofPHP,featuresofPHP,otherequivalenttools–JSP,PHP
- IncludingPHPinwebpage
- Datatypes:integer,double,string,boolean,null,array,object
- Variables:Usingvariablesin PHP
- Constants:UsingconstantsinPHP,constant()function
- OutputdatatoScreen:echoandprintstatements
- Operators:
    a) Arithmeticoperators:+,-(UnaryandBinary),*,/,%,**
    b) Assignmentoperators:=,+=,-=,*=,/=.%=
    c) Stringoperator:.,.=
    d) Comparisonoperators:<,>,<=,>=,!=,==,===.!===
    e) Incrementing/Decrementingoperators:++,--
    f) Logicaloperators:!,&&,||;
    g) ArrayOperators:union(+),equality==,inequality<>,!=
- Operatorprecedence
- BuiltInFunctions:
- String Manipulation Functions: strtoupper(),strtolower(),strlen(),ltrim(),substr(),rtrim(), trim() ,strrev(), strcasecmp(),strcmp(),stripslashes(), strchr(), strpos(), stripos()
- Time & Date Functions: Date(),getdate(),gettimeofday(),Mktime(),strtotime(), cal_days_in_month()
- Arrays:Declarationanduseofindexedarrays(1dimensional),inbuiltfunctionssort(),rsort()
- Conditional statements:if,ifelse,if...elseif.....else,switch
- Loops:while,dowhile,for, foreach
- Unconditionalexitfromloop/switchusingbreak
- UserDefinedFunctions:Definingafunction,calling/invokingafunction,
- Passingparameters/arguments,Passbyvalue,passbyreference,returnvalue,defaultvalue
- GlobalVariables– Superglobals $GLOBALS,$_SERVER,$_REQUEST,$_POST,$_GET,$_FILES,$_ENV,$_COOKIE,$_SESSION

- Elementsof$_SERVER:PHP_SELF,SERVER_NAME,HTTP_HOST,HTTP_USER_AGENT
- PHP Forms
- FormHandling,FormValidation,FormURL/E-mail
- TextFiles:
  Openingafile,Readingafile,Writingafile,Closingafile
- OtherFeatures
  PHPFileUpload,Cookies,Sessions(start,modifyanddestroy),ErrorHandling
- Working on Database: (Using MySQLi Procedural API)Connecting with Databases, opening and closing databases, Inserting, retrieving, modifying/updation , deleting of records from tables

Unit4:MultimediaandAuthoringTools

- MovieFileFormats:AVI, MPEG,SWF, MOV, DAT
- Embedding:Audio/Videoonthewebpage
- Multimedia AuthoringUsingMacromedia Flash: Makingof simple movie, settingproperties, frame rate, dimensions,and background color
- Movie Frames: Concept of frame, frame buffer, and frame rate, creating a key frame, Inserting text into the frame, inserting graphical elements into the frame, converting text/graphics to symbol, inserting symbol into the frame, setting symbol property (graphics/button/movie), inserting blank key frame, selecting all/specific framesof alayer, copying/pasting selected frames
- Scene: Concept of scene, duplicate scene, add scene, delete scene, and navigating between scenes
- Layers: Concept oflayer, layerproperties,layername,show/hide/locklayers,viewinglayer as outline, adding/deletinga layer
- TypesofLayer-normal/guide/mask
- SpecialEffects:MotionTweening,ShapeTweening,InsertingSoundLayer
- TestingaSceneandMovie
- Multimedia Application: Education (use of CAL tool), entertainment, edutainment, virtual reality, digital libraries, information kiosks, video on demand, video phone, video conferencing and telemedicine.

