DEPARTMENT OF INFORMATION TECHNOLOGY
M.Sc.IT
Course Outcomes

SEMESTER I

Course Code	CourseTitle	Unittitle	LearningOutcomes
PGIT102	DISTRIBUTED SYSTEM	UnitI CharacterizationofDistributedSystemandSystemModels(NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingthebasicsofDistributedSystemandit'sTrends. 2. RememberingtheconceptsofdifferenttypesofModelsinDistributedSystem. 3. FocusonResourcesSharingandChallenges.*[4]
		UnitII NetworkingandInternetworkingAndInterprocessCommunication (NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingtheconceptofIP,Networksandit'sdifferenttypes. 2. RememberingthebasicsofAPIforIP. 3. UnderstandingthoroughlyExternalDatarepresentation,Marshalling,MulticastingandNetworkVirtualisation.
		UnitIII RemoteInvocationIndirect CommunicationWebServices (NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingtheconceptRequest-ReplyProtocols,RemoteProcedureCall,RemoteMethodInvocation 2. AnalysingGroupcommunication,Publish-subscribesystems,Messagequeues,Sharedmemoryapproaches 3. RememberingWebservices,ServicedescriptionsandIDLforweb services,XMLsecurity,Coordinationofwebservices,applicationsofwebser
		UNITIV CoordinationandAgreementNameServices TimeandGlobalStates	Thelearnerwillbeableto-. 1. UnderstandingtheconceptofDistributedmutualexclusionElectionsCoordinationandagreementingroupcommunication,Consensusandrelatedproblems.
		(NotionalHours12)	2. AnalysingNameservicesandtheDomainNameSystem,Directoryservices 3. RememberingClocks,eventsandprocessstates,Synchronizingphysicalclocks,Logicaltimeandlogicalclocks,Globalstates,Distributeddebugging

		UnitV DistributedTransaction Replication MobileandUbiquitious Computing(Notional Hours12)	Thelearnerwillbeableto- 1. UnderstandingFlatandnesteddistributedtransactions,Atomiccommitp rotocols,Concurrencycontrolindistributedtransactions,Distributeddea dlocks. 2. EvaluatingSystemmodelandtheroleofgroupcommunication, Fault-tolerantservices 3. UnderstandingAssociation,Interoperation,Sensingandcontextawar eness,Securityandprivacy.
PGITP102	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 1. Implementtheconceptforsharingtheresourcesusingdistributedsystem .*[3] 2. WriteaprogramforimplementingClientServercommunicationmodel .*[3] 3. Writeaprogramtoshowtheobjectcommunicationusing RMI.*[3] 4. ShowtheimplementationofRemoteProcedureCall.*[4] 5. Showtheimplementationofwebservices.*[4] 6. Writeaprogramtoexecuteanyonemutualexclusionalgorithm.*[2] 7. Writeaprogramtoimplementanyoneelectionalgorithm.*[3] 8. Showtheimplementationofanyoneclocksynchronizationalgori thm.*[6] 9. Writeaprogramtoimplementtwophasecommitprotocol.*[3]

CourseCode	CourseTitle	Unittitle	LearningOutcomes
PGIT104	SOFTWARE TESTING	UnitI: TestBasics. TestingProcess(Noti onalHours:12)	Thelearnerwillbeableto- 1. TestingintheSoftwareLifecycle,SpecificSystems,MetricsandMeasu rement,Ethics.*[1] 2. TestProcessModels,TestPlanningandControl,TestAnalysisandDesign,Non-functionalTestObjectives,IdentifyingandDocumentingTestConditions,TestI mplementation,andExecution,TestProcedureReadinessandTestEnvironment Readiness,BlendedTestStrategies,StartingTestExecution,RunningaSingleTe stProcedure,LoggingTestResults.UseofAmateurTesters,Standards,Metrics,E valuatingExitCriteriaandReporting,TestSuite,DefectBreakdown,Confirmati onTestFailureRate,SystemTestExitReview.*[2]
		UnitII: TestManagement(No tionalHours:12)	Thelearnerwillbeableto- 1. TestManagementDocumentation,TestPlanDocumentationTemplates,TestEst imation,SchedulingandTestPlanning,TestProgressMonitoringandControl,Di stributed,Outsourced,andInsourcedTesting,Risk-BasedTesting,RiskManagement,RiskIdentification,RiskAnalysisorRiskAsses sment,RiskMitigationorRiskControl.*[4] 2. Risk-BasedTestingthroughouttheLifecycle,Risk-AwareTestingStandards,Risk-TestManagementDocumentation,TestPlanBasedTestingExercise,Project RiskBy-Products,RequirementsDefectBy-Products,TestCaseSequencingGuidelines,FailureModeandEffectsAnalys

| | | UnitIII:
TestTechniques(Noti
onalHours:12) | Thelearnerwillbeableto-
1. Specification-
Based,EquivalencePartitioning,ComposingTestCasewithEquivalenceCases,
BoundaryValuesAnalysis,Non-
functionalBoundaries.Boundaries,Integers,FloatingPointNumbers,TestingP
ointNumbers,NumberofBoundaries,BoundaryValueExercise,CollapsingCol
umnsinthe,TableTestingwithOtherTechniques,NonexclusiveRulesinDecisio
nTables,4DecisionTableExercise,DecisionTableExerciseDebrief,State-
BasedTestingandStateTransitionDiagrams,SuperstatesandSubstates,StateTr
ansitionTables,SwitchCoverage,StateTestingwithOtherTechniques,StateTe
stingExercise,StateTestingExerciseDebrief.*[2]

2. Requirements-
BasedTestingExercise,BuildingCoverage,LoopCoverage,HexadecimalCo
nverterExercise,HexadecimalDebrief,Structure-Based,Control-
FlowTesting,BuildingControl-
FlowGraphs,StatementCoverage,DecisionCoverage,ConverterExerciseDe
brief.
*[1]

3. MultipleConditionCoverage,Control-FlowExercise,PathTestng
,LCSAJ,CyclomaticComplexityExercise,CyclomaticComplexityExerciseD
ebrief,FinalWordonStructuralTesting,Structure-
BasedTestingExercise,Structure-BasedTestingExerciseDebrief,Defect-
andExperience-
Based,DefectTaxonomies,ErrorGuessing,ChecklistTestingCoverage(MC/
DC),Exercise,Control-FlowExerciseDebrief.
*[4]

