E.G.S.PILLAY ENGINEERING COLLEGE

(Autonomous)

Approved byAICTE,NewDelhi|Affiliated to
AnnaUniversity,Chennai AccreditedbyNAAC with
„A‟Grade|AccreditedbyNBA(CSE,EEE, MECH, ECE,CIVIL,IT)

NAGAPATTINAM–611002

B.E.CivilEngineering

FullTimeCurriculumandSyllabus

ThirdYear-SixthSemester

Course Code	CourseName	L	T	P	C	MaximumMarks			Category
						CA	ES	Total	
TheoryCourse									
1902CE601	StructuralAnalysis II	3	0	0	3	40	60	100	PC
1902CE602	DesignofRCC StructuresII	3	0	0	3	40	60	100	PC
1902CE603	HydrologyandWaterResourcesE ngineering	3	0	0	3	40	60	100	PC
1903CE032	Global Warming and Climate Change **(OpenElective)**	3	0	0	3	40	60	100	POE
1903CE007	Remote Sensing and GIS **(PCElective)**	3	0	0	3	40	60	100	PCE
1901MGX01	Total Quality Management **(HSS Elective)**	3	0	0	3	40	60	100	HSSE
LaboratoryCourse									
1902CE651	ComputerAidedDesignAndDraftingLab	0	0	2	1	50	50	100	PC
1904GE651	LifeSkill :Aptitude–II&GD	0	0	2	1	100	-	100	HSS
1904CE652	Industrial Visit Presentation	0	0	0	1	100	-	100	EEC

L– Lecture|T–Tutorial |P– Practical|C–Credit|CA–ContinuousAssessment|ES– EndSemester

1902CE601	STRUCTURALANALYSISII	L	T	P	C
		3	0	0	3

CourseObjectives:

1. Toobtaintheabilitytoanalyzeindeterminatebeamsandrigidframesby FlexibilityandStiffnessMatrixmethod.
2. TodevelopaclearunderstandingofDisplacementfunctionsinStructuralelementbyFiniteElement method.
3. Toknowtheconceptofplasticstructuresand analysis ofspaceandCablestructures.

UnitI	MATRIXFLEXIBILITYMETHOD	9 Hours

Equilibriumandcompatibility-DeterminateVsindeterminatestructures–Indeterminacy–Primarystructure – Compatibility conditions – Analysis of indeterminate pin-jointed plane frames, continuous beams, rigidjointedplane frames(with redundancyrestricted to two).

UnitII	STIFFNESSMATRIXMETHOD	9 Hours

Elementandglobalstiffnessmatrices–Analysisofcontinuousbeams–Co-ordinatetransformations–Rotationmatrix– Transformationsofstiffnessmatrices,loadvectorsanddisplacementsvectors–Analysisofpin-jointed planeframesandrigidframes(withredundancylimitedtotwo)

UnitIII	PLASTICANALYSISOFSTRUCTURES	9 Hours

Statically indeterminate axial problems – beams in pure bending – Plastic hinge and mechanism – Plasticanalysisofindeterminate beams and frames

Unit IV	INTRODUCTION TO FINITE ELEMENTANALYSIS	9 Hours

Introduction-StepsinvolvedinFEA–Displacementfunctions –trusselement– beamelement–Triangular elements.

UnitV	SPACEANDCABLESTRUCTURES	9 Hours

Analysis of Space trusses using method of tension coefficients – Beams curved in plan Suspension cables – suspensionbridgeswith two and threehinged stiffening girders.

	Total:	45Hours

Further Reading:

1. Toanalyze and find outtheBMD.
2. Toanalyzetheindeterminate structures.

CourseOutcomes:

Aftercompletionofthe course,Studentwillbe ableto

1. Analyzestructuresusingmatrixflexibilitymethod.
2. Analyzestructuresusingstiffnessmethod.
3. Performplasticanalysisforindeterminatebeamsandframes.
4. Implementbasicconceptsoffiniteelementanalysis.
5. AnalyzeSpaceTrussusingtensionCoefficientmethodandbeamscurvedinplanandcablesuspensionbridges.