(4.GV.07) ComputerNetworks

UNIT-I

Introduction to computer Network -Communication: An Essential Part of Our Lives, Communicating in a Network-Centric World, Network as a Platform, Architecture of the Internet, Trends in Networking

Communicating over the Network- PlatformforCommunications,LANs,WANs,andInternetworks, Protocols, Using Layered Models,Network Addressing

UNIT-II

Application Layer Functionality and Protocols - Applications: TheInterfaceBetweentheNetworks, MakingProvisionsforApplicationsandServices,ApplicationLayerProtocolsandServices

Examples

OSITransportLayer-RolesoftheTransportLayer,IPv4Addresses,TCP:Communicatingwith Reliability, UDP: Communicating with Low Overhead

UNIT-III

OSINetworkLayer-IPv4,Networks:DividingHosts into Groups, Routing, How Data Packets Are Handled, Routing Processes

Addressing the Network- IPv4 Addresses for Different Purposes, Assigning Addresses, Calculating Addresses,Testing the Network Layer

OSIDataLinkLayer-DataLinkLayer,MACTechniques,MACAddressingandFramingData

(4.VP.03)EngineeringGraphicsLab

(i) To performthefollowingtasksfromthegivenviewsoftheprescribedMachine

Block(One).
Value-Points

1. Copy thegivenviews
2. Drawingthe missingviewwithouthiddenlines
3. SketchingtheIsometric viewwithouthiddenedges
4. Tomakethemachineblockoftheaboveinthreedimensions.

(ii) ComputerAided Design (CAD) –Project
Projectfile tobe submitted on the simple solids (Prism,Pyramids and Frustums of equilateral triangle, square, pentagon and hexagon) or machineblocksasprescribed in part-I by using theCAD software.

(4.VP.04)Multimedia&WebTechnologyLab

Practicalsbasedonthetheorycoveredinclass

Level5(SemesterI)

(5.GV.01)Web Applications

MovieEditingTools.

- Familiarizationofinterfacecomponents.
- Importingpictures.
- ImportingAudioand VideoFiles.
- SplittingandJoiningMovieClips.
- AddingTitlesandpublishing.

Customizingand EmbeddingMultimedia componentsinWebPages.

- CompatibleMultimediafileformatsforWebPages.
- EmbeddingAudiofile.
- EmbeddingVideofile.
- EmbeddingFlashfile.

Web Scripting – Java Script.

- JavaScriptreview.
- Functions–userdefined.
- StringObject.
- MathObject.
- ArrayObject.
- Events.
- CaseStudies.

WorkIntegratedLearningIT–WA-II.

- AdvancedFeaturesofWebDesign.
- Codeview,Add-ins/SnippetsandPageTransitions.
- DynamicWebtemplates.
- SEO-SearchEngineOptimization.
- Forms-Advanced.
- Publishingwebpagesorwebsites-I.

(5.GV.02)CommunicationSkill-I

Communication Process: The magic of effective communication; Building self-esteem and overcoming fears; Concept, nature and significance of communication process; Meaning, types and models of communication; Verbal and non-verbal communication; Linguistic and non-linguistic barriers to communication and reasons behind communication gap/ miscommunication.

Structural and Functional Grammar: Sentence structure, modifiers, connecting words and verbals; phrases and clauses; Case: subjective case, possessive case; objective case; Correct usage of nouns, pronouns and antecedents, adjectives, adverbs and articles;

(5.GV.03)GraphicDesign(BasicSketchingandHumanAnatomyinDrawing)

UnitI:

Orientation into visual art form. The Basics of traditional 2D animation, Introductiontotheskill required thereof, beginning life drawing, Use of simple shapes. How to draw sketches with the helpofbasicshapesLearningtodrawlines,circles,ovals,scribbles,zigzag(random)patterns

etc. Background elements, trees, mountains, clouds, water bodies, meadows, perspective drawing Lights and shadows day night scenes, layers (concept and implementation) layout design and staging. An intro on howto make drawings for animation, shapes and forms, about 2D and 3D drawings, Caricaturing-fundamentals, Exaggeration, Attitude, Silhouettes, Boundary breaking exercises and warm-ups.

UnitII:

HUMAN ANATOMY: Structure of man, proportion of body parts, drawing from basic form, Line of action, balance Rhythm, turnings, twisting, drawing plane surfaces, torso, face, eyes, nose, ears, mouth, hand and feet.

FEMALE ANATOMY: Proportion and construction of female body, twisting of female body, chest, torso, face, parts of face, hands, hands in action, feet and gestures, curves,curls,rhythm and twist.

