1. Which method is commonly used for evaluating the existing pavement’s structural capacity?

a) Benkleman beam method
b) Serviceability Index Method
c) Herringbone method
d) Falling weight deflectometer

Answer: a) Benkleman beam method

Explanation: The Benkleman beam method is frequently utilized for evaluating the structural capacity of existing pavements. It measures the deflection of the pavement surface under a standard load, providing valuable information about its structural condition.

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2. What does the Serviceability Index Method primarily assess in pavement evaluation?

a) Structural capacity
b) Surface distress
c) Ride quality
d) Skid resistance

Answer: c) Ride quality

Explanation: The Serviceability Index Method primarily assesses the ride quality or comfort provided by a pavement surface. It quantifies the overall user satisfaction based on factors

like smoothness and roughness of the road.

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3. Which type of overlay is more suitable for rigid pavements?

a) Flexible overlay
b) Asphalt overlay
c) Concrete overlay
d) Chip seal overlay

Answer: c) Concrete overlay

Explanation: Rigid pavements, typically made of concrete, are best suited for concrete overlays due to their similar characteristics and compatibility. Concrete overlays enhance the structural integrity and longevity of rigid pavements.

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4. What is the primary purpose of a flexible overlay on existing pavements?

a) To increase skid resistance
b) To reduce surface roughness
c) To improve structural support
d) To provide waterproofing

Answer: b) To reduce surface roughness

Explanation: Flexible overlays are commonly applied to existing pavements to reduce surface roughness and improve ride quality. They help smooth out imperfections and prolong the pavement's service life.

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5. Which design parameter is crucial for implementing a successful rigid overlay on existing pavements?

a) Asphalt thickness
b) Aggregate gradation
c) Joint spacing
d) Surface texture

Answer: c) Joint spacing

Explanation: Proper joint spacing is critical for the success of rigid overlays on existing pavements. It helps control cracking and ensures the structural integrity of the overlay system.

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6. What characteristic distinguishes rigid overlays from flexible overlays in terms of their response to traffic loads?

a) Flexibility
b) Surface texture
c) Skid resistance
d) Joint spacing

Answer: a) Flexibility

Explanation: Rigid overlays lack flexibility compared to flexible overlays. This difference affects how they distribute and respond to traffic loads, influencing their performance and longevity.

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7. In the Benkleman beam method, what does the deflection measurement indicate about the pavement’s condition?

a) Surface roughness
b) Structural capacity
c) Skid resistance
d) Rutting

Answer: b) Structural capacity

Explanation: Deflection measurement using the Benkleman beam method provides insights into the structural capacity of the pavement. It helps assess the pavement’s ability to support traffic loads without experiencing excessive deformation or failure.

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8. Which factor is NOT typically considered during the design of rigid overlays?

a) Joint spacing
b) Asphalt thickness
c) Aggregate size
d) Surface texture

Answer: b) Asphalt thickness

Explanation: Asphalt thickness is not a parameter considered in the design of rigid overlays, as rigid overlays typically consist of concrete. Factors like joint spacing, aggregate size, and surface texture are more relevant to rigid overlay design.

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9. What is the primary advantage of using the Serviceability Index Method for pavement evaluation?

a) Accurate assessment of structural capacity
b) Cost-effectiveness
c) Easy implementation
d) Comprehensive evaluation of distress

Answer: c) Easy implementation

Explanation: The primary advantage of the Serviceability Index Method is its ease of implementation. It provides a relatively simple and quick way to assess pavement condition, particularly in terms of ride quality.

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10. Which overlay type is more commonly used for flexible pavements?

a) Concrete overlay
b) Chip seal overlay
c) Asphalt overlay
d) Cement-treated overlay

Answer: c) Asphalt overlay

Explanation: Asphalt overlays are frequently used for flexible pavements due to their compatibility with asphalt-based surfaces and ability to enhance pavement performance by improving surface characteristics and ride quality.