References:

1.Punmia,B.C.,AshokKumarandArun KumarJain, “TheoryofStructures”,Laxmi Publications, 2005.

2.Vaidyanathan,R.andPerumal,P.,“ComprehensivestructuralAnalysis –VolI& II”,LaxmiPublications,New Delhi,2003.

3.NegiL.S&JangidR.S.,“StructuralAnalysis”,TataMcGrawHillPublications,NewDelhi,2003.

4.Ghali.A,Nebille,A.M.andBrown,T.G,“StructuralAnalysis”A unifiedclassicalandMatrixapproach”,6th Edition, SponPress,LondonandNewYork,2013.

5.Gambhir,M.L.,“FundamentalsofStructuralMechanicsandAnalysis”,PHILearningPvt.Ltd.,NewDelhi, 2011.

6.WilliamWeaverJr&JamesM.Gere,“MatrixAnalysisofFramedStructures”,CBSPublishersandDistributors, NewDelhi, 2004

1902CE602	DESIGNOFRCC STRUCTURES II	L	T	P	C
		3	0	0	3

CourseObjectives:

1. Todevelopanunderstandingonthebasicconceptsinthebehavioranddesignofreinforced concretestructuressuchasRetainingWallandcounterfortretainingwall.
2. Toprovideknowledge ondesignofvariouscomponents inthewatertankbyworkingstress method.
3. Toprovideknowledgeondesignofvariousreinforced concretestructuressuchasstaircases, flatslabsand RCwalls.
4. To expose the basic concepts about the yield line theory for the analysis and design of slabofvarious crosssections.
5. Toexposethebehaviorofmasonrystructures, andbe ableto design forvarious loading conditions.

UnitI	RETAININGWALLS	9 Hours

Retainingwalls-types-earthpressure- effectsofsurcharge-Stability requirements-Cantileverandcounterfort retainingwalls-detailingofreinforcement.

UnitII	WATERTANKS	9 Hours

R.Cwatertanksrestingonground-generaldesignrequirements–Overheadcircularandrectangulartanks-Analysisanddesignbyworkingstressmethod-detailingofreinforcement -codalprovisions.

UnitIII	STAIRSANDCONCRETEWALLS	9 Hours

Staircases-Ordinaryand Doglegged–Directdesignmethod–Reinforcedconcretewalls.

Unit IV	YIELDLINETHEORY	9 Hours

Yieldline–Assumptions–Characteristics–Upperboundandlowerboundtheories-Yieldlineanalysis-Designofslabs.

UnitV	BRICKMASONRY	9 Hours

Introduction-classificationofwalls-Lateralsupportsandstability-effectiveheightofwallandcolumns-effective length of walls - Design loads, load dispersion - Permissible stresses - design of axially and eccentricallyloadedbrick walls

Total: 45Hours

Further Reading:

1.Studentscanbeabletoworkonretainingandstoragestructures
2.Studentscanbeabletodesign shearwalls,deck bridges.

CourseOutcomes:

Aftercompletionofthe course,Studentwillbe ableto
1.Designvarioustypesofretainingwallsundervariousloadingconditions
2.Designanddetailingofdifferenttypesofwatertanksalongwith thestagingandfoundation.
3.Attain sufficient knowledge of design for staircases, flat slabs and reinforced concrete wallsandgain knowledgeaboutthe principlesofdesign ofmatfoundation, boxculvertand road bridges
4.Applytheyieldlinetheoryfordesignofsquare,rectangular,circularandtriangularslabs.
5.Designaxiallyandeccentricallyloaded brickwalls basedon theknowledgegained forvarious loadingconditions

References:

1. B.C.Punmia,AshokKumarJain,ArunKumar Jain“LimitStateDesignofReinforcedConcrete”,Laxmi Publications(P)Ltd, NewDelhi2007
2. Dayaratnam,P.,“BrickandReinforcedBrickStructures”,Oxford&IBHPublishingHouse,1997.
3.UnnikrishnaPillai,S.,DevdasMenon,“ReinforcedConcreteDesign”.