CHILDANATOMY: Understanding child's figure, proportion and construction of child body, face,chubbiness, hand, feet and gestures.

ANIMAL ANATOMY: Animals from basic forms, understanding motion and grace of animals, turning animals to character, face, legs, tails, perspectives.

CARTOON ANATOMY: Understanding cartoon characters, drawing from basic shapes, line of action, distortion of proportion, cartoon faces, eyes, mouths, hairs, nose, hands, feet,gesturesand poses.

(5.GV.04)IllustrationsandPhotoEditing

UNIT– I

Introduction to Adobe Illustrator: Introduction to AdobeIllustrator, workareaandworkspaces andtools.Openingfiles,importingartwork,viewingartwork,rulersandgrids,Drawingin Illustrator,drawinglinesandshapes,penciltool,pentool,editingdrawing,tracing,symbols, colouring, applying colours,swatches, adjustingcolourand coloursettings.

UNIT–II

Painting with Illustrator, fills, strokes, brushes, transparency, blending, gradient, meshesand color blending. Selecting, transformation, scaling, grouping, reshaping, cutting, blending of object, creating 3D object,text and typing, special effects,filters, shadows, glow, featheringgraphicstyles.

UNIT–III

Photoshop and its interface, Navigation and All tools, Working with basic selections, advanced selections-1(on the basis of channels, color range, extract, filter etc),Exercisesonselections,Quick Masks, Layer Mask, Vector Mask, Layers & Layer Blending Modes, Play with Photoshop, Filter Gallery, Exercises, Bring some object and try to make it in computer, Make your own cartoon character.

Color Theory, Make a perfect cropping of some images using Photoshop, Prepareacut-outof some images using Photoshop, Place nice background for those images, Prepare nice background using gradient tool, Scan various images,Color adjustment of those images(PHOTORETOUCHING).

UNIT–IV

Make Nature scene (winter) digital painting, Make Nature scene (summer) digital painting. Make digital painting (Use brush, pencil, smudge etc), Make something like modern art keeping in mind color combination,make a collage ofIndian artand culture. Make a collage of wildlife animals, Make a portrait of celebrity (Digital painting).Convert a B&W image into color (Use variation), "Choose a theme (Music, Festivals, Sports, Dance) and Design 5-8 graphics on them.", Color Modes, Color Corrections, Advanced color correction techniques (levels, Curves, Hue, Saturation etc), Design that Ad from your ownstyle.Designmotifstribeart,Makeananimalcharacter,"Planastory of that character & Make its backgrounds in three/four frames", Make posters on nature/earth, Matte Painting-Composition, Creating images for the web: Exporting imagesfromPhotoshop.

(5.VP.01)WebApplicationsLab

- MovieEditing Tools
- CustomizingandEmbedding,MultimediaComponentsinWebPages.
- WebScripting- JavaScript.

(5.VP.02)Illustration andPhoto-Editing-Lab

- Scriptbreakdown
- Storyboards
- Costumeacquisition
- SetsandPropertiesdesignandsourcing
- Locationrecceandhire
- Locationpermissionsandlegalrequirements,permissionsfromcivicauthorities
- Equipmentrequirementsandbookings
- TravelandTransport
- Cateringforcrew
- Hospitalityforoutoftownshoots

Level5(SemesterII)

(5.GV.05)Pre-Production

- Research, brainstorming & storyconcept creation:Intention / purpose & audience (what you intend to say & why)
- Storystructure&characterdevelopment:Narrativestructureandcharacterbackstory
- Sequence&shotanalysis:Analysisandre-creationoftimingandshotcompositionfrom professionally produced film/video productions
- Storyboards:Visual design (layout/composition, style, color, lighting etc.); Language of cinema (narrative structure, shot composition, spatial/directional continuity)
- Animatics/pre-viz: Timing and transitions Audio layering (music, ambient sound, narration) Budgeting and planning: Considerationofschedules, costsand otherplanningissues

