

ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD
(Department of Computer Science)

WARNING

1. PLAGIARISM OR HIRING OF OTHER WRITER(S) FOR SOLVING THE ASSIGNMENT WILL DEBAR THE STUDENT FROM AWARD OF DEGREE/CERTIFICATE, IF FOUND AT ANY STAGE.
2. SUBMITTING ASSIGNMENTS BORROWED OR STOLEN FROM OTHER(S) AS ONE'S OWN WILL BE PENALIZED AS DEFINED IN 'AIOU PLAGIARISM POLICY'.

Course: Networking Design (3418)
Level: Bachelor

Semester: Spring, 2014
Total Marks: 100

ASSIGNMENT No. 1

Units (1 - 4)

Note: All questions carry equal marks.

- Q. 1 a) Discuss the importance of P-2-P communication in the realm of new generation communication. Also describe the purpose of multi-drop circuit in communication network?
 b) What are ports? Discuss various ports with the help of their functionalities and characteristics.
- Q. 2 a) Discuss various novel practices of control and accountability of communication passage.
 b) Describe the advances in token passing technique.
- Q. 3 a) What are design problem in communication between various layers of OSI model. Write down a detail report on it.
 b) What is the importance of layered protocols in the data communication?
- Q. 4 a) Discuss the basics characteristics of Transmission Protocols and Internet protocols.
 b) Discuss the pros and cons of satellite network.
- Q. 5 a) Explain non polling primary and non polling secondary system?
 b) What types of techniques are used in conventional multiplexing. Explain.

ASSIGNMENT No. 2

Semester: Spring, 2014

Total Marks: 100

(5 - 8)

Note: All questions carry equal marks.

- Q. 1 a) Define what teleport is? Explain its functionalities.
b) What are the advances in the techniques used for broadband and baseband LANs?
- Q. 2 a) Define the Integrated Service Digital Network.
b) How telephone switching system work? Explain its functionalities in detail.
- Q. 3 a) What is the importance of message switching in communication system?
b) Discuss the techniques used in routing of message in communication system.
- Q. 4 a) Define flow control? What are the techniques used for flow control.
b) Explain what is waveform of communication signal?
- Q. 5 Explain the services provided by the internet technology for facilitating the communication system.

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Course: Internet Programming Language (3427/3582)
Level: MBA/IT-PGD(CS)
Course Code: 3582 (Old 3427)

Semester: Spring, 2014
Total Marks: 100
Credit Hours: 4(3+1)

Recommended Books	JAVA, How to Program, By Deital & Deital 3 rd Edition
Audio/Video/Multimedia CD:	Multimedia CD Available
Reference Book:	Java 2: The Complete Reference, 5 th Edition by Herbert Schildt
Pre-Requisite	None
Teaching Methodology	Online
Computer Usage	2 hours supervised lab per week + at least 2 hours unsupervised lab

Introduction:

This course has been designed to implement OOP concepts using Java language. The course covers basics elements of programming including data types, control structures and classes. It then covers advance OOP concepts of simple & multiple Inheritance, polymorphism and abstraction. The course covers exception handling techniques and GUI programming basics using packages and Java APIs.

Course Objectives:

At the end of the course the students are expected to be able to:

1. Understand the implementation of Object Oriented Concepts U
2. Develop simple Java applications & applets using java constructs and swing APIs D
3. Use access specifier to create classes and methods U
4. Develop Java Programs using major OOP concepts D
5. Handle exceptions using Java APIs H
6. Develop small GUI applications like mini calculator, Notepad-Fond/Color options D

Evaluation Criteria:

i)	Assignments	10%
ii)	Mid Term Theory/Practical Examination	20%
iii)	Final Examination	70%

Moiz Ahmed, Assistant Professor, DCS
Course Coordinator

Networking Design

Course Code – 3418

Recommended Book: Computer Networks “Protocols, Standard, and Interfaces By UYLESS BLACK 2nd Edition”

Unit No.1: Introduction to Computer Network

The Use of Networks, Advantages of Networks, Communications Networks, Point to Point and Multidrop Circuits, Networks Topologies and Design Goals, Connecting the Analog and Digital Worlds, The Modern Synchronizing Networks Components, Synchronization Codes, Asynchronous and Synchronous Transmission, The Communication Port, Additional Networks Components

Unit No.2: Communication between Computers and Terminals

Traffic Control and Accountability, Checking For Error, WANs, and LANs, Classification of Communication Protocols, Polling/Selection Systems, Request to Send/Clear, Xon/Xoff, TMDA, TDM, Registrar Insertion. Carrier Sense, Token Passing, Priority Slot, Carrier Sense Collision-Free System, Token Passing Priority System

Unit No.3: Layered Protocols, Networks And OSI Model

Rational for Layered Protocols, Goals of Layered Protocols, New Design Problems, Communication between Layers, A Pragmatic Illustration, Standards Organization, ISI Standard, Layers of OSI

Unit No.4: TCP/IP

Introduction to Internet, Protocols

Unit No.5: Satellite Networks

Pros and Cons of Satellite Networks, Conventional Multiplexing, Polling/Selection, Non Polling Peer/Peer System, Non Polling Primary/Secondary System, Sdus, The Teleport

Unit No.6: Networks

Primary Attributes of a LAN, Broadband and Base band LANs, LAN Standards, Connection Options with LAN, LAN Topologies and Protocols, Token Ring, Token Bus, ISDN

Unit No.7: Switching and Routing In Networks & X.25 Network

Telephone Switching Systems, Electromechanical Systems, Stored Program Control System, Message Switching, Packet Routing, Packet Switching Support, Layers of X.25, Features of X.25, Channel Options, Flow Control, Internetworking

Unit No. 8: Digital Networks & Personal Computer Networks

Advantages of Digital Systems, Signal Conversion, Digital Carrier Systems, Analog to Digital Techniques, Waveform Analysis, Communication Characteristics, Error Handling, PC as a Server, PC and Mainframe Computer, PC and AN, PC Networks and OSI Model

Unit No.9: Internet Services