4. ExploratoryTesting,TestCharters,SoftwareAttacks,AnExampleofSoftware
AttackExperience-
BasedOtherAttacks,SoftwareAttackExercise,Exercise,Specification- |
| | | | BasedIntegrationTesting,IntegrationTesting,
PredicateExercise,McCabeDesignPredicateExerciseDebrief,DynamicAnaly
sis,MemoryLeakDetection,WildPointerDetection,APIMisuseDetection,Dat
a-FlowSet-UsePairs,Set-UsePairExample,Data-
FlowMccabeDesignPredicateApproachtoHexConverterExample,McCabe |

		UnitIV: TestofSoftwareCharacteristicsReviews IncidentManagement (NotionalHours12)	Thelearnerwillbeableto- 1. QualityAttributesforDomainTesting, QualityAttributesforTechnicalTesting,ModellingtheSystem,EfficiencyMeasurements,Maintainability,SubcharacteristicsofMaintainability,Portability,MaintainabilityandPortability.*[2] 2. WhenCanaDefectBeDetected?DefectLifecycle,DefectFields,MetricsandIncidentManagement,CommunicatingIncidents,IncidentManagement.*[1] 3. ThePrinciplesofReviews,TypesofReviews,IntroducingReviews,SuccessFactorsforReviews,Deutsch'sDesignReviewChecklist,Marick'sCodeReviewChecklist,TheOpenLaszloCodeReviewChecklist,CodeReviewExercise,DeutschChecklist.*[5]
		UnitV: StandardsandTestProcessImprovement TestTechnique PeopleTeamandTeamComposition (NotionalHours12)	Thelearnerwillbeableto- 1. TestImprovementProcess,ImprovingtheTestProcess,withTMM,TPI,CTP,STEP,CapabilityMaturityModelIntegration,CMMI,TestImprovementProcessExercise.*[2] 2. TestToolConcepts,,GeneralTestAutomationStrategies, TestToolCategories,TestManagementTools,TestExecutionTools,Debugging,Troubleshooting,FaultSeeding,andInjectionTools,StaticandDynamicAnalysisTools,PerformanceTestingTools,MonitoringTools,WebTestingManagementandEmulators,Keyword-DrivenTestTools, TheSimpleFrameworkArchitecture,Data-DrivenArchitecture,Keyword-DrivenArchitecture,PerformanceTesting.*[1]
			3. IndividualSkills,TestTeamDynamics,FittingTestingwithinanOrgani
PGITP104	PRACTICALSESSIONS	-	Thelearnerwillbeableto- 1. EvaluatingExitCriteriaandReporting*[4] 2. StaticandDynamicAnalysis*[4] 3. RateQualityAttributefordomainandTechnicalTesting.*[4] 4. PerformReview.*[5] 5. IncidentManagement.*[5] 6. PathTestingandEquivalencePartition.*[5] 7. PerformanceTesting.*[5] 8. UsingTestingToolSeleniumIDE.*[5] 9. UsingTestingToolAutoIT.*[5]

ourseCode	CourseTitle	Unittitle	LearningOutcomes
PGIT103	CLOUDCOMPUTING	UnitI IntroductiontoCloudComputingPrinciplesofParallelandDistributedComputingVirtualization (NotionalHours:12)	Thelearnerwillbeableto- 1. RememberingtheconceptofIntroduction,Historicaldevelopments,BuildingCloudComputingEnvironments, 2. UnderstandingthebasisofErasofComputing,Parallelv/sdistributedcomputing,ElementsofParallelComputing,Elementsofdistributedcomputing,Technologiesfordistributedcomputing. 3. Introduction,Characteristicsofvirtualizedenvironments,Taxonomyofvirtualizationtechniques,Virtualizationandcloudcomputing,Prosandconsofvirtualization,Technologyexamples.LogicalNetworkPerimeter,VirtualServer,CloudStorage.*[5] 4. Device,Cloudusagemonitor,Resourcereplication,Ready-madeenvironment.*[4]
		UnitII CloudComputingArchitectureFundamentalCloudSecurityIndustrialPlatformsandNewDevelopments (NotionalHours:12)	Thelearnerwillbeableto- 1. Introduction,Fundamentalconceptsandmodels,Rolesandboundaries,CloudCharacteristics,CloudDeliverymodels,CloudDeploymentmodels,Economicsofthecloud,Openchallenges.*[1,4] 2. Basics,Threatagents,Cloudsecuritythreats,additional considerations.*[5] 3. ImplementingAmazonWebServices,GoogleAppEngine,MicrosoftAzure.
		UnitIII SpecializedCloudMechanisms CloudManagementMechanismsCloudSecurityMechanisms(NotionalHours:12)	Thelearnerwillbeableto- 1. AutomatedScalinglistener,LoadBalancer,SLAmonitor,Pay-per-usemonitor,Auditmonitor,failoversystem,Hypervisor,ResourceCentre,Multidevicebroker,StateManagementDatabase.*[1] 2. Remoteadministrationsystem,ResourceManagementSystem,SLAManagementSystem,BillingManagementSystem.*[5] 3. Encryption,Hashing,DigitalSignature,PublicKeyInfrastructure(PKI),IdentityandAccessManagement(IAM),SingleSign-On(SSO),Cloud-BasedSecurityGroups,HardenedVirtualServerImage.*[4]

CourseCode	CourseTitle	Unittitle	LearningOutcomes
		UNITIV FundamentalCloudArchitecturesAdvancedCloudArchitectures(Notional Hours12)	Thelearnerwillbeableto-. 1. RememberingtheconceptofWorkloadDistributionArchitecture,ResourcePoolingArchitecture,DynamicScalabilityArchitecture,ElasticResourceCapacityArchitecture. 2. UnderstandingthebasisofServiceLoadBalancingArchitecture,CloudBurstingArchitecture,ElasticDiskProvisioningArchitecture,RedundantStorageArchitecture. 3. AnalysingandEvaluatingHypervisorClusteringArchitecture,LoadBalancedVirtualServerInstancesArchitecture,Non-DisruptiveServiceRelocationArchitecture,ZeroDowntimeArchitecture,CloudBalancingArchitecture,ResourceReservationArchitecture,DynamicFailureDetectionandRecoveryArchitecture,Bare-MetalProvisioningArchitecture,RapidProvisioningArchitecture,StorageWorkloadManagementArchitecture.
		UnitV CloudDeliveryModelConsiderations CostMetricsandPricingModelsServiceQualityMetricsandSLAsNotional Hours12)	Thelearnerwillbeableto- 1. UnderstandingCloudDeliveryModels:TheCloudProviderPerspective,CloudDeliveryModels:TheCloudConsumerPerspective. 2. RememberingtheBusinessCostMetrics,CloudUsageCostMetrics,CostManagementConsiderations. 3. AnalysingServiceQualityMetrics,SLAGuidelines.
PGITP103	PRACTICAL	-	Thelearnerwillbeableto-
	SESSIONS		10Practicalbasedonabovesyllabus,coveringentiresyllabus
CourseCode	**CourseTitle**	**Unittitle**	**LearningOutcomes**
PGIT204	ADVANCED DATABASE SYSTEM	UnitI: TheExtendedEntityRelationshipModelandObjectModel(NotionalHours:12)	Thelearnerwillbeableto- 1. RememberingTheERmodelrevisited,Motivationforcomplexdatatypes. 2. UnderstandingUserdefinedabstractdatatypesandstructuredtypes,Subclasses,Superclasses. 3. AnalyzingInheritance,SpecializationandGeneralization,Constraint. 4. UnderstandingCharacteristicsofspecializationandGeneralization,Relationshiptypesofdegreehigherthantwo.
		UnitII: Object-OrientedDatabases(NotionalHours:12)	Thelearnerwillbeableto- 1. EvaluatingObjectidentity,Objectstructure,andtypeconstructors,Encapsulationofoperations,Methods,andPersistence. 2. AnalysingTypehierarchiesandInheritance,Typeextentsandqueries,Complexobjects;DatabaseschemadesignforOODBMS;OQL,Persistentprogramminglanguages. 3. UnderstandingOODBMSarchitectureandstorageissues;TransactionsandConcurrencycontrol,ExampleofODBMS.

