1. A priority queue is a data structure where each element is assigned priority. The priority of the element will be used to determine the order where the elements will be processed. And a priority queue is implemented using a linked list. They have three parts in node. 1)data part 2) part of priority number 3) the address of next node.
2. In circular queue, the first index comes right after the last index. When using a linear cue, even though we have space left in the cue the overflow condition still exists because the condition REAR=MAX-1 still holds true. So, to solve this problem, we can use a circular queue.
3. When we allocate a large amount of space for the queue, it will result in sheer wastage of the memory. Thus, there lies a tradeoff between the frequency of overflows and the space allocated. So a better solution to deal with this problem is to have more than one queue or to have multiple queues.

4.

(a)

A	B	C	D	E	F			

(b)

		C	D	E	F			

(c)

		C	D	E	F	G		

(d)

		C	D	E	F	G	H	

(e)

						G	H	

(f)

						G	H	I

5.

(a)

	A	B	C	D	E	F			

(b)

			C	D	E	F			

(c)

			C	D	E	F	G		

(d)

			C	D	E	F	G	H	

(e)

			C	D					

(f)

			C	D	I				

6.

(a)

F	A	B	C	D	E				

(b)

F	A	B	C	D	E	G			

(c)

F	A	B	C	D	E	G	H		

(d)

		B	C	D	E	G	H		

(e)

		B	C	D	E	G	H	I	

(f)

	J	B	C	D	E	G	H	I	

(g)

	J	B	C	D	E	G			

Multiple-choice Questions

1. (b)
2. (a)
3. (b)
4. (a)
5. (b)

True or False

1.T
2.T
3.F
4.T
5.F
6.T
7.T
8.F

Fill in the blanks

1. last node
2. Deque
3. O(1)
4. Input restricted deque
5. circular array or circular doubly linked list
6. Queue
7. Queue