(5.GV.06)AudioEditing

UNIT– I

Sonic Sound Forge: Manipulatingaudio: Auto trim/crop, mute, DCoffset, resample, reverse, smooth/enhance,Fadein/out,insert silence, bitdepth converteretc,understandingvariousdigital audio formatslike .WAV, .AIFF,.MP3, swf, WMAetc, understandaudio plug-in, importing and exporting into multiple audio file formats like MP3,real audio, QuickTimeformats, etc. Eventtool: move, split, slip and trim multiple events, create fades, apply ASR (Attack/Sustain/Release). Understandingscripteditor window,Spectrumanalysis tools,scrub tool etc, statistics tool(Max, RMS, DCoffset, zero crossings), sampler tool etc, Audio editing: workflow, real time editing, event based editing,waveformvolumeand pan envelopes, Edit, record, encode and master digital audio, editing audio bydrag and dropoptions, crossfading audio tracks, balancing sound levels, creating smooth fades etc.

UNIT–II

Understanding Multichannel audio recording, synchronize audio and video. Understanding regionsand play lists, editingof fields, name markers, loops, and regions, Timingbasis: absolute frames, measures and beats, Time and frames. Audio effects like: Equalizer, Volume, chorus, distortion, Delay/echo, pitch, bend/shift, reverb, vibrato, normalize etc Insert track markers, adding multiple tracks, adjusting track time, musical instrumentfileprocessing

(5.GV.07)VideoEditing

- AdobePremiere:Conceptofnon-linearediting,
- The basics of editing: Overview, Importing and Exporting: various audio, videoandgraphics in various formats, Edit, manipulate and arrange these elements in visual timeline, understandall Toolsoftoolbox foreditingclips. Titling and superimposing.
- Panels:Toolspanel,Project,
- Monitors:Sourceandprogram,Timeline,Audiometers,
- Misc. Tasks and functions: Titles, Transitions, speed and duration,Effects,Key frames,Types of edit,Opacity,trimming,

- Adding Specialeffects like:Startrektransportereffect,Blurpartof an image, Ghost effect, Highlight part of an image etc.

(5.GV.08) CommunicationSkill-II

CommunicationProcess:
Basic Communication Skills: Listening, Speaking, Reading and Writing Skills; Precise writing/ abstracting/ summarizing; Style of technical communication Curriculum vitae/resume writing; Innovativemethods to enhance vocabulary,analogy questions.

StructuralandFunctionalGrammar:
Agreement of verb with the subject: tense, mood, voice;Writingeffectivesentences;Basic sentence faults;

(5.VP.03)AudioEditingLab

Using Editing Software – editing basics and implementation of various techniques used in non-linearediting.Mastering final edit line – audio levels, colour correction, audio mixing, mixed and un-mixed versions, importing and applying compatible graphics files. Understanding compression and its affectsalong with various methods.

(5.VP.04)VideoEditingLab

- AssistingProductiondepartmentonshoot
- AssistingDirectiondepartmentonshoot
- AssistingArtdepartmentonshoot
- AssistingCameradepartmentonshoot
- AssistingSounddepartmentonshoot

Level6(SemesterI)

(6.GV.01)PrinciplesofAnimationandTechniquesofAnimation

UNIT– 1

Drawings with the help of basic shapes, Animal study, Human anatomy, Shading techniques, Live model study, Introduction- Importance of confidence, Difference between "lookingatthedrawing" and "seeing the drawing", What is observation, Procedure- How to approach, Importance of Guideline-Line of action, Overcomethe fear, Drawing for animation,

UNIT– 2

An Introduction on how to make drawings 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.

UNIT– 3

Drawing for Animation, Exercises and warm ups on pegging sheet, Quick Studies from real life, Sequential movement drawing, caricaturing the Action. Thumbnails, Drama and psychologicaleffect, Motion Studies,Drawing for motion,

UNIT– 4

The Bodylanguage, Re-defining the drawings, Introduction to animation production process, Basic Principles in animation, Squash and stretch, Anticipation, Staging, Straight ahead and pose to pose, Follow through and overlapping action, Slow in and slow out, Arcs, Secondary action, Timing, Exaggeration, Solid drawing, Appeal, Mass and weight, Character acting, Volume, Line of action,Path of action, Walk cycles-animal and human.

