Misconceptions

Module-2	
Misconception 1.	**Dynamic allocation is generally more efficient than static allocation.**
Correct Explanation	Dynamic allocation has the advantage of adaptability in modifying memory size during programme execution. Conversely, static allocation may exhibit superior efficiency in situations when the necessary memory size is predetermined, as it circumvents the additional costs associated with memorymanagement activities.
Misconception 2.	**Stacks and queues may be considered interchangeable since they bothhandle linear data structures.**
Correct Explanation	Both stacks and queues are data structures that deal with linear data, howeverthey function based on distinct concepts. Stacks adhere to the Last-In-First-Out (LIFO) concept, rendering them well-suited for certain applications such as function calls. Conversely, queues operate based on theFirst-In-First-Out (FIFO) principle, making them particularly good for operations that need

	a specific sequence, such as print queues.
Misconception 3.	**The use of linked lists is considered to be more flexible in comparison toarrays, rendering the latter as an antiquated kind of data structure.**
Correct Explanation	Both arrays and linked lists provide distinct benefits. Arrays enable fast access to items with constant time complexity and are memory-efficient whenthe amount of the data is known in advance. On the other hand, linked lists have the advantage of dynamic size adjustment. The choice depends on the application's needs.
Misconception 4.	**DEQueues may be defined as a data structure that combines twoseparate queues into a single entity.**
Correct Explanation	DEQueues provide the capability to execute operations from either end, however, they should not be seen as a mere amalgamation of two separate queues. The data structure in question has a distinct characteristic wherein it facilitates the execution of both stack and queue operations. This attribute makes it a versatile tool for managing data in a flexible manner.

Misconception 5.	**Dynamic allocation refers to the process of allocating memory for datastructures without any predetermined limitations.**
Correct Explanation	The concept of dynamic allocation does not imply the availability of unlimited memory resources. This implies that the allocation or deallocationof memory may occur during programme execution, while acknowledging that the amount of memory accessible is limited by the resources available inside the system. Excessive allocation of resources might result in the occurrence of memory leaks or system failures.