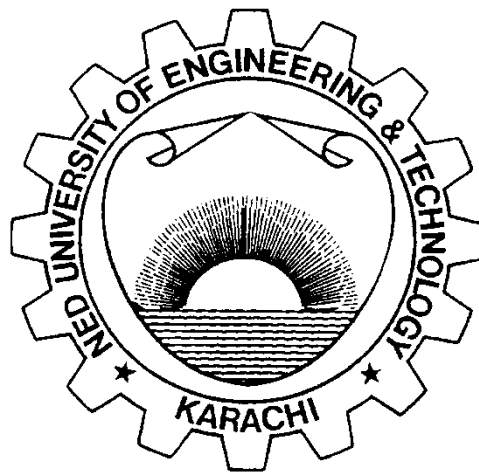


Practical Workbook  
**CS-318**  
**COMPUTER COMMUNICATION  
NETWORKS**



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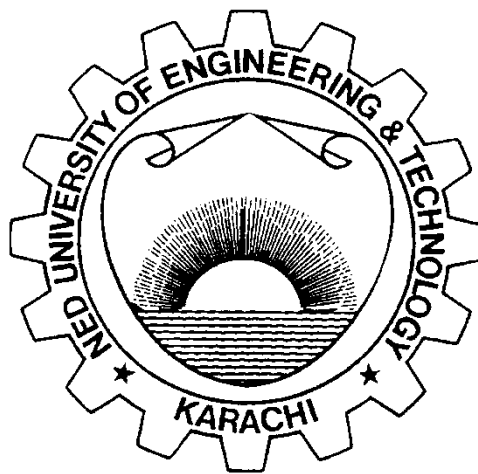
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Roll No : \_\_\_\_\_

Department: \_\_\_\_\_

**Department of Computer & Information Systems Engineering**  
NED University of Engineering & Technology

**Practical Workbook**  
**CS-318**  
**COMPUTER COMMUNICATION**  
**NETWORKS**



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# INTRODUCTION

This workbook has been compiled to assist the conduct of practical classes for CS-318 Computer Communication Networks. Practical work relevant to this course aims at providing students a good grasp on the various topics in computer networks. This laboratory manual aims to augment the classroom teaching of the course and to provide the students essential practical knowledge in the subject.

Each component of undergraduate engineering curriculum is accompanied with some learning outcomes for students. Consequently, the practical portion of CS-318 Computer Communication Networks is designed to help students “**practice** configuration and troubleshooting of computer networks using modern tools. The exercises are designed to enhance cognitive (application level) as well as psychomotor (guided-response level) skills, enabling the students for Modern Tool Usage. A rubric to evaluate student performance has been provided at the end of the workbook.

The first section of manual deals with configuration of IP Addresses, making network cables, establishing connectivity between devices & exploring Cisco IOS commands. The second section covers routing protocols: static and dynamic, data-link layer protocol and access lists configuration. The third section covers basic LAN switch operation, loop avoidance using Spanning Tree Protocol and Virtual LANs. The final section is based on advanced topics of NAT, BGP, DHCP and Wireshark.

This workbook is designed to assist both instructor and student, practically realizing theoretical concepts of the course, providing in-depth understanding and elaborate various areas of computer networks.

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