

Govt. College for Girls , Sector-14, Gurugram

Name of the Assistant Professor : Mrs. Kiran Yadav

Class : M.Sc 3rd Semester

SUBJECT & CODE : OPERATING SYSTEMS AND UNIX (PAPER CODE- 17MCS2301)

Month	Syllabus
21 July & to 23 July to 28 July	Unit-1: Operating systems overview: Operating systems as an extended machine & resource manager, Operating systems classification;
30 July to 4 August	Operating systems and system calls; Operating systems architecture
6 August to 11 August	Unit-2: Process Management functions: Process model, hierarchies, and implementation
13 August to 18 August	process states and transitions; multi-programming, multi-tasking, multi-threading;
20 August to 25 August	level of schedulers and scheduling algorithms
27 August to 1 Sept	Unit-3: Memory Management and Virtual Memory : Logical versus Physical Address Space,
3 Sept to 8 Sept	Swapping, Contiguous Allocation, Paging, Segmentation,. Assignment-1
10 Sept to 15 Sept	Segmentation with Paging, Demand Paging, Performance of Demanding Paging, Page Replacement
17 Sept to 22 Sept	Page Replacement, Page Replacement Algorithm, Allocation of Frames, Thrashing Allocation of Frames, Thrashing. Test based on Unit 1 and Unit 2.
24 Sept to 29 Sept	Unit-4: Device Management functions: I/O devices and controllers, interrupt handlers,
1 Oct to 6 Oct	Unit-4: Device Management functions: I/O devices and controllers, interrupt handlers, types of I/O Software: Device independent I/O software, User-space I/O software,
8 Oct to 13 Oct	Terminal I/O software. Disk scheduling. File management functions: file naming, structure, types
15 Oct to 20 Oct	access mechanisms, attributes and operations; directory structures and directory operations; file space allocations;
22 Oct to 27 Oct	file sharing, file locking; symbolic links; file protection and security: distributed file systems. Test based on Unit 3 and Unit 4.
29 Oct to 3 Nov & 5 Nov.	Unit-5 : Concurrent programming: sequential and concurrent process; precedence graph, Bernstein's condition; time dependency and critical code section, mutual exclusion problem;
6 Nov. To 13 Nov.	University Vacations
14 Nov. To 17 Nov.	classical process co-ordination problems; deadlock handling, inter-process communication. Assignment-2
19 Nov. To 21 Nov.	Unix Operating System: Overview of UNIX OS in general and implementation of all above functions in Unix Operating System.

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Name of the Assistant Professor : Mrs. Kiran Yadav

Class : MCA 1st Sem

Subject & Code : MCA-105: OBJECT ORIENTED PROGRAMMING USING C++

Month	Syllabus
1 August to 4 August	Unit-1: Introduction to object oriented programming: Procedural vs. Object oriented programming, Characteristics of OOP: Objects, classes,
6 August to 11 August	Encapsulation, Data Abstraction, Inheritance, Polymorphism, Dynamic Binding, and Message Passing. Structure of C++ program: Data-types, Variables, Static Variables
13 August to 18 August	Operators in C++, Arrays, Strings, Structure, Functions, Recursion, Control Statements.
20 August to 25 August	Unit-2: Introduction to Class: Class Definition, Classes and Objects, Access Specifiers: Private, Public and Protected
27 August to 1 Sept	Member functions of the class, Constructor and Destructor, Parameterized Constructor, Copy Constructors
3 Sept to 8 Sept	Inheritance: Reusability, Types of Inheritance: Single inheritance, Multiple, Multilevel, Assignment-1
10 Sept to 15 Sept	Hybrid Inheritance, Public, Private, and Protected Derivations, Using derived class, Constructor and destructor in derived class, Object initialization and conversion,
17 Sept to 22 Sept	Nested classes (Container classes), Virtual Inheritance and Virtual base class.
24 Sept to 29 Sept	Unit-3: Polymorphism: Function Overloading, Static Class Members, Static Member Functions, Friend Functions, Operator Overloading: Unary and Binary Operator Overloading. Test based on Unit 1 and Unit 2.
1 Oct to 6 Oct	Abstract class, Virtual function, Pure virtual function, Overloading vs. Overriding. Memory management: new, delete, object Creation at Run Time, This Pointer.
8 Oct to 13 Oct	using worksheets as database in accounting, marketing, finance and personnel areas. .
15 Oct to 20 Oct	Exception handling: Throwing, Catching, Re-throwing an exception, specifying exceptions, processing unexpected exceptions, Exceptions when handling exceptions, resource capture and release
22 Oct to 27 Oct	Templates: Introduction, Class templates and Function templates, Overloading of template function, namespaces.
29 Oct to 3 Nov & 5 Nov.	Introduction to STL: Standard Template Library: benefits of STL, containers, adapters, iterator, vector, list. Assignment-2
6 Nov. To 13 Nov.	University Vaccations
14 Nov. To 17 Nov.	Working with files: C++ streams, C++ stream classes, creating, opening, closing and deleting files, file pointers and their manipulators, Test based on Unit 3 and Unit 4.
19 Nov. To 21 Nov.	updating file, random access to file, Error handling during file operations.

Month	Syllabus
August	
September	
October	
November	VAT(Value added tax) in Tally, Maintenance of Inventory records, Maintenance of Accounting Books and Final Accounts, Generating and Printing of Accounting Reports. Introduction to Statistical Packages (SPSS): Features, Formation of table, Types of graph, uses of SPSS.