1902CE603	HYDROLOGYANDWATERRESOURCESENGINEERING	L	T	P	C
		3	0	0	3

CourseObjectives:		
	Tointroducethestudenttotheconceptofhydrologicalaspectsofwateravailabilityandrequirementsand should beabletoquantify,controland regulatethewater resources.	
UnitI	**PRECIPITATIONANDABSTRACTIONS**	**9 Hours**
Hydrologicalcycle-Meteorologicalmeasurements–Requirements,typesandformsofprecipitation-Raingauges-SpatialanalysisofrainfalldatausingThiessenandIsohyetalmethods-Interception-Evaporation.Horton‟sequation,panevaporationmeasurementsandevaporationsuppression-Infiltration-Horton‟s equation-doubleringinfiltrometer,infiltrationindices		
UnitII	**RUNOFF**	**9 Hours**
Watershed,catchmentandbasin-Catchmentcharacteristics-factorsaffectingrunoff-Runoffestimationusingempirical-Strange‟stableandSCSmethods–Stagedischargerelationshipsflowmeasurements-Hydrograph–Unit Hydrograph–IUH		
UnitIII	**FLOODANDDROUGHT**	**9 Hours**
NaturalDisasters-FloodEstimation-Frequencyanalysis-Floodcontrol-DefinitionsofdroughtsMeteorological, hydrologicalandagriculturaldroughts-IMDmethod-NDVIanalysis-DroughtProneArea Programme(DPAP)		
UnitIV	**RESERVOIRS**	**9 Hours**
Classificationofreservoirs,Generalprinciplesof design,siteselection,spillways,elevation–area-capacity-storageestimation,sedimentation-lifeofreservoirs–rulecurve		
UnitV	**GROUNDWATERANDMANAGEMENT**	**9Hours**
Origin-Classificationandtypes-propertiesofaquifers-governingequations–steadyandunsteadyflow-artificialrecharge-RWHinrural andurbanareas		
	Total:	**45 Hours**

FurtherReading:	
	1. Howto preparedataforGISand RS
	2. Civilengineeringapplicationforvariousfields
CourseOutcomes:	
	Aftercompletionofthecourse,Studentwillbeableto
	1. Explainthekeydriversonwaterresources, hydrologicalprocessesandtheirintegrated behaviorincatchments
	2. Makeuseofhydrologicalmodelstosurfacewaterproblemsincludingbasincharacteristics, runoffandHydrograph
	3. Outlinetheconceptofhydrologicalextremessuchas FloodandDroughtand managementstrategies
	4. Describethe importanceofspatialanalysisofrainfalland designwaterstoragereservoirs
	5. Illustratetheconceptsofgroundwaterfor waterresourcesmanagement

References:

Subramanya.K."EngineeringHydrology"-TataMcGrawHill,2010

DavidKeithTodd."Groundwater Hydrology",JohnWiley&Sons,Inc. 2007

VenTeChow,Maidment,D.R.andMays,L.W."AppliedHydrology",McGrawHillInternationalBook Company,1998.