		UnitIII: ObjectRelationalandExtendedRelationalDatabases (NotionalHours:12)	Thelearnerwillbeableto- 1. RememberingtheDatabasedesignforanORDBMSNestedrelationsandcollections. 2. UnderstandingStorageandaccessmethods,QueryprocessingandOptimization. 3. UnderstandingAnoverviewofSQL3,Implementationissuesfor extendedtype.
			4. AnalyzingSystemscomparisonofRDBMS,OODBMS,ORDBMS.
		UnitIV: ParallelandDistributedDatabasesandClient-ServerArchitecture(NotionalHours 12)	Thelearnerwillbeableto- 1. RememberingthebasicconceptArchitecturesforparalleldatabases,Parallelqueryevaluation.Parallelizingindividualoperations. 2. Sorting,Joins;Distributeddatabaseconcepts,Datafragmentation.*[5] 3. Replicationandallocationtechniquesfordistributeddatabasedesign. *[2] 4. Queryprocessingindistributeddatabases.ConcurrencycontrolandRecoveryindistributeddatabases.AnoverviewofClient-Serverarchitecture.*[4]
		UnitV: DatabasesontheWebandSemiStructuredData (NotionalHours12)	Thelearnerwillbeableto- 1. WebinterfacestotheWeb,OverviewofXML.StructureofXMLdata,DTD,XMLSchema,XQuery,XSLT.*[1] 2. StorageofXMLdata,XMLapplications,XMLDOM.Thesemistructureddatamodel,Implementation.*[2]
PGITP204	PRACTICALSESSIONS	-	Thelearnerwillbeableto- 1. Horizontalfragmentationofdatabase.*[4] 2. Verticalfragmentationofdatabase*[4] 3. CreatingReplicaofdatabase.*[4] 4. CreateTemporalDatabase*[5] 5. ImplementActivedatabaseusingTriggers*[5] 6. CreateORDBMSApplication*[5] 7. ImplementandretrieverecordsfromaSpatialDatabase*[5] 8. CreateanXMLApplicationusingdatabaseandanyprogrammingASP.NET,C#-ASP.NET*[5] 9. Prologprogramming.*[3]

*Note:[1]:Remembering,[2]:Understanding,[3]:Applying,[4]:Analysing,[5]:Evaluating,[6]:Creating

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PGIT201	MOBILECOM PUTING	UnitIIntroduction WirelessTransmission MediumAccessControl(Notional Hours:12)	Thelearnerwillbeableto- 1. RememberingtheconceptApplications,Ashorthistoryofwirelesscomm unication. 2. Understanding theideasof Frequencyforradiotransmission,Signals,Antennas,Signalpropagation ,Multiplexing,Modulation,Spreadspectrum,Cellularsystems. 3. EvaluatingtheMotivationforaspecializedMAC:HiddenandExposedtermi nals.NearandFarterminals;SDMA,FDMA,TDMA:FixedTDM,Classical Aloha,SlottedAloha,Carriersensemultipleaccess,Demandassignedmulti pleaccess,PRMApacketreservationmultipleaccess,ReservationTDMA, Multipleaccesswithcollisionavoidance,Polling,Inhibitsensemultipleacc ess;CDMA:SpreadAlohamultipleaccess.
		UnitII TelecommunicationSystemS atelliteSystem (NotionalHours:12)	Thelearnerwillbeableto- 1. GSM:Mobileservices,Systemarchitecture,Radiointerface,Protocols,Lo calizationAndCalling,Handover,Security,Newdataservices;DECT:Sys temarchitecture,ProtocolTETRA,UMTSandIMT-2000:UMTSBasicarchitecture,UTRAFDDmode,UTRATDDmode. *[5] 2. AnalysingHistory,Applications,Basics:GEO,LEO,MEO;Routing, Localization,Handover,Examples
		UnitIII BroadcastSystemWirel essLAN(NotionalHours :12)	Thelearnerwillbeableto- 1. Understandingtheconceptof Cyclicrepetitionofdata,Digitalaudiobroadcasting:Multimediaobjecttrans ferprotocol;Digitalvideobroadcasting 2. Infraredvs.Radiotransmission,InfrastructureandAdhocarchitecture;Ne tworks,IEEE802.11:Systemarchitecture,Protocolarchitecture,Physical layer,Mediumaccesscontrollayer,MACmanagement,Futuredevelopme nt.*[5] 3. HIPERLAN:Protocolarchitecture,Physicallayer,Channelaccesscontro l.SublayerNetworking;Bluetooth:Userscenarios,Physicallayer,MACl ayer,Networking.Security,Linkmanagement.*[2]