(6.GV.02)Basicof3-DModelling

UNIT– I

Interface of 3DS max, Understanding the concept of four view ports, Aligning object in the each view port in X, Y, Z axis, Hot keys, User defined hot keys, Using the menus, Floatinganddocking. Command panel, customizing the interface, Using draganddropfeature,Introductiontodifferent workspaces, "Geometry, Sub objects, Extruding, Welding, bridging etc, Recognizing the workspaces".

UNIT–II

Introduction to standard and extended primitives. "Introduction to creating complex objects with Standard and extended primitives", Understanding the spline tools. Introductiontopolytools.Using modifier stack, navigating the modifier stack, File navigation, Introduction to Connection (Hierarchy,Group, and Link).

UNIT–III

Introduction to the 3d elevators and walk through, "Introduction to modifiers and modifier gizmos, Familiarity with Modifiers like Bend, edit poly, Xform, wave,lathe symmetry etc

UNIT–IV

Advanced3DSMax,Modellingobjectswithlathe,loft,extrudeetc,Creating3Dobjectsfrom2D spline shapes,Organic and inorganic modelling

(6.GV.03)TextureandLighting

UnitI:
Introduction to texturing,workingwith Diffuse, Opacityand Reflection, Basics ofUV unwrapping, Creatingtexture maps, Bump and DisplacementMapping,IntroductiontoVideo post,Introduction to standard lights.

(6.GV.04)CommunicationSkillsIII

UNIT-I Recognizing and Understanding Communication Styles: What is Communication, Passive Communication, Aggressive Communication, Passive-Aggressive Communication, Assertive Communication, Verbaland NonVerbal Communication,Barriers and Gatewaysto Communication.

UNIT-II Listening Skills: Types of Listening (theory /definition), Tips for Effective Listening Academic Listening- (lecturing), Listening to Talks and Presentations, Basics of Telephone Communication Writing Skills: Standard Business letter, Report writing, Email drafting and Etiquettes, Preparing Agenda and writing minutes for meetings, Making notes on Business conversations, Effectiveuse of SMS, Case writing and Documentation

UNIT-III Soft Skills: Empathy (Understanding of someone else point of view), Intrapersonal skills, Interpersonal skills, Negotiation skills, Cultural Aspects ofCommunication.

UNIT-IV Group Communication: The Basics of Group Dynamics, Group Interaction and Communication, how to Be Effective in Groups, Handling Miscommunication, Handling Disagreementsand Conflicts, Constructive Criticism

(6.VP.01)DigitalAnimationwithFlashLab

- Datamanagementinpostproduction.
- Settingupandpreparingeditingroomsandsoundeditingrooms
- Loggingofrushes
- Assistinginroughcuts
- Assistineditingline-up
- Assistinsynchronizingvisualsanddialogue
- Assistinrecordingandmatchingsoundeffects

(6.VP.02)MayaLab

- NavigatetheMayainterface
- AccessyourobjectsintheMayascenegraph
- UsetheMayapolygonandNURBSmodelingtools
- Shadeandapplytexturemaps toobjectsinsideofMaya

- Union:Regionbelongingtooneorbothpolygons
- Intersection:Region belongingtobothpolygons
- Difference:Regionbelongingtofirstbutnotsecond
- PolygonTexturing

Level6(SemesterII)

(6.GV.05) 3DAnimation

UnitI:BodyMechanics

Students learn to use principles of traditional animation within the context of 3D animation by effectively applyingthem onto the character.
Part of good acting for animation is planning. The students learn to create or collect authentic visual references (both still and video) for animating body mechanics and understanding acting.
Good poses are notonlyessentialto create believable physicality but also it helps to clearly convey the character emotion for storytelling. They learn the importance of balance and weight, checking the silhouette all the time to make clearer poses.
Theylearntoactoutbodymechanics,learntheeffectofphysics(gravity/frictionetc.)and artisticPresentation(composition,staging,silhouetteetc.)
Students learn to convey Emotion not only in the facial expression but also in the body language.