Raghunath.H.M.,"Hydrology",WileyEasternLtd.,1998

1903CE007 REMOTESENSINGAND GIS L T PC
30 03

ModuleI	**EMRANDITSINTERACTIONWITHATMOSPHERE&EARTH MATERIAL**	**9**
Definition of remote sensing and its components – Electromagnetic spectrum – wavelength regionsimportanttoremote sensing–Wave theory,Particle theory, Stefan-Boltzmanand Wein‟s 74Displacement Law- Atmospheric scattering, absorption-Atmospheric windows-spectral signatureconcept-typicalspectral reflectivecharacteristics ofwater, vegetation and soil.		
ModuleII	**PLATFORMSANDSENSORS**	**9**
Types of platforms – orbit types, Sun-synchronous and Geosynchronous – Passive and Activesensors–Resolutionconcept– PayloaddescriptionofimportantEarthResourcesandMeteorologicalSatellites– AirborneandspaceborneTIR andmicrowavesensors.		
ModuleIII	**IMAGE INTERPRETATIONANDANALYSIS**	**9**
Types of Data Products – types of image interpretation – basic elements of image interpretation – visualinterpretationkeys–DigitalImageProcessing–Pre-processing–imageenhancementtechniques– multispectral image classification– Supervisedand Unsupervised.		
ModuleIV	**GEOGRAPHICINFORMATIONSYSTEM**	**9**
Introduction – Maps – Definitions – Map projections – types of map projections – map analysis – GIS definition – basic components of GIS – standard GIS softwares – Data type – Spatial and non-spatial(attribute) data–measurementscales –Data BaseManagement Systems (DBMS).		
ModuleV	**DATAENTRY,STORAGEANDANALYSIS**	**9**
Datamodels–vectorandrasterData–dataompression–datainputbydigitizationandscanning– attributedataanalysis–integrateddataanalysis–ModelinginGISHighwayalignmentstudies– LandInformationSystem–MonitoringandModelingusingGIS.		
		TOTAL:45Periods

CourseOutcomes:Aftercompletionofthecourse,Student will beableto			
CO1	Understandtheprinciplesofaerialandsatelliteremotesensing,theenergyinteractionswith earthsurfacefeatures,spectralpropertiesofwater,vegetationandsoil.		
CO2	Understandthebasic conceptof RemoteSensinganddifferent typesof platformsandsensors.		
CO3	Analyzethe conceptofimageinterpretationanddigitalimageprocessing.		
CO4	ApplythebasicconceptofGISapplicationsthroughstandardGISsoftware‟s,differenttypesof datarepresentationinGIS.		
CO5	ApplyknowledgeofGISsoftwareandworkwithGIS softwareinvariousapplicationfields.		
Sl.No.	**TitleoftheBook**	**Author(s)**	**Publisher**
REFERENCES			
R1	ConceptsandTechniquesofGeographic Information Systems	Lo.C.P.&A.K.W.Yeung	PrenticeHallofIndiaPvt. Ltd.,2002
R2	PrinciplesofGIS	PeterA.Burrough&RachealA. McDonnell	OxfordUniversityPress,2000
R3	AnIntroductiontoGIS	IanHeywood	PearsonEducationAsia,2000

REFERENCEWEBSITES	
1	http://www.academicearth.org/courses/introduction-to-robotics
2	http://www.learnerstv.com/Free-Engineering-Video-lectures-ltv071-Page1.htm
3	http://www.informationweek.com/news/galleries/healthcare/patient/229100383

1901MGX01	**TOTALQUALITYMANAGEMENT**	**L**	**T**	**P**	**C**
		3	**0**	**0**	**3**

CourseObjectives: TofacilitatetheunderstandingofQualityManagementprinciplesandprocess.

UnitI **INTRODUCTION** **9 Hours**

Introduction – Need for quality – Evolution of quality – Definitions of quality – Dimensions of product and servicequality – Basic concepts of TQM – TQM Framework – Contributions of Deming, Juran and Crosby – Barriers toTQM–Qualitystatements– Customerfocus–Customerorientation,Customersatisfaction,Customercomplaints, Customerretention–Costsofquality.

UnitII **TQM PRINCIPLES** **9 Hours**

Leadership –Strategicqualityplanning,QualityCouncils– Employee involvement– Motivation,Empowerment,TeamandTeamwork,QualitycirclesRecognitionandReward,Performanceappraisal–Continuousprocess improvement–PDCAcycle,5S,Kaizen–Supplierpartnership–Partnering,Supplierselection,SupplierRating

UnitIII **TQM TOOLSANDTECHNIQUESI** **9 Hours**

The seventraditional toolsofquality –Newmanagement tools–Sixsigma:Concepts, Methodology, applications to manufacturing,servicesectorincludingIT–Benchmarking–Reasontobenchmark,Benchmarkingprocess–FMEA–Stages, Types.