		UNITIV WirelessATM MobileNetworkLayer(NotionalHours12)	Thelearnerwillbeableto-. 1. MotivationforWATM,WirelessATMworkinggroup,MediumaccesscontrolSublayer,InformationbasesAndWATMservices,*[1] 2. Referencemodel:Exampleconfigurations,Genericreferencemodel;Functions:Wirelessmobileterminalside,Mobilitysupportingnetworkside;Radioaccesslayer:Requirements,BRAN;Handover:Handoverreferencemodel,Handoverrequirements,Typesofhandover,Handoverscenarios,Backwardhandover,Forwardhandover.*[2] 3. Locationmanagement:Requirementsforlocationmanagement,ProceduresandEntities;Addressing,Mobilequalityofservice,Accesspointcontrolprotocol.requirements,EntitiesandTerminology,IPpacketdelivery,Agentadvertisementanddiscovery,Registration,TunnelingandEncapsulation,Optimizations,Reversetunneling,Ipv6;Dynamichostconfigurationprotocol.*[1]
			4. MobileIP:Goals,assumptionsand9Adhocnetworks:Routing,Destinationsequencedistancevectsourcerouting,Hierarchicalalgorithms,Alter
		UnitV MobileTransportLayerS upportforMobility(Notio nalHours12)	Thelearnerwillbeableto- 1. TraditionalTCP,Congestioncontrol,Slowstart,Fastretransmit/fastrecovery,Implicationsonmobility;IndirectTCP,SnoopingTransmission/time-outfreezing,Selectiveretransmission,TransactionorientedTCP.*[5] 2. Filesystems:Consistency,Examples:WorldWideWeb:Hypertexttransferprotocol,HypertextMarkuplanguage,Someapproachesthatmighthelpwirelessaccess,Systemarchitectures.*[4] 3. Wirelessapplicationprotocol:Architecture,Wirelessdatagramprotocol,Wirelesstransportlayersecurity,Wirelesstransactionprotocol,Wirelesssessionprotocol,Wirelessapplicationenvironment,Wirelessmarkuplanguage,WMLscript,Wirelesstelephonyapplication,ExamplesStackswithWap,Mobiledatabases,MobileagentsmicTCP,MobileTCP,Fastretransmit/fastrecovery. *[2]

Course Code	Course Title	Unit title	Learning Outcomes
PGITP201	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 1. DevelopUIwithdifferentcontrolsonMobileusingAndroid.*[3] 2. DevelopUIwithdifferentcontrolsonMobileusingWindows.*[3] 3. Usingbuttons,radiobuttons,checkboxesonMubileusingAndroid/Wine* [3] 4. CreateasimpletemperatureconverterapplicationusingAndroid.*[4] 5. DesignasimplecalculatorusingWindows/Android.*[4] 6. Programforsimplequizcompetition.*[2] 7. Designasimpleto-dolistusingWindows/Android.*[3] 8. ProgramtodemonstratesimpleAnimation.*[6]
Course Code	**CourseTitle**	**Unittitle**	**LearningOutcomes**
PGIT201	BIGDATAA NALYTICS	UnitI IntroductiontoBigDataBi gDataAnalytics(Notional Hours:12)	Thelearnerwillbeableto- 1. UnderstandingtheconceptofCharacteristicsofData,andBigDataEvoluti onofBigData,DefinitionofBigData,Challengeswithbigdata. 2. WhyBigdataisnecessary?DataWarehouseenvironment,TraditionalBusine ssIntelligenceversusBigData.StateofPracticeinAnalytics,KeyrolesforNe wBigDataEcosystems,ExamplesofbigDataAnalytics.*[5] 3. Introductiontobigdataanalytics,ClassificationofAnalytics,Challeng esofBigData,ImportanceofBigData,BigDataTechnologies,DataSci ence,Responsibilities,Softstateeventualconsistency.DataAnalytics LifeCycle.[1,4]
		UnitII AnalyticalTheoryandMethods(Notio nalHours:12)	Thelearnerwillbeableto- 1. RememberingtheClusteringandAssociatedAlgorithms,AssociationRules . 2. UnderstandingtheconceptofAprioriAlgorithm,CandidateRules,Appli cationsofAssociationRules,ValidationandTesting, 3. RememberingandAnalysingDiagnostics,Regression,LinearRegress ion,LogisticRegression,AdditionalRegressionModels.
		UnitIII AnalyticalTheoryandMethods(Notio nalHours:12)	Thelearnerwillbeableto- 1. UnderstandingthebasisofClassification,DecisionTrees,NaïveBayes,Dia
			TimeSeriesAnalysis,BoxJenkinsmethodology,ARIMAModel,Additional methods.TextAnalysis,Steps,TextAnalysisExample, 2. RememberingCollectingRawText,RepresentingText,TermFrequency-InverseDocumentFrequency(TFIDF),CategorizingDocumentsbyTopics, DeterminingSentiments

		UNITIV DataProduct (NotionalHours12)	Thelearnerwillbeableto-. 1. UnderstandingdeeplyandthoroughlyDataProduct,BuildingDataProductsatScalewithHadoop,DataSciencePipelineandHadoopEcosystem,OperatingSystemforBigData,Concepts. 2. HadoopArchitecture,WorkingwithDistributedfilesystem,WorkingwithDistributedComputation,FrameworkforPython.*[2] 3. HadoopStreaming,HadoopStreaming,MapReducewith Python,AdvancedMapReduce.In-MemoryComputingwithSpark,SparkBasics,InteractiveSparkwithPySpark,WritingSparkApplications.
		UnitV DistributedAnalysisandPatternsRelationaldata NotionalHours12)	Thelearnerwillbeableto- 1. DistributedAnalysisandPatterns,ComputingwithKeys,DesignPatterns,Last-MileAnalytics,DataMiningandWarehousing.*[1,2] 2. AnalysingStructuredDataQuerieswithHive,HBase,DataIngestion,Importing 3. RelationaldatawithSqoop,Injestingstreamdatawithflume. AnalyticswithhigherlevelAPIs,Pig,Spark'shigherlevelAPIs. *[4,5]
PGITP201	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 10Practicalbasedonabovesyllabus,coveringentiresyllabus

Note:[1]:Remembering,[2]:Understanding,[3]:Applying,[4]:Analysing,[5]:Evaluating,[6]:Creatin

