

① What are the traffic impact attenuators and delineators?

A: ⇒ Traffic Impact Attenuators:

Traffic Impact Attenuators or crash cushions are road safety devices that are designed to absorb a colliding vehicle's kinetic energy and to bring it to a safe stop.

Impact Attenuators are placed in front of gore areas formed at exits, road diversions, beginning of a grade separator, foundations of large road sign gantries, traffic islands at Toll plazas etc.

⇒ Traffic Delineators:

Traffic delineators are devices which are installed temporarily to direct vehicles away from hazards which may exist in the roadway. They're sometimes referred to as hazard markers, but one of primary characteristics is their high visibility, which is essential for catching the attention of motorists.

② What are the uses of Road markings?

A: • Road markings are used as means of controlling and guiding traffic

- To serve as psychological barrier
- To delineate traffic path and its lateral clearance from traffic hazards.
- They are used to guide and control traffic on highway.
- To aid pedestrians and cyclists for movement into safe locations.
- They are highly important on urban roads & inter-sections.

③ List different types of signals used in road safety.

A. • Traffic control signals

- Fixed time signal

(set to repeat fixed cycle of red-amber-green lights)

- Traffic actuated signal

(time cycle / green-time distribution as per demand of traffic flow)

- Fully actuated signal

(detectors installed to sense and assign right of way)

- Semi-actuated signal

(detectors installed only in minor streets)

- Speed Control signal

- Pedestrian signals.

④ What is road safety audit? Explain the process of road safety audit.

A. Road Safety Audits (RSA) are essential for improvement of road safety and prevention of accidents. Audits are required to all stages, be it feasibility, design, construction or pre-opening.

A key feature of a road safety audit is the use of a team of professionals with varied expertise. The road safety audit may investigate general safety conditions, or it may focus on specific concerns or users.

⑤ Discuss the various objectives of road markings in detail.

A. • The essential purpose of road markings is to guide and control traffic on highway

- They supplement the function of traffic signs.



- The markings serve as a psychological barrier and signify delineation of traffic path and its lateral clearance from traffic hazards for safe movement of traffic.
- Road Markings promote road safety and bring out smooth and harmonious flow of traffic along guide paths of travel.

⑥ Write about safety barriers and traffic and posts.

A- Safety Barriers

A Safety Barrier is a component which prevents passage into a dangerous area, commonly used to mitigate risk. Safety barriers may be hard barriers physically restricting passage or soft barriers that control circuits based on presence of foreign bodies.

A Safety Barrier is a reinforced fence structure that is used to protect items of value, such as people, buildings, machines and stock from unwanted damage caused by vehicles and other moving objects.

⑦ Write short notes on Traffic Incidents and Tidal Flow operation.

A- Traffic Incidents

- It is an injury due to crashes originating from, terminating with or involving a vehicle partially or fully on a public road.
- They often result in injury, disability, death and property damage as well as financial costs to both society and the individuals involved.
- The number of factors contribute to risk of collisions, including vehicle design, speed of operation, road design etc.

## Tidal Flow operation:

Tidal flow operation is a traffic management process whereby the carriage way width is shared between the two directions of travel in near proportion to the flow in each direction.

The objective of tidal flow operation is to provide a cost-effective means of increasing the capacity of road. Tidal flow refers to road where a lane or lanes can sometimes carry traffic in one direction and at other times in opposite direction to help with traffic flow.