UnitIV **TQM TOOLSANDTECHNIQUESII** **9 Hours**

ControlCharts–ProcessCapability–ConceptsofSixSigma–QualityFunctionDevelopment(QFD)–Taguchi qualitylossfunction–TPM–Concepts,improvementneeds–Performancemeasures.

UnitV **QUALITYSYSTEMS** **9Hours**

Need for ISO 9000 – ISO 9001-2008 Quality System – Elements, Documentation, Quality Auditing – QS 9000 –ISO 14000 – Concepts, Requirements and Benefits – TQM Implementation in manufacturing and service sectors..TOTAL:45PERIODSOUTCOMES:xThestudentwouldbeabletoapplythetoolsandtechniquesofquality managementtomanufacturingandservicesprocesses.

Total: **45 Hours**

FurtherReading:

1. Engineeringeconomicsandcostanalysis
2. Constructionandplanningmanagement

CourseOutcomes:

Aftercompletionofthecourse,Studentwillbeableto

1. Understandtheconcepts,dimensionqualityandphilosophiesofTQM.
2. UnderstandtheprinciplesofTQManditsstrategies.
3. Applysevenstatisticalqualityandmanagementtools.
4. UnderstandTQMtoolsforcontinuousimprovement.
5. UnderstandtheQMSandEMS.

References:

6. DaleH.Besterfieldetal,TotalQualityManagement,Thirdedition,PearsonEducation(FirstIndianReprints2004).
7. ShridharaBhatK,TotalQualityManagement–TextandCases,HimalayaPublishingHouse,FirstEdition2002.

1903CE032	GLOBALWARMINGAND CLIMATECHANGE	L	T	P	C
		3	0	0	3

CourseObjectives:

1. TounderstandtheEarth‟sClimateSystemandtheconceptofGlobalWarming.
2. Toanalyzetheglobal warmingandtheireffectsduetoclimatechange.
3. Tocomprehendtheimpactofclimatechangeonsocietyanditsmitigationmeasures.

UnitI	INTRODUCTIONOFGLOBALWARMING	9 Hours

Introduction-thegaslaw-idealgasequation-themoleconcept-samplecalculations-ppm-sulphurpollutants-oxides ofnitrogen -particulate-GreenHouseGases.

UnitII	MITIGATIONMEASURE,EMISSIONTARGETSANDCARBONTREADING	9 Hours

Introduction-reductionofcarbondioxideemissionsfrompowergeneration-carboncredits-carbondioxidefromvehicle -miscellaneoussourceofcarbondioxide-uptakeofcarbondioxidebyvegetation

UnitIII	OVERVIEWOFCLIMATEVARIABILITYANDCLIMATESCIENCE	9 Hours

Climatedynamics,climatechangeandclimateprediction-thechemicalandphysicalclimatesystemandaspects-El Ninoandglobal warming -globalchangeinrecent history.

UnitIV	BASICSOFGLOBALCLIMATE	9 Hours

Componentsandphenomenaintheclimatesystem-basicsofradioactiveforcing-atmosphericcirculation-ocean circulation-landsurfaceprocesses-thecarboncycle.

UnitV	PHYSICALPROCESSESINTHECLIMATESYSTEM	9Hours

Conservation of momentum-equation of state- temperature equation - continuity equation -conservation of mass appliedto moisture–saturation-wave processesinthe atmosphere and ocean.