Course Code	CourseTitle	Unittitle	LearningOutcomes
PGIT303b	ArtificialNeural Networks	UnitI TheBrainMetaphor,BasicsofNeuroscience,Artificial Neurons,NeuralNetworksandArchitectures (NotionalHours:10)	Thelearnerwillbeableto- 1. DescribetheconceptofBrainMetaphor.[2]* 2. UnderstandBasicsofNeuroscience.[2]* 3. Analysingdifferenttypesofneuralnetwork.[4]* 4. Distinguishvariousartificialneuralnetworks.[4]* 5. IllustrateNeuralNetworksandArchitectures.[3]*
		UnitII GeometryofBinaryThresholdNeuronsandTheirNetworks,SupervisedLearningI:PerceptronsandLMS,SupervisedLearningII:BackpropagationandBeyond (NotionalHours:10)	Thelearnerwillbeableto- 1. ExplainGeometryofBinaryThresholdNeuronsandTheirNetworks.[2]* 2. Distinguishbetweensupervisedandnon-supervisedlearning.[4]* 3. UnderstandLMSerrorcorrectionandlearning.[2]* 4. DescribePerceptronsandLMS.[2]* 5. UnderstandBackpropagationandBeyond.[2]*
		UnitIII NeuralNetworks:AStatisticalPatternRecognitionPerspective,StatisticalLearningTheory,SupportVectorMachinesandRadialBasisFunctionNetworks(NotionalHours:10)	Thelearnerwillbeableto- 1. Explainpatternrecognitionusingneuralnetwork.[2]* 2. Classifypatternusingneuralnetwork.[2]* 3. UnderstandStatisticalLearningTheory.[2]* 4. SummariseSupportVectorMachines.[2]* 5. ExplaintheconceptofRadialBasisFunctionNetworks.[2]*

		UnitIV DynamicalSystemsReview,AttractorNeuralNetworks, AdaptiveResonanceTheory (NotionalHours10)	Thelearnerwillbeableto- 1. IllustrateNeuralNetworksasdynamicalsystems.[2]* 2. Explainthedynamicsystemtheory.[2]* 3. UnderstandAttractorNeuralNetworks.[2]* 4. SummarisetheAdaptiveResonanceTheoryARTnetworks.[2]* 5. ClassifytheARTRecognition,Comparisonandsearchphase.[2]*
		UnitV TowardstheSelf-organizingFeatureMap,FuzzySetsandFuzzySystems,EvolutionaryAlgorithms(NotionalHours10)	Thelearnerwillbeableto- 1. UnderstandtheconceptofSelf-organizingFeatureMap.[2]* 2. ExplaintheFuzzysetsandsystem.[2]* 3. DescribetheCharacteristicsofFuzzyInferenceSystem.[2]* 4. Justifyastrategyoffuzzysystem.[5]* 5. SummarisetheEvolutionaryAlgorithms.[2]*
PGIT3P3b	PRACTICAL SESSIONS	-	Thelearnerwillbeableto-

			1. ShowthefunctioningofArtificialNeuralNetworks.[3]*
			2. Demonstratethatnonseparabletwoinputperceptroncannotbeclassifiedusing P=[-0.8-0.80.31.00.7;-0.80.8-0.4-1.0-0.7];and TargetT=[10101].[3]*
			3. Useperceptronlearningruletofindfinalweightsofaneuralnetworkusingfixedinput.[3]*
			4. ApplythePredictionusingneuralnetwork.[3]*
			5. ImplementRadialBasisFunction.[3]*
			6. ImplementLeastMeanSquareAlgorithm.[3]*
			7. ImplementSupportVectorMachineAlgorithm.[3]*
			8. Createandtrainafeedforwardbackpropagationnetworkwithasupplied InputPandTargetT.[6]*
			9. DesignaHopfieldnetworkconsistingoftwoneuronswithtwostableequilibriumpoints.[6]*
			10.Performdefuzzification.[2]*

CourseCode	CourseTitle	Unittitle	LearningOutcomes
PGIT304a	DigitalImage Processing	UnitI **IntroductiontoImageProcessing,VisualPreliminaries** (NotionalHours:12)	Thelearnerwillableto: 1. Reviewthefundamentalconceptsofadigitalimageprocessingsystem.[2]* 2. Diagrammaticallyexplainthestepsofimageprocessing.[4]* 3. Analyzingdifferentimageformat.[4]* 4. Applyingdifferentvisualpreliminarieslikebrightnessadaption,texture,shapedetection..[3]* 5. Definingimagesamplingandquantization..[2]*

		UnitII **Intensity Transformation, SpatialFiltering** (NotionalHours:12)	Thelearnerwillableto: 1. Definingbasicintensitytransformationfunction.[2]* 2. Diagrammaticallyexplainhistogramequalizationandhistogramprocessing.[4]* 3. Reviewthefundamentalsofspatialfiltering.[2]* 4. Analyzingandcombiningspatialenhancementmethod..[4]* 5. Applyingfuzzytechniquesforintensitytransformationandspatialfiltering.[3]*
		Unit III **Colour Image Processing, ImageCompression** (NotionalHours:12)	Thelearnerwillableto: 1. Reviewingcolorfundamentalsandcolormodels.[2]* 2. Definingpseudocolorimageprocessingandthebasicsoffull-colorimageprocessing.[2]* 3. Applyingimagesegmentationbasesoncolor[3]* 4. Describingthestepsofdigitalwatermarkingandfull-motionvideocompression.[2]*
		UnitIV **Morphological Image Processing,Segmentation** (NotionalHours12)	Thelearnerwillableto: 1. Describingerosionanddilation,openingandclosing,hitormis–orhittransformationprocess.[2]* 2. Applyingsomebasicmorphologicalalgorithm.[2]* 3. DiagrammaticallyexplainPont,line,edgedetection,thresholdingregion-based segmentation.[4]* 4. Applyingmorphologicalwatershedsforsegmentation[3]*
		UnitV **RepresentationandDescription,ObjectRecognition** (NotionalHours12)	Thelearnerwillableto: 1. Definingrepresentation,boundarydescriptor,regionaldescriptor.[2]* 2. Applyingprinciplesofcomponentfordescription.[3]* 3. Diagrammaticallyexplainpatternsandpatternclasses[4]* 4. Recognitionbasedondecision-theoreticmethods.[2]*
UGIT6P4	PRACTICALSESSIONS	-	1. Tostudytheeffectsofreducingthequantizationvaluesandspatialresolution.[3]* 2. Performingimageenhancement.[3]* 3. Performingsomebasicstransformationontheimage.[3]* 4. Applyingdifferentfilters(LPF,HPF,Lapalcian,LOG,etc.)onimageandapplymaskontheimage.[3]* 5. Plottinghistogramandapplyinghistogramequalization.[3]* 6. ApplyingGaussianfilteronanimage.[3]* 7. Applyingmorphologicaloperationonanimage.[3]*