Unit II:FacialExpressionandLipSync

Foundation of good facial expression depends upon the reference and pre-planning. Detailed expression chart and voice recording is used as a starting point for any facial animation. Students learn to internalize the dialogue and they rehearse the sounds to match the shapes. They also need to draw out key poses before startingto pose in 3D.

Agood animator needsmoreskillset thanjust to beable to animate how to create lip-synch.
Studentsexplorehowtocreatethesubtlefacialexpressionstosuitthepersonalityofthe character and the accent style of the pre-recorded dialogue.

UnitIII:AnimationandtheBody

Exploration of the diverse ways in which the human form takes shape in animated films, from highly photorealistic representations to stream-of-consciousness movement. Specific examples from 2D, 3D, stop-motion and hybrid work will be examined in order to shed light on the construction and animation of the body in contemporary film.

(6.GV.06)Introductionto3DMotionGraphics&VFX

UNIT– I

Concepts for Broadcast animation for logos, channel IDs and montages, Multi-layer compositing, Special effects, Super imposition and titling, Exporting various file formats outputs as per the end user requirements.

UNIT–II

Introduction to batch render & work group, Adding cameras & lightstoasimplescenetomakea complex compositing, Adding 2D back ground and elements into a 3D character layers, Creating object, material IDs for further adding special effects, Effects for digital video 2Dlayers and 3D layers for more effectiveoutputs, adding particle effectsinto a scene.

UNIT–III

Introduction to colour character andkeying,"EditingtherealtimevideowithCGbasedscene and merging both ofthem to create a final output, Exporting various file format, output asper the end user requirements.

UNIT–IV

Introduction to the batch rendering and work groups, Introduction to the concepts of editing in terms ofcompositing,Adding specialeffects in built in compositing software to make a simple shot into a perfect output.

UNIT– V

Chroma keying, Luma key, Blue screen, Key frametext&layeranimation&3Dparticles,Effects etc. Color correction, Introduction to 3D compositing concepts i.e. Layers and masking, Rot scoping, Rig removal, Morphing.

(6.GV.07)IntroductiontoRendering

UnitI:
Thisunitteachesstudentsaboutrenderingconcepts;formatsandresolutions.

UnitII:
Thisunit teaches students theadvantages of differentrender softwaresuch asmental ray,v-ray, render man etc.

Unit III:
Thisunit teaches students thebenefits oflayerbased rendering.Thisprocess enhances theimage quality without need of re-renderingthe images again.

UnitIV:
Therenderedlayersorpassesneedtobecompositedtogetthefinaloutput.

(6.GV.08)CommunicationSkillsIV

Forms of non-verbal communication; interpreting body-language cues; Kinesics; Effective use of body language. The presentation and oral communication skill will be imparted through Group Discussion, Differences between group discussion and debate; Presentation Skills, Oralpresentationandpublicspeakingskills;Thecoursealso includes training and skill ofTechnology-

based Communication, power-point presentation. Activities/tasks like role playing, group discussion, public speaking, extempore presentation and interviews will be conducted on regular basis.

Writing Skills: The activities will include: Writing Task: identifying the focus, generating ideas, outlining, etc. Paragraph Structure and Linking Sub-points in a Paragraph Cohesion and unity in a paragraph, Minding Punctuation and Proofreading, Summarising, Reviewing and Aspects ofCreative Writing. Activities / tasks to be conducted like paragraph writing, essay writing, writing a review of a literary text, writing a summary of a literary text, comprehension and analysis of a literary text, preparing an advertisement.

(6.VP.03)3DAnimationLab

- Assistinlayingbackgroundmusictracks
- Assistinmixingandmasteringvideo
- Assistincreatingtitlesandsubtitlesandbasicanimation sequences
- Understandand assist intheexecutionofmodellingand renderingin3Danimation software.

