ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

(Department of Computer Science)

WARNING

1. **PLAGIARISM OR HIRING OF GHOST WRITER(S) FOR SOLVING THE ASSIGNMENT(S) 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: Basics of ICT (1431) **Semester: Autumn, 2012**

Level: B.A **Total Marks: 100**

ASSIGNMENT No. 1

(Units: 1–4)

Note: All questions are compulsory. Each question carries equal marks.

Q. 1 (a) What are the four fundamental components of a personal computer (PC) system? List the major differences between a PC and workstation.

(b) List and explain some important characteristics of a computer.

Q. 2 (a) What are the functions of the Control Unit, and Arithmetic and Logic Unit?

(b) What is the relationship among a microprocessor, motherboard, and personal computer?

(c) List key hardware and software technologies used in building computers of each of the five generations.

Q. 3 (a) What is a plotter? What type of users need it? Explain the working mechanism of a drum plotter and a flatbed plotter.

(b) What is a voice response system? Explain the two types of voice response systems. What are the main applications of the voice response systems?

Q. 4 (a) What do you mean by point and draw devices? List and describe them briefly.

(b) Present a comparison of speech recognition devices and vision based devices.

Q. 5 (a) What is the basic difference between SDRAM technology and nonvolatile memory technology?

(b) What are the three main categories of optical laser disks?

ASSIGNMENT No. 2

(Units: 5–8)

Total Marks: 100

Note: All questions are compulsory. Each question carries equal marks.

Q. 1 (a) What is the relationship between the operating system, the GUI, and application software? What are the main functions of an operating system?

(b) What are the parameters for measuring the efficiency and performance of a computer system?

Q. 2 (a) What is the main difference among multiprogramming, multiprocessing, and multithreading?

(b) What is a time sharing system? What are the hardware and software requirements of a time sharing system? What are its main advantages?

Q. 3 (a) What are the major steps involved in the development of a software?

(b) Name and explain some commonly known application software?

Q. 4 (a) What is an optical fiber? How it is used for data communication? What are its advantages?

(b) What is network topology? Describe three network topologies in common use. Write their relative advantages and disadvantages.

(c) What are the main differences between different switching techniques?

Q. 5 (a) What is multimedia? Write some examples of multimedia applications in education and entertainment.

(b) Differentiate between animation and video. Explain the difference with few examples.

1431 Basics of ICT — Credit Hours: 4 (4+0)

Recommended Book:
Computer Fundamentals by PK Sinha, BPB Publications

Reference Book:
Computer Literacy BASICS: A Comprehensive Guide to IC3 by Connie Morrison and Dolores Wells (August 2009) 3rd Edition.

Course Outlines:

Introduction to ICT

Introduction to ICT and definitions, ICT Application Examples, ICT as an Aid to Computer Teaching and learning

Unit No. 2 Overview and Organization of Computers

History and Development of Computer, Generations of Computer, Types of Computer, Classification of Computer, Applications of Computer, Buses, Ports, Microprocessor, Main Memory, Motherboard of Computer System, Secondary Storage Devices.

Unit No. 3 Input Devices

Keyboard Devices, Point and Draw Devices, Digitizer, Speech Recognition Devices, Data Scanning Devices (Image Scanner, OCR, OMR, BCR, MICR), Electronic Card Reader, and Vision-Input System.

Unit No. 4 Output Devices

Monitor (Graphic Adopter, Size, Resolution, and Types of Monitors), Printers and Types (Dot-Matrix, Ink Jet, Drum, Chain/Band, and Laser), Plotters (Raster & Pen), Presentation Graphics, Special Function Terminal (ATMs, POSS), Multimedia Projector, and Voice Response Systems (Voice Reproduction System, Speech Synthesizer).

Unit No. 5 Computer Software

Introduction, How Software Works, Types of Software (Application and System Software), Software Installation, Uninstalling Software, Development of Software, Software Distribution.

Unit No. 6 Operating System

Introduction and Functions of an Operating System, System Performance Measure, Process Management, Some Popular Operating Systems, Microsoft Windows Practice (Start, Shutdown, Creating and Operating on the Icons, Opening Closing and Sizing the Windows, Using elementary job Commands like – Creating, Saving, Modifying, Renaming, Finding and Deleting a File, Creating and Operating on a folder, Changing setting like, Date, Time Color (back ground and foreground), Using Short Cuts, Using on-line help, Control Panel and its Usage, Concept of Task Manager, Setting up Network Connection and IP setting).

Unit No.7 Data Communication and Networking

Data, Sources and types of Signals, Basic Elements of a Communication System, Data Transmission Modes, Data Transmission Media, Data Transmission Speed, Switching Techniques, Routing Techniques, Network Topology, Network Types, Communication Protocols, Network Interface Cards, Concept of OSI Model.

Unit No. 8 Multimedia

Introduction to Multimedia, Multimedia Components (Text, Graphics, Animation, Audio, and Video), Multimedia Applications (Multimedia Presentation, Foreign Language learning, Video Games, Special Effects in Movies, Multimedia Kiosk, Animated Advertisements, Multimedia Conferencing), Media Center Computer.

Unit No. 9 Introduction to Computer Languages

Introduction, Types, Characteristics, and Generations of Computer Languages, Concepts of Assembler, Compiler, Linder, and Interpreter.

=======