gCourseCode	CourseTitle	Unittitle	LearningOutcomes
			8. ShowingRGBplane,ConvertingRGBtoNTSC,RGBtoYCbCr,RGBto CMY,andRGBtoHIS.[3]* 9. Performingpseudocoloring.[3]*
PGIT302	**Information SecurityMan agement**	UnitI **SecurityRiskAssessmenta ndManagement** (NotionalHours:12)	Thelearnerwillableto: 1. Reviewtheintroductiontosecurityriskmanagement.[2]* 2. Describingreactiveandproactiveapproachestoriskmana gement.[2]* 3. Distinguishbetweenqualitativeandquantitativeapproachestoriskmanag ement.[4]* 4. IntroducedtheOCTAVEandCOBITapproaches..[2]*
		UnitII **Security Management of ITSystem** (NotionalHours:12)	Thelearnerwillableto: 1. Definingnetworksecuritymanagement,firewall,IDSandIPSconfi guration management.[2]* 2. Recognizedwebandwirelessmanagement.[2]* 3. Demonstrategeneralserverconfigurationguidelinesandmai ntenance.[3]* 4. Comparethedifferentaccesscontrolmodels.[4]* 5. Applyingpasswordmanagementandkeymanagementforusers. [3]*
		Unit III **Key management inOrganization** (NotionalHours:12)	Thelearnerwillableto: 1. Diagrammaticallyexplainpublickeyinfrastructure.[4]* 2. Identifyingissuesinthepublic-keycertificate.[2]* 3. Demonstratecomputersecuritylogmanagement,malwarehan dling[3]* 4. Applyingsecuritypolicies.[3]*
		UnitIV **Auditing and Businesscontinui tyPlanning** (NotionalHours12)	Thelearnerwillableto: 1. Describinginformationtosecurityauditandprinciplesofsecurityofaudi t[2]* 2. Demonstratingthebusinesscontinuityplanninganddisasterrecov ery.[3]* 3. Identifybackupandrecoverytechniquesforapplicationsandstorag e.[2]*

		UnitV **ComputerForensics** (NotionalHours12)	Thelearnerwillableto: 1. Demonstratethedifferenttechniquesandtoolsofcomputerforensics.[3]* 2. ApplyingaudittoolNMAPandNESSUS.[3]* 3. ReviewingISO17799Standard.[2]* 4. Identifyinglegalandethicalissues.[2]*
UGIT6P4	PRACTICALSESSIONS	-	1. WorkingwithSnifferformonitoringnetworkcommunication(Ethereal).[3]* 2. UsingopenSSLforweb-serverbrowsercommunication.[3]* 3. UsingGNUPGP.[3]* 4. Performanceevaluationofthevariouscryptographicalgorithm.[3]* 5. UsingIPTablesonLinuxandsettingthefilteringrules.[3]* 6. ConfiguringS/MIMEfore-mailcommunication.[3]* 7. Understandingthebufferoverflowandformatstringattacks.[3]* 8. UsingNMAPforportsmonitoring.[3]* 9. Implementationofproxy-basedsecurityprotocolsinCorC++withfeatureslikeconfidentiality,integ
			10. PerformingSocketPrograming.[3]* 11. ExposuretoClient-ServerconceptusingTCP/IP,blowfish,PrettyGoodPrivacy.[3]*

course Code	CourseTitle	Unittitle	LearningOutcomes
PGIT304	ETHICAL HACKING	UnitI INTRODUCTIONTOETHICALHACKING,FOOTPRINTINGAND RECONNAISSANCE ,SCANNINGNETWORKS,ENUMERATION (NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingthebasicsofEthicalHacking. 2. RememberingtheconceptsofFootprintingandReconnaissance. 3. UnderstandingthoroughlytheneedforScanningofNetworksandneedof Enumeration. 4. ApplyingtheEthicalHackingintheRealworld.
		UnitII SYSTEMHACKING,TROJANSANDBACKDOORS,VIRUSESANDWORMS,SNIFFING (NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingtheconceptofSystemHacking. 2. RememberingthebascisofTrojansandBackdoors. 3. UnderstandingthoroughlydifferenttypesofVirusesandWorms. 4. CreatingadApplyinganenvironmenttohalttheViruses.

course Code	CourseTitle	Unit title	Learning Outcomes
		UnitIII SOCIALENGINCERING,DENIALOFSERVICE,SESSIONHIJACKING,HACKING WEBSERVERS(Notional Hours:12)	Thelearnerwillbeableto- 1. UnderstandingtheneedofSocialEngineering. 2. AnalysingDenialofService. 3. EvaluatingSessionHijackingandHackingofWebServers.
		UNITIVHACKING WEB	Thelearnerwillbeableto-. 1. UnderstandingSQLInjection.
		APPLICATIONS,SQLINJECTION, HACKINGWIRELESSNETWORKS,HACKINGMOBILEPLATFORMS (NotionalHours12)	2. ApplyingHackingonWebApplication. 3. CreatinganenvironmentforHackingWirelessNetworksandMobilePlatforms.
		UnitV EVADINGIDS,FIREWALLSANDHONEYPOTS,BUFFEROVERFLOWS,CRYPTOGRAPHY ,PENETRATION TESTING (NotionalHours12)	Thelearnerwillbeableto- 1. UnderstandingEvadingIDS,FirewallsAndHoneypots 2. EvaluatingBufferOverflow. 3. UnderstandingtheconceptofCryptography. 4. RememberingPenetrationTesting.
PGITP304	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 1. UsethetoolsforWhois,Traceroute,EmailTrackingandGoogleHacking.*[3] 2. Usetoolsforscanningnetwork,IPfragmentation,wardialing, andcountermeasures,SSLProxy,CensorshipCircumvention.*[3] 3. Enumeration–NetBIOS,SNMP,Linux/Unix,NTP,DNS.*[3] 4. UsingSystemHackingTools*[4] 5. StudyofBackdoorsandTrojans*[4] 6. StudyofSniffingtools*[2] 7. StudyofDenialofServerattacks*[3] 8. StudyofHijackingtools*[6]
course Code	**CourseTitle**	**Unittitle**	**LearningOutcomes**

PGIT404b	AdvancedImage Processing	UnitI EnhancementinFrequencyd omain,RemoteSensing(Noti onalHours:10)	Thelearnerwillbeableto- 1. Understandtheconceptof2-DDiscreteFourierTransform.[2]* 2. DescribetheDiscretecosinetransform(DCT).[2]* 3. Compare&contrastbetweenPassiveandActivesensing.[4]* 4. SchematicallyrepresentElectromagneticremotesensingpro cess.[4]* 5. ExplaintheEnergysourceanditscharacteristics.[2]* 6. StudytheEnergyinteractionwithEarth'ssurfacematerials.[2]*
		UnitII MicrowaveRemoteSensing,Rem otesSensingPlatformsandSensor s (NotionalHours:10)	Thelearnerwillbeableto- 1. UnderstandtheFactorsaffectingmicrowavemeasurements.[2]* 2. ExplaintheRadarwavebands.[2]* 3. Understandtheconceptofsyntheticapertureradar(SAR)imagi ng.[2]* 4. DescribetheInteractionbetweenmicrowavesandEarth's surface.[2]* 5. AnalysetheSpatialResolution,SpectralResolution,RadiometricResol ution,Temporalresolution.[4]
			6. UnderstandtheSatellitesystemparameters.[2]*
		UnitIII ImageAnalysis,Applications(NotionalHours:10)	Thelearnerwillbeableto- 1. UnderstandtheconceptofVisualinterpretation.[2]* 2. ExplaintheElementsofvisualinterpretation.[2]* 3. DescribeEnhancement,Transformations.[2]* 4. Classificationaccuracyassessment.[2]* 5. SummarizetheApplications.[2]*