(6.VP.04)3DRenderingLab

Introduction toScene, Preparing the Scene, Basic Settings for Texturing, Create & Assign Textures, Light Setup, V-Ray Rendering Settings

- RenderingwithV-Ray
- V-raylightsetup
- V-rayrenderingsettings
- HDRI Illumination
- Fine-tuningshadows
- Final render setting

Level7(SemesterI)

(7.GV.01)Digital Compositing

- IntroductiontoCompositing software
- Principlesofcompositing
- Basictechniques
- Transparency
- Rotoscoping
- WireRemoval
- Chromakey
- Layerbasedcompositing
- Compositingmodes
- Animatinglayers

(7.GV.02) 3DTexturing

UNIT– I

Introduction to basic material types & Procedurals. Study of concepts: Opacity, Smoothness, Specularity, and color, Working with Maya Surface Nodes-Blinn, Phong & Lambert, Working with Transparency, Reflection & Refraction, Bump & Displacement Maps, Introduction to unwrapping, Unwrapping the maps forvarious 3D characters.

UNIT–II

Working with 2D and 3D Texture, Introduction to the mapping and advanced texturing techniques, Shadow maps; ray traced shadows and radiosity, Creating photo real environments and textures, Basics of Utilities-Reverse, Stencil, Condition, Sampler Information.

(7.GV.03)BasicofAccounts-I

Chapter1:

- Definetheaccountingprocess
- Describetheroleofaccountants
- Explainaccountingconceptsandprinciples
- Discusstheconceptoftheaccountingequation
- Usethe accountingequationtoanalyzebasic transactions in terms ofincreases and decreases
- Reportingfinancialinformationonabalancesheet

Chapter2:

- Determinehowtransactions changeowner'sequityinanaccountingequation
- Reportingachangedaccountingequationonabalancesheet

Chapter3:

- Analyzetransactions usingT-accountsandusingdebits andcredits
- Usedebitsandcreditstorecordincreaseanddecreasesinaccounts

Chapter4:

- Recordjournalentriesina5-columnjournal
- Defineaccountingtermsrelatedtojournalizingtransactions
- Proveandruleafive-columnjournalandprovecash

Chapter5:

- Prepareachartofaccountsandopeningaccounts
- Postseparateamountsfromajournaltoageneralledger
- Postcolumntotalsfromajournaltoageneralledger
- Makecorrectingentries

Chapter6:

- Reconcileabankstatementandrecordbank servicecharges, dishonoredchecks,and petty cash transactions

(7.GV.04)ComputerGraphics

UNIT-I GraphicsPrimitives:Introductionto computergraphics,Basics ofGraphicssystems, Application areas of Computer Graphics, overview of graphics systems, video-display devices, and raster-scan systems, random scan systems, graphics monitors and workstations and input devices. Output Primitives: Points and lines, line drawing algorithms, mid-point circle and ellipse algorithms. Filled area primitives: Scan linepolygon fill algorithm, boundary fill and flood fill algorithms.

UNIT-II 2-D Geometrical Transforms: Translation, scaling, rotation, reflection and shear transformations, matrix representations and homogeneous coordinates, composite transforms, transformations between coordinate systems. 2-D Viewing: The viewing pipeline, viewing coordinate reference frame, window to viewport coordinate transformation, viewing functions, Cohen-Sutherland and Cyrus-beck line clipping algorithms, Sutherland –Hodgeman polygon clipping algorithm.

UNIT-III 3-D Object Representation: Polygon surfaces, quadric surfaces, spline representation, Hermite curve, Bezier curve and B-Spline curves, Bezier and B-Spline surfaces. Basic illuminationmodels, polygonrendering methods.

UNIT-IV 3-D Geometric Transformations: Translation, rotation, scaling, reflection andshear transformations, composite transformations.3-D Viewing:Viewing pipeline,viewing coordinates, view volume and general projection transforms and clipping

(7.VP.01)Digital CompositingLab

- 2Danimationpreproduction
- 2Dcharacterdesign
- 2Denvironmentandbackgroundlayout