	Total:	45Hours

CourseOutcomes:

Aftercompletionofthecourse,Studentwillbeableto

1. Outlinetheprincipleinvolvedinthegreenhouse gasemission.
2. Explainthecarbonemissionanditsmitigationmethods.
3. Illustrateabouttheclimatevariabilityparameters.
4. Describetheclimatecomponentsandthecirculationsystem.
5. Discussaboutthephysical processesinvolvedintheclimatesystem.

References:

1.AtmosphericPollution-1stedition-2014 Dr.CliffordJones&ISBN978-87-7681-416-8

2.Thescienceofglobal warmingandourenergyfuture–EdmondA.Mathez&JasonE.Serdon–2nd Edition-Columbia UniversityPress–NewYork.

3.Climate Change-JOSEPHROMM-2nd Edition–oxforduniversitypress

4.WilliamNordhaus,TheClimateCasino:Risk,Uncertainty,andEconomicsforaWarmingWorld(Yale,2013;ISBN 978-0-300-21264-8)

5.RogerA.Pielke, Jr.,TheClimateFix(BasicBooks,2010;ISBN978-0-465-02519-0)

6.HadleyWickhamandGarrettGrolemund,RforDataScience(O‟Reilly,2017;ISBN978-1-491-91039-9).This bookisalsoavailableasafreeonlineeditionatr4ds.had.co.nz/.

902CE651	COMPUTERAIDEDDESIGNANDDRAFTINGLAB	L	T	P	C
		0	0	2	1

CourseObjectives:

1.Tolearnthesoftwaredevelopingskillsforstructuraldesign
2.Tounderstandthecomputingskillsinthefieldofgeotechnicalengineering.
3.Tostudythe differentsoftware packagesforanalysis and design

ListofExperiments:

1.Designofbuildingelements(RC)-StandardmethodofdetailingRCbeams,slabsandcolumns–Special requirementsofdetailingwithreferencetoerectionprocess.
2.DesignofIndustrialBuildings-Steelrooftrusses
3.DesignofOverhead watertanks (RC &Steel)
4.Designofbox culvertandslab bridges
5.Designofsteelchimneys

Total: 45Hours

AdditionalExperiments:

1.Transportationplanningprocess-Tripgenerationanddistribution-Networkanalysis-Shortest pathalgorithms
2.Waterresources-Pipe networks-Canaldesign-Backwaterprofile -Synthetic derivation of streamflows using randomnumbers-Damstability

CourseOutcomes:

Aftercompletionofthe course,Studentwillbe ableto

1. Learnsoftwaredevelopingskillsforstructuraldesign
2. Studythedifferentsoftwarepackagesforanalysisanddesign
3. Usecomputersoftwareto modelanytype ofstructure
4. Computeloadsandusecomputersoftwaretoanalyseastructure
5. Usecomputersoftwaretodesignastructure basedoniscodalprovisions.

References:

1. KrishnaRajuN, "DesignofReinforcedConcreteStructures", CBSPublishers&Distributors,NewDelhi, 2003.
2. KrishnaRajuN, StructuralDesign andDrawing (ReinforcedConcreteandSteel).Universitypress, Hyderabad, 2006
3. Krishnamoorthy,C.S.andRajeev,S.,ComputerAidedDesignandAnalyticalTools,Narosa,1993.
4. Papacostas,C.S.,FundamentalsofTransportationEngineeringPrentice-HallofIndia,2001
5. Loucks,D.P.,Stedinger,J.R.andHaith,D.A., WaterResource SystemsPlanning andAnalysis,Prentice-HallINC,1981.