		UnitIV MedicalImageProcessing(Notional Hours10)	Thelearnerwillbeableto- 1. UnderstandtheVariousmodalitiesofmedicalimaging.[2]* 2. Evaluatethedifferenttypesofimaging,suchasX-rays,CT(computedtomography)scans,MRI(magnetic resonanceimaging)andultrasound.[5]* 3. Understandtheequipmentthatuses,andconditionsithelpsradiologistsdiagnose.[2]* 4. DescribePositronemissiontomography(PET)scanusesa radioactivedrug(tracer)toshowthisactivity.[2]* 5. SummarisetheEchocardiogram.[2]*
		UnitV FeatureExtractionandStatisticalMea surement (NotionalHours10)	Thelearnerwillbeableto- 1. UnderstandtheSelectionoffeatures,Shaperelatedfeatures,Shap erepresentation.[2]* 2. JustifyhowCo-occurrencematricescanbeusedasanimpor tantfeatureinimagematching.[5]* 3. SummarizeFourierdescriptors.[2]* 4. ExplaintheSnakeboundarydetection.[2]* 5. AnalysingBreasttissuedetectionandtissuestructure.[4]*
PGSIT4P4b	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 1. ApplyDFTonImage.[4]* 2. PerformWAPforimplementingLPF.[3]* 3. PerformWAPforimplementingHPF.[3]* 4. ImplementWAPforhighboostfilteringonsquareimage.[3]* 5. ApplyAcquiresatellite/medicalimageandapplypre-processing techniquestoimprovethequalityofimage.[4]* 6. Applydifferentimageenhancementtechniques(toimprovecont rast,brightness,sharpness)onsatelliteimage.[4]* 7. Applydifferentsupervisedclassificationtechniquestoclassifythes atelliteimage.[4]* 8. Applydifferentclusteringalgorithms(K-means,ISODATA).[4]* 9. Applycompressionanddecompressionalgorithmonimage.[4]* 10. ApplyDCTandPCAonimage.[4]*

courseCode	CourseTitle	Unittitle	LearningOutcomes
PGIT403	COMPUTER FORENSICS	UnitI: ComputerForensicsandInvestigationProcesses,UnderstandingComputingInvestigations,TheInvestigator'sOfficeandLaboratory,DataAcquisitions. (NotionalHours:12)	Thelearnerwillbeableto- 1. Understandingthebasicconceptof CFandInvestigation. 2. AnalyzingInvestigator'sOfficeandLaboratory. 3. RememberingthebasicsofDataAcquisition.
		UnitII: ProcessingCrimeandIncidentScenes,WorkingwithWindowsandDOSSystems,CurrentComputerForensicsTools.(NotionalHours:12)	Thelearnerwillbeableto- 1. ProcessingCrimeandIncidentScenes.*[2] 2. EvaluatingWindowsandDOSSystems. 3. CurrentComputerForensicsTools.*[4]
		UnitIII: MacintoshandLinuxBootProcessesandFileSystems,ComputerForensicsAnalysis,RecoveringGraphicsFiles.(NotionalHours:12)	Thelearnerwillbeableto- 1. MacintoshandLinuxBootProcessesandFileSystems*[2] 2. HowtoRecoverGraphicsFiles*[2]
		UnitIV: VirtualMachines,Network	Thelearnerwillbeableto- 1. UnderstandingVM.
		Forensics,andLiveAcquisitions,E-mailInvestigations,CellPhoneandMobileDeviceForensics(NotionalHours12)	2. RememberingNetworkForensicsandLiveAcquistions. 3. EvaluatingCellPhoneandMobileDeviceForensics. 4. AnalysingE-mailInvestigations.
		UnitV: ReportWritingforHigh-TechInvestigations,ExpertTestimonyinHigh-TechInvestigations,EthicsandHigh-TechInvestigations.(NotionalHours12)	Thelearnerwillbeableto- 1.HowtowriteReportforHightechInvestigations.*[1] 2. EthicsandHigh-TechInvestigations.*[2]

Course Code	Course Title	Unit title	Learning Outcomes
PGITP404	PRACTICALSESSIONS	-	The learner will be able to- 1. FilesystemAnalysisusingTheSluethkit–ExploringAutopsy*[4] 2. WorkingwithWindowsForensicstoolkit.*[4] 3. UsingFilerecoveryTools,understanding&workingwiththeprocessoftakingadriveimageusingAccessData'sFTKImagertool.*[4] 4. Usingsteganographytools-ExploringStools*[5] 5. UsingLogcapturing,trafficcapturing&analysistools-Exploringwireshark*[5] 6. Usingemailforensicstoolrecoveringemails–ExploringAccessDataFTK*[5] 7. ExploringMobileEditForensicTool.*[5] 8. WritingreportusingAccessDataFTK*[5] 9. Implementingwindowsazurepack.*[3] 10. Usingconfigurationmanager2012formanagingandmaintaining

Course Code	Course Title	Unit title	Learning Outcomes
PSIT402	IT Infrastructure Management	UnitIIntroduction, TheServiceLifecycleandService Strategy (NotionalHours:12)	1. TounderstandtheconceptofITServiceManagement. 2. ToAnalysisofBenefitsofITserviceManagement. 3. StudentwillabletounderstandtheProcessModelandCharacteristicsofProcesses. 4. Studentwillabletounderstandhowdoesservicelifecycleiswork? 5. StudentwillabletounderstandtheMappingconceptofITIL. 6. ToanalysetheserviceStrategyofITInfrastructureManagement.
		UnitII ServiceDesign (NotionalHours:12)	1. TounderstandtheconceptofServiceDesign. 2. StudentwillablecomparingfiveMajorAspectsofServiceDesign. 3. Tounderstandtheconceptofservicelevelmanagement. 4. TounderstandtheconceptofSupplierManagementConsideration.
		UnitIII ServiceTransition (NotionalHours:12)	1. ToanalyseneedofServiceTransition. 2. StudentwillabletoanalyseChangeManagement. 3. StudentwillabletodifferentiatetheServiceValidationandTesting. 4. TostudyserviceAssetandConfigurationManagement.
		UnitIV ServiceOperation	1. StudentwillabletounderstandserviceoperationFunction 2. Tounderstandtheservicedesk,TechnicalManagement,IT

