Information Technology

Session 1: Basic Concept of IT

1. Concepts of Data & Info, data processing, history of computers (generation, type of languages), organization of computers, I/O devices.
2. storage devices, system software, application software, utility packages, numerical based on storage devices

Session 2: Assembler

1. Elements of assembly language programming, a simple assembly scheme, pass structure of assembler, design of two pass assemblers, single pass assemblers.
2. Macros & Macro Processors: Macro definition & Call, Macro expansion Nested macro calls, advanced macro facilities, design of macro processors.

Session 3: Compiler and Interpreter

1. Aspects of compilation, memory allocation, compilation of expression compilation of control structures, code optimization, interpreters.
2. Software Tools: Software tools for program development, editors, debug monitors, programming environment, user interfaces.

Session 4: Linker and Loader

1. Relocation & linking concepts, design of linkers, self relocating programs, a linker for MS DOS, linking for overlays.
2. Loaders: A two pass loader scheme, Relocating loaders, subroutine linkage, Direct linkage loader, Binders overlays.

Session 5: Sequential File Organization

1. Why use Sequential file organization, random file organization.
2. Index structure, indexed file organization, alternate key indexed sequential files, multi key organization.
3. Multi key access, multi list file organization, inverted files & their definitions, insertion, deletion, operations with optimum utilization of memory.
4. Comparison of various type of file organization.