LIFESKILL -APTITUDE –II&GD

1904GE651 **L T P C**
0 0 2 1

CourseObjective(s):

- Tobrush upproblem solvingskill and toimprove intellectualskill ofthestudents
- TobeabletocriticallyevaluatevariousreallifesituationsbyresortingtoAnaly sisOfkeyissuesandfactors
- To be able to demonstrate various principles involved in solving mathematical problems andtherebyreducingthe timetaken for performingjob functions.
- To enhanceanalytical abilityof students
- ToaugmentlogicalandcriticalthinkingofStudent

Unit1	**ProfitandLossSimpleInterest,CompoundInterest**	**6Hours**
Problems on Profit and Loss percentage- Relation between Cost Price and Selling price - Discount andMarked Price - Two different articles sold at same Cost Price - Two different articles sold at same SellingPrice - Gain% / Loss% on Selling Price - Definitions Simple Interest - Problems on interest and amount -Problems when rate of interest and time period are numerically equal - Definition and formula for amount incompoundinterest- Differencebetweensimpleinterestandcompoundinterestfor2yearsonthesame principleandtimeperiod.		
Unit2	**Bloodrelations,Clocks,Calendars**	**6Hours**
Defining the various relations among the members of a family - Solving Blood Relation puzzles- Solvingthe problems on Blood Relations using symbols and notations -Finding the angle when the time is given -Finding the time when the angle is known - Relation between Angle, Minutes and Hours - Exceptional casesin clocks-DefinitionofaLeapYear- Findingthe numberofOdd days- Framingtheyear code forcenturies -Findingthe dayofanyrandom calendar date .		
Unit3	**TimeandDistance,TimeandWork**	**6Hours**
Relation between speed, distance and time - Converting kmph into m/s and vice versa - Problems on averagespeed - Problems on relative speed - Problems on trains - Problems on boats and streams - Problems oncirculartracks-Problemsonraces-ProblemsonUnitarymethod-RelationbetweenMen,Days,Hoursand Work-ProblemsonMan-Day-Hoursmethod-Problemsonalternatedays-ProblemsonPipesandCisterns.		
Unit4	**DataInterpretationandDataSufficiency**	**6Hours**
Problemsontabularform-ProblemsonLineGraphs-ProblemsonBarGraphs-ProblemsonPieCharts- Differentmodelsin Data Sufficiency-Problemson dataredundancy		
Unit5	**AnalyticalReasoning**	**6Hours**
ProblemsonLineararrangement-ProblemsonCirculararrangement-ProblemsonDoubleline-up- ProblemsonSelections -ProblemsonComparisons		
		Total30Hours

COURSE OUTCOMES:

On the successful completion of the course, students will be able to

CO1: Implementbusinesstransactionsusingprofitandloss&InterestCalculation.
CO2:Workoutfamilyrelationshipsconcepts,abilitytovisualize clocks&calendarandunderstandthelogic behind a Sequence.
CO3:Calculate conceptsof speed,timeanddistance,understandtimelycompletionusing time andwork.
CO4: Learners should be able to understand various charts and interpreted data least time.CO5: Workout puzzles,abilityto arrangethings in an orderlyfashion.

References:

1. ArunSharma,,,HowtoPrepareforQuantitativeAptitudefortheCAT",7th edition,McGrawHillspublication, 2016.
2. ArunSharma,,,HowtoPrepareforLogicalReasoningforCAT",4th edition,McGrawHillspublication,2017.
3. RSAgarwal,,,AmodernapproachtoLogicalreasoning",revisededition,S.Chandpublication,2017.
4. RSAgarwal,,,QuantitativeAptitudeforCompetitiveExaminations",revised edition,S.Chandpublication, 2017.
5. RajeshVerma,"FastTrackObjectiveArithmetic",3rd edition,Arihantpublication,2018.
6. B.S.SijwaliiandInduSijwali,"ANewApproachtoREASONINGVerbal&Non-Verbal",2nd edition, Arihnat publication, 2014.

1904CE652	INDUSTRIAL VISIT PRESENTATION	L	T	P	C
		0	0	0	1

During the course of study from 3rd to 6th semester each student is expected to undertake industrial visits.

The students are expected to submit a report and give a presentation which shall be evaluated by an internal

assessment committee at the end of the semester for 100 marks.

InternalAssessmentOnly	
Test	40
Presentation/Quiz/GroupDiscussion	40
Report	20
Grades(Excellent/Good /Satisfactory/NotSatisfactory)	