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		(NotionalHours12)	3. StudentwillabletounderstandtheconceptofeventManagement. 4. ToanalyseProblemManagement 5. TounderstandtheconceptsofIncidentManagement.
		UnitV ContinualServiceI mprovement(Notio nalHours12)	1. TounderstandContinualServiceImprovement. 2. TounderstandtheMajorconceptofContinualServiceMana gement 3. ToanalysingImprovementProcess. 4. TounderstandtheneedofCSIProcess.
PSIT402	PRACTICAL SESSIONS	-	

Course Code	CourseTitle	Unittitle	LearningOutcomes
PGIT403	REALTIMEE MBEDDEDS YSTEM	UnitIIntroduction EmbeddedOperatingSystems Caches (NotionalHours:12)	Thelearnerwillbeableto- 1. RememberingWhatisRealTimeSystem,Applicationofrealtimesystem, ABasicModelofRealtimesystem,CharacteristicsofRealTimeSystem,Sa fetyandReliability, 2. UnderstandingdifferenttypesofRealTimeTask,TimingConstraints,Modell ingTimingConstraints.EmbeddedOperatingSystems. 3. EvaluatingtheFundamentalComponents,Example:SimpleLittleOper atingSystem. 4. TheMemoryHierarchyandCacheMemory,CacheArchitecture,Cache Policy
		UnitII ExceptionandInterruptHandlingFir mware MemoryManagement (NotionalHours:12)	Thelearnerwillbeableto- 1. UnderstandingtheconceptofExceptionHandling,Interrupts,Interr uptHandlingSchemes. 2. RememberingthebascisofFirmwareandBootloader,Example: Sandstone. 3. UnderstandingthoroughlyMovingfromanMPUtoanMMU,HowVirtual MemoryWorks,DetailsoftheARMMMU. 4. AnalysingPageTables,TheTranslationLookasideBuffer,DomainsandM emoryAccessPermission,TheCachesandWriteBuffer
		UnitIII RealTimeTaskSchedulingHandling ResourcesSharingand	Thelearnerwillbeableto- 1. Rememberingdifferenttypesofrealtimetaskandtheircharac

		Dependencies(Notiona lHours:12)	2. UnderstandingtheconceptofClockdrivenscheduling,HybridSched ulers,EventDrivenScheduling,EarliestDeadlinefirstscheduling,R ateMonoticAlgorithm. 3. EvaluatingthebasicofHandlingResourceSharingandDependenciesResour cesharingamongrealtimetask,PriorityInversion,Priorotyinheritanceproto col,Highestlockerprotocol,priorityceiling protocol, 4. AnalysingDifferenttypesofpriorityinversionUnderPCP,Importantfeatur esofPCP,ResourcesharingProtocol,HandlingTaskDependencies
		UNITIV RealTimeCommunication(Notional Hours12)	Thelearnerwillbeableto-. 1. UnderstandingtheBasicConceptof RealTimeCommunicationinLan,Soft/HardRealTimecommunicationina Lan,BoundedAccessProtocolforLans. 2. AnalysingthePerformancecomparison,RealtimecommunicationoverP acketSwitchednetworks. 3. EvaluatingQoSframework,Routing,Resourcereservation,RateControl, QoSModel-IntegratedservicesandDifferentiatedServices.
		UnitV RealTimeDatabaseN otionalHours12)	Thelearnerwillbeableto- 1. RememberingtheConceptandExampleofrealtimedatabases. 2. UnderstandingRealtimedatabasesapplicationdesignissues,Char acteristicsoftemporaldata. 3. UnderstandingConcurrencycontrolinreal- timedatabases.Casestudyoncommercialrealtimedatabases.
PGITP403	PRACTICAL SESSIONS	-	Thelearnerwillbeableto- 1. Scheduleataskperiodically;after5minxyztaskhastoperform(HintJITTER). *[3] 2. Scheduleatasknonperiodically;nospecifictimestampissetforany task.*[3] 3. SharedresourcesmanagementusingSEMAPHORE.*[3] 4. SharedresourcesmanagementusingMUTEX.*[4]

			5. Implement scheduling algorithm FIFO. *[4]
			6. Implement scheduling algorithm ROUND ROBIN. *[2]
			7. Implement scheduling algorithm RATE MONOTONIC. *[3]
			8. Implement Interprocess communication (IPC) using NAMED PIPES. *[6]
			9. IPC using simple PIPES. *[3]
			10. IPC using MAILBOXES. *[2]

*Note:[1]:Remembering,[2]:Understanding,[3]:Applying,[4]:Analysing,[5]:Evaluating,[6]:Creating

Sr. No	Course Code	Name of Course Coordinator	Signature
		SEM I	
1	PGIT101	ASIFA HAWA	
2	PGIT102	POONAM RAWALE	
3	PGIT103	MANISHA JANGALE	
4	PGIT104	MADHURI GABHANE	
		SEM II	
7	PGIT201	HARSHA GORDE	
8	PGIT202	SAMIKSHA SURYAWANSHI	
9	PGIT203	VARSHA IRALAPALLE	
10	PGIT204	SNEHA MHATRE	
		SEM III	
13	PGIT301	HARSHA GORDE	
14	PGIT302	MADHURI GABHANE	
15	PGIT303a	MANOJ CHOUDHARY	
16	PGIT304b	ASIFA HAWA	
		SEM IV	
19	PGIT401	MANISHA JANGALE	
20	PGIT402	MANOJ CHOUDHARY	
21	PGIT403c	MADHURI GABHANE	
22	PGIT404c	SWATI GAIKWAD	
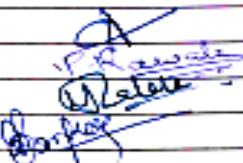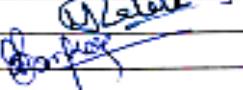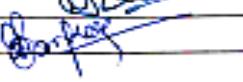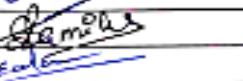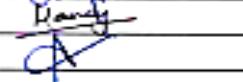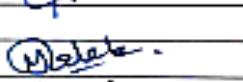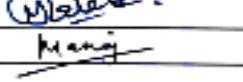
PROGRAM COORDINATOR

BOS CHAIRMAN

PRINCIPAL