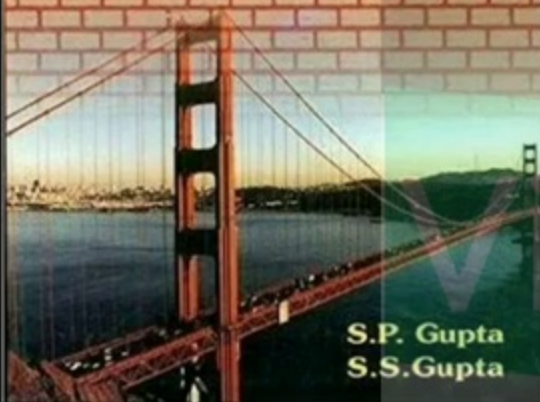


Civil Engineering

Through Objective Type Questions
Third Edition (Revised & Enlarged)



S.P. Gupta
S.S. Gupta

Objective Questions
(Q. 01 to 15)

Highway Engineering



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3 The sequence of four stages survey in a highway alignment is

- a. Reconnaissance, map study, preliminary survey and detailed survey
- b. Map study, preliminary survey, reconnaissance and detailed survey
- c. Map study, reconnaissance survey, preliminary survey and detailed survey
- d. Preliminary survey, map study, reconnaissance survey and detailed survey.

Answer: D

SSD - It is the minimum distance open to the vision of the driver to stop the vehicle to avoid collision with an obstruction (moving or stationary) which is present on the carriage way

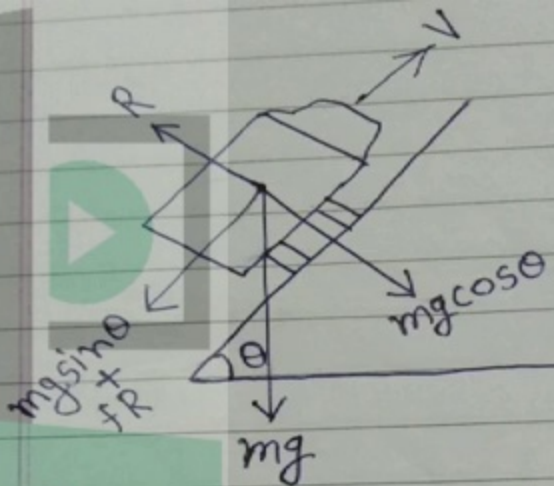
Factors affecting SSD = Lag distance + Braking distance

$$= (0.278Vt) + V^2 / 254(f \pm n)$$

1. Total reaction time of the driver \uparrow
2. Speed of the vehicle \uparrow
3. Friction between the Tyre and the pavement surface \downarrow
4. Brake efficiency \downarrow
5. Gradient of the road \rightarrow Up/ascending \downarrow and down/descending \uparrow

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Answer: B

Descending gradient > Level > Ascending



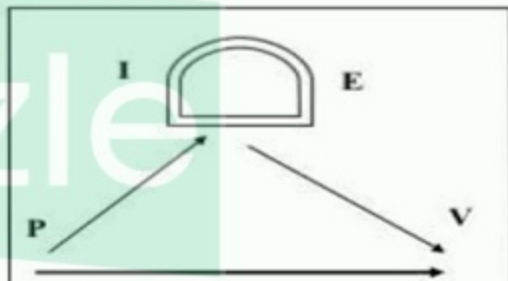
Movement of vehicle
in ascending or up
gradient

Answer: B

PIEV Theory

According to this theory the total reaction time of the driver is split into four parts viz. time by the driver for

- Perception
 - It is time required for the sensation received by the eyes or ears to be transmitted to the brain through nervous system & spinal cord.
- Intellection
 - It is time required for understanding the situation
- Emotion
 - It is time elapsed during emotional sensations and disturbance such as fear, anger or other feelings.
- Volition
 - It is time taken for final action.





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