- Motiongraphicsequences

(7.VP.02)3DTexturingLab

1. ApplyingTextureforinorganic polygonmodels-I (Lamps,Mobile,Planet,Landwithgrasstexture,rock,atmosphericobjectssystem)
2. ApplyingTexturefororganicpolygonmodels–I(Cartoon,Semicartoon)
3. ApplyingTextureforinorganic polygonmodels-II(Solarsystem,Car,Bike,Plane)
4. ApplyingTexturefororganicpolygonmodels-II(Human,Animal)
5. ApplyingTexturefororganicSubdivisionmodels– I(Cartoon,Semicartoon)
6. ApplyingTextureforinorganicSubdivisionmodels-II(Solarsystem,Car,Bike,Plane)
7. Applying textureforrendering finaloutputwithorganicandinorganic objects

Level7(SemesterII)

(7.GV.05)MuscleSystem

UnitI:
Introductiontobonesystem/JointsandIKhandles,creatingbonesystemandmaintaining naming conventions,

UnitII:
Skinning:types,importandexportofskinweights,IKandFKbasics,IKandFKswitch, stretchy IK and FK,

Unit III:
IntroductiontoDeformers:attics,wrap,cluster,riggle,wireetc.Useofdeformersinrigging process.

(7.GV.06) Rigging

UNIT–I

Introduction to constraints and implementation to rigging, Maintaining proper hierarchy, grouping and creating controls, Rigging the characters, Introduction to Muscle system, Working with Muscle rigging, Introduction to automated rigging systems and methods.

UNIT–II

"Embedding small scripts in the hierarchy control system, to save time and facilitate handling", Advanced rigging, Vertex weighting techniques, Rigging solutionsto Anatomical Problems, Using advanced rigging to archive natural articulation of character.

(7.GV.07)AdvancedModellingwithZ-Brush

UNIT– I

Z-Brush 2 features, system requirement,Z-Brush2concept,workingwithZ-Brush2,working with the canvas, working with layouts, working with palettes, Z-Brush2configuration,using start-up documents, tray modes, working with Z-Script palette and working with the preferencepalette.

UNIT–II

Types of tools in Z-Brush 2, modes, options and related palettes, explaining the tool palatte, working with tools, working with pixel based tools, working with gyro tool, Autodesk Maya and Autodesk 3D max settings, introduction to curves, the alpha adjust curve, the edit curve, the smoothing curve, the diffuse curve, the specular curve, the transcurve,thereflectcurve,thenoise curveand the intensity curve.

UNIT–III

Strokes, lighting, shadows, transformation, working with alphas, texture concepts, texture inventory, understanding the texture palette, texture mapping, seamless textures, painting textures and materials.

UNIT–IV

Creases mesh visibility, morph target, multi-resolution modelling, edge loop, different maps, explain projection master, working with Z Spheres, understanding adaptive skinning and understanding unified skinning.

UNIT– V

Sculpting,sculptingbrushes,usingstencils,sculptingusingprojectionmaster,understanding and render palette and posing characters.

(7.GV.08)Basicsof Accounts-II

Chapter1:

- Describeandpreparetheworksheet
- Planandadjustentriesonaworksheet
- Extendfinancialstatementinformationonaworksheet
- Findandcorrecterrorsonaworksheet

Chapter2:

- Describethe contentandpurpose ofthethree basicfinancialstatementsand how they are related
- Preparefinancialstatementsdirectlyfromthe worksheet witha netincomeand a net loss

Chapter3:

- Journalizeandpostadjustingentries
- Journalizeandpost-closingentries andprepareapost-closingtrialbalance

Chapter4:

- Describethenatureofmerchandisingbusiness
- Describeandbeabletojournalizepurchasesof merchandiseforcash
- Describeand beable tojournalizepurchases of merchandise onaccountandbuying ofsupplies
- Describeandbeabletojournalizecashpaymentsandothertransactions

Chapter5:

- Journalizingsales(computesalestax)andcashreceipts
- Describetheconceptofsubsidiaryledgers
- Journalizeandpostusing accountspayablesubsidiaryledgers
- Journalizeandpostusingaccountsreceivablesubsidiaryledgers

(7.VP.03)MayaMuscleLab

Practical'sbasedontheorytobeimplementedinAutodeskMayaMuscle

(7.VP.04)RiggingwithMayaLab

- 3Dmodelling
- 3Danimation
- 3DRigging
- TexturingandLighting
- Renderingandcompositing