**Lesson Plan**

Name of the Faculty : MS. SHEETAL(THEORY + PRACTICAL)

Discipline : Computer Science and Engineering

Semester : 6th

Subject : **ADVANCED JAVA(**PCC-CSE-306G**)**

Lesson Plan Duration : 15 Weeks (from MAY, 2021 to AUG, 2021)

\*\* **Work Load (Lecture/ Practical) per week (in hours):** Lecture-3, Practical-02

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| --- | --- | --- |
| Week | Theory | |
| Lecture day | Topic(Including assignment/test) |
| 1st | 1st | **Servlet:**Servlet Introduction,web terminology |
| 2nd | ServletAPI, servletInterface,genericservlet |
| 3rd | Httpservlet, servlet lifecycle |
| 2nd | 1st | servlet withIDE(eclipse,Myeclipse,Netbeans) |
| 2nd | Servlet request, servlet collaboration, |
| 3rd | Servlet configuration,context,attribute in servlet, |
| 3rd | 1st | Session techniques in servlet, event and listener, |
| 2nd | Servlet filter,CRUD,pagination |
| 3rd | input output stream,annotation, singlethread model,SSI; |
| 4th | 1st | **JSP:**Life Cycle Of JSP,JSP API |
| 2nd | Scripting elements, Implicit Objects,directive elements, |
| 3rd | Exceptions, action elements,expression language,MVCinJSP,JSTL, |
| 5th | 1st | Custom tags,pagination, CRUD,JSTL function, formatting,XML, SQL tags(ASSIGNMENT-1) |
| 2nd | **UNIT 2**  **Struts:**Introduction,features,models, |
|  | 3rd | Architecture, action, configuration, interceptors, validationmethod |
| 6th | 1st | struts2, aware Interfaces, stuts2withI18N, zero configuration, |
| 2nd | struts2 with tiles,hibernate with struts2, |
| 3rd | Components spring with struts2, UI tags; |
| 7th | 1st | **MailAPI:**java mail introduction, methods of sending email, sending mail byGmail, receiving email, sending attachment, receiving attachment, sending html,forwarding,deleting email.  (ASSIGNMENT-2) |
| 2nd | **UNIT3**  **Hibernate(HB):** Introduction,architecture |
| 3rd | HBwithIDE,HBLog4j,inheritance mapping |
| 8th | 1st | HB mapping,transactionmanagement |
| 2nd | HBquerylanguage,HB criteria query language,named query |
| 3rd | HBcaching,integration,HB lifecycle; |
| 9th | 1st | **Spring:**Introduction,modules,spring with IDE, |
| 2nd | Spring AOP, spring Jdbc template,spring ORM |
| 3rd | SPEL,MVC tag library,applications; |
| 10th | 1st | Spring remoting,spring OXM, springweb, |
| 2nd | security models, spring boot, spring with angular |
| 3rd | dependency injection methods |
| 11th | 1st | **UNIT 4**  **Android:**Introduction ,history & versions, |
| 2nd | Architecture, building blocks, |
| 3rd | Emulator ,android widgets, |
| 12th | 1st | Activity and intents, android fragments, |
| 2nd | Android menu,android service, |
| 3rd | Android speech,multimedia,telephony,maps |
| 13th | 1st | SQLite, XML &JSON,  (ASSIGNMENT-3) |
| 2nd | **Design Pattern:** java design pattern, |
| 3rd | Creational , structural, behavioral, |
| 14th | 1st | J2EE patterns, |
| 2nd | Presentation layers, |
| 3rd | Revision of unit-01 |
| 15th | 1st | Revision of unit-02 |
| 2nd | Revision of unit-03 |
| 3rd | Revision of unit-04 |

**SYLLABUS**

**UNIT 1**

**Servlet:**Servletintroduction,webterminology,servletAPI, servletInterface,genericservlet, Httpservlet, servlet lifecycle, servlet withIDE(eclipse,Myeclipse,Netbeans), servlet request, servlet collaboration, servlet configuration,context,attributeinservlet, sessiontechniquein servlet,eventandlistener, servlet filter,CRUD,pagination,inputoutputstream,annotation, singlethread model,SSI;

**JSP:**LifecycleofJSP,JSPAPI,scriptingelements,9ImplicitObjects,directiveelements,

Exceptions, actionelements,expressionlanguage,MVCinJSP,JSTL,customtags,pagination, CRUD,JSTL function, formatting,XML, SQL tags,

**UNIT 2**

**Struts:**Introduction,features,models,components,struts2 architecture,action, configuration, interceptors, validationmethod, aware Interfaces, stuts2withI18N, zero configuration, struts2withtiles,hibernatewithstruts2, springwithstruts2, UI tags;

**MailAPI:**java mail introduction, methodsofsendingemail, sendingmail byGmail, receiving email, sendingattachment, receivingattachment, sendinghtml,forwarding,deletingemail;

**UNIT3**

**Hibernate(HB):** Introduction,architecture,HBwithIDE,HBLog4j,inheritancemapping,HB mapping,transactionmanagement,HBquerylanguage,HB criteria querylanguage,named query,HB caching,integration,HB lifecycle;**Spring:**Introduction,modules,springwith IDE,dependencyinjectionmethods,springAOP, springJdbctemplate,springORM,SPEL,MVCtaglibrary,applications,springremoting,spring OXM, springweb, securitymodels, springboot, springwithangular;

**UNIT 4**

**Android:**Introduction,history&versions,architecture,buildingblocks,emulator,android widgets,activityandintents,androidfragments,androidmenu,androidservice,SQLite, XML &JSON,androidspeech,multimedia,telephony,maps;

**Design Pattern:** java design pattern, creational, structural, behavioral, J2EE patterns, presentationlayers,

**Course Outcome:**

1. Knowledge ofthe structure and model of the Java programming language, (knowledge)
2. Use the Java programming language for various programming technologies

(understanding)

1. DevelopsoftwareintheJava programming language,

**ADVANCED JAVA LAB**

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| --- | --- | --- | --- | --- | --- |
| Course code | LC-CSE-328G | | | | |
| Category | Professional Core Course | | | | |
| Course title | Advanced Java Lab | | | | |
| Scheme and Credits | L | T | P | Credits | Semester 6 |
| 0 | 0 | 2 | 1 |
| Class work | 25 Marks | | | | |
| Exam | 25 Marks | | | | |
| Total | 50 Marks | | | | |
| Duration of Exam | 03 Hours | | | | |

Students have to write at list 15 programs based on the course PCC-CSE-306G