

COURSE TITLE : **NETWORK PROGRAMMING**
COURSE CODE : **4078**
COURSE CATEGORY : **A**
PERIODS PER WEEK : **4**
PERIODS PER SEMESTER: **72**
CREDITS : **4**

TIME SCHEDULE

MODULE	TOPICS	PERIODS
1	Introduction	17
	Test I	1
2	AWT and Java Swing	17
	Test II	1
3	URL and Socket	17
	Test III	1
4	Rmi	17
	Test IV	1
	Total	72

OBJECTIVES

MODULE I

1. Distributed system
 - 1.1 Discuss on distributed system
 - 1.2 Explain with appropriate situation
 - 1.3 Discuss about the client server concept and programming
 - 1.4 Need for client server programming thru various applications (real time)
 - 1.5 Detailed discussion on network programming
 - 1.6 Need for network programming
 - 1.7 Discuss various appropriate situations
 - 1.8 Role of Network Interface in network programming
 - 1.9 Types of network interface – Software interface(local loop 127.0.0.1) and Hardware Interface(Network Interface Card NIC)
 - 1.10 Identify two different network protocols
 - 1.10.1 Discuss about Connection Oriented Transport Control Protocol TCP
 - 1.10.2 Discuss about Connection less User Datagram Protocol UDP
 - 1.11 IP Addressing

MODULE II

2. Working with Windows and AWT
 - 2.1 AWT classes, Windows Fundamentals, Working with frame windows,
Using AWT Controls, Layout Managers and Menus
 - 2.2 Control Fundamentals, Labels ,Using Buttons, Applying Check Boxes
Checkbox Group, Choice Controls, Using Lists, Managing scroll Bars
Using a Text Field, Using a Text Area, Understanding Layout Managers
Menu Bars and Menu,Dialog Boxes,File Dialog, Handling events by Extending AWT

Components, Exploring the Controls, Menus, and Layout Managers

2.3 The Tour of Swing

2.4 J applet, Icons and Labels ,Text Fields, Buttons

2.4.1 Combo Boxes, Tabbed Panes, Scroll Panes.

2.4.2 Trees, Tables, Exploring the Swings.

MODULE III

3. Uniform Resource Locator URL

3.1 Clear definition and format of URL

3.2 Identify the components

3.3 Introduce to Java URL Object and its use

3.4 Discuss about absolute and relative URL

3.5 Various URL constructors - open stream and open connection methods

4. Socket

4.1 Understand ports and port numbers

4.2 concept of the Socket

4.3 diff types of Sockets such as TCP and UDP

4.3.1 creation of TCP Sockets

4.3.2 distinguish between Server side program and Client side program – with suitable examples – situations

4.3.3 creation procedure for server side programming introduce Java features for the same

4.3.4 familiarization of Socket class and Server Socket class

4.3.4 creation procedure for client side programming introduce to java features for the same

4.3.5 introduce the facility in java for the support of multiple clients

4.3.6 creation of client server application using UDP

MODULE IV

4. Remote Method Invocation

4.1 Discuss the steps for developing an RMI system

4.2 Remote class and Interfaces in java

4.3 Programming a Client in Java

4.4 Programming a Server in java

4.5 Starting the Server in java

4.6 Running a Client in java

4.7 Security in java

CONTENTS

MODULE I

Distributed system – application area –client server – real time applications – network programming- need- Network interface – different protocols –TCP- UDP –IP addressing

MODULE II

Advanced Web Technology(AWT)-introduction-windows and AWT –Graphics-AWT controls – Layer – Managers- Menus-Swing – J applet- icons-controls-trees-tables-exploring the swing

MODULE 3

Uniform Resource Locator(URL – absolute URL-relative URL –Java URL object – URL constructors-open stream – open connection methods- Socket-port-different types –Socket creation- server side programming method(TCP)– client side programming method(TCP)-UDP Programming method

MODULE 4

Remote class and interfaces-discuss-Client-Server-running a client- security

TEXT:

Java Network Programming Second Edition – E R Harold , O'Reilly Media