1. What is the primary binding material used in bituminous concrete?
a) Cement
b) Bitumen
c) Lime
d) Aggregate

Answer: b) Bitumen
Explanation: Bitumen serves as the primary binding material in bituminous concrete, providing cohesion and flexibility to the mixture.

2. What is the primary purpose of a tack coat in pavement construction?
a) Improving surface aesthetics
b) Increasing skid resistance
c) Enhancing adhesion between layers
d) Providing waterproofing

Answer: c) Enhancing adhesion between layers
Explanation: Tack coat is applied to ensure strong bonding between pavement layers, preventing delamination and enhancing overall structural integrity.

3. Which type of pavement is more commonly associated with dowel bars and tie bars?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement
d) Permeable pavement

Answer: b) Rigid pavement

Explanation: Dowel bars and tie bars are commonly used in rigid pavements to control cracking and maintain slab alignment.

4. What is the primary disadvantage of rigid pavements compared to flexible pavements?
a) Higher initial construction cost
b) Poor resistance to heavy loads
c) Limited design flexibility
d) Higher maintenance requirements

Answer: a) Higher initial construction cost
Explanation: Rigid pavements generally have higher initial construction costs compared to flexible pavements due to the use of materials like concrete and steel reinforcement.

5. What is the main advantage of using grouted macadam in pavement construction?
a) Improved surface smoothness
b) Increased load-bearing capacity
c) Enhanced skid resistance
d) Better drainage performance

Answer: b) Increased load-bearing capacity
Explanation: Grouted macadam provides increased load-bearing capacity, making it suitable for heavy traffic loads and industrial areas.

6. Which type of pavement design relies on fatigue and reliability considerations?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement

d) Permeable pavement

Answer: a) Flexible pavement
Explanation: Flexible pavement design often considers fatigue and reliability to ensure longevity and structural resilience under repeated loading.

7. What is the primary purpose of prime coat application in pavement construction?
a) Providing a smooth surface
b) Enhancing surface friction
c) Improving bonding with underlying layers
d) Preventing water infiltration

Answer: c) Improving bonding with underlying layers
Explanation: Prime coat application helps improve bonding between the pavement layers, ensuring better structural cohesion and durability.

8. Which type of pavement is typically associated with interfacial treatment-seal coat?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement
d) Permeable pavement

Answer: a) Flexible pavement
Explanation: Seal coats are commonly used in flexible pavement construction to protect the surface from water penetration and oxidation, enhancing durability.

9. What is the primary function of wearing coats in pavement construction?
a) Providing structural support

b) Enhancing surface aesthetics
c) Increasing skid resistance
d) Improving load distribution

Answer: b) Enhancing surface aesthetics
Explanation: Wearing coats are applied to improve surface aesthetics and provide a smooth riding surface for vehicles, enhancing driver comfort.

10. Which pavement type is more suitable for regions with high seismic activity?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement
d) Permeable pavement

Answer: b) Rigid pavement
Explanation: Rigid pavements offer better resistance to seismic forces due to their rigid structure, making them more suitable for regions prone to earthquakes.

11. What is the primary advantage of using bituminous concrete in pavement construction?
a) High load-bearing capacity
b) Rapid construction time
c) Excellent resistance to weathering
d) Flexible and adaptable to temperature changes

Answer: d) Flexible and adaptable to temperature changes
Explanation: Bituminous concrete offers flexibility and can accommodate temperature-induced expansions and contractions, reducing the risk of cracking.

12. Which type of pavement is typically associated with the use of WBM (Water Bound Macadam)?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement
d) Permeable pavement

Answer: a) Flexible pavement
Explanation: WBM is commonly used in the construction of flexible pavements as a base or sub-base material, providing stability and drainage.

13. What is the primary disadvantage of using surface dressing in pavement construction?
a) Limited resistance to heavy traffic
b) High construction costs
c) Poor adhesion with underlying layers
d) Reduced skid resistance

Answer: a) Limited resistance to heavy traffic
Explanation: Surface dressing may not withstand heavy traffic loads as effectively as other pavement treatments, making it less suitable for high-traffic areas.

14. Which type of pavement joint is used to accommodate longitudinal movements?
a) Expansion joint
b) Contraction joint
c) Isolation joint
d) Construction joint

Answer: a) Expansion joint
Explanation: Expansion joints allow for longitudinal movements caused by temperature variations, preventing cracking and structural damage.

15. What is the primary function of tie bars in rigid pavement construction?
a) Preventing longitudinal cracking
b) Enhancing surface friction
c) Increasing load-bearing capacity
d) Improving drainage performance

Answer: a) Preventing longitudinal cracking
Explanation: Tie bars are used in rigid pavement construction to restrain longitudinal movement and prevent cracking, maintaining slab integrity.

16. Which type of pavement joint is used to control cracking caused by shrinkage?
a) Expansion joint
b) Contraction joint
c) Isolation joint
d) Construction joint

Answer: b) Contraction joint
Explanation: Contraction joints are introduced in pavements to control cracking caused by shrinkage during concrete curing, ensuring structural durability.

17. What is the primary advantage of using interfacial treatment-seal coat in pavement construction?
a) Increasing load-bearing capacity

b) Enhancing surface aesthetics
c) Improving skid resistance
d) Preventing water infiltration

Answer: d) Preventing water infiltration
Explanation: Seal coats act as a waterproofing layer, preventing water infiltration into pavement layers and extending the pavement's service life.

18. Which type of pavement construction is more adaptable to variations in subgrade conditions?
a) Flexible pavement
b) Rigid pavement
c) Composite pavement
d) Permeable pavement

Answer: a) Flexible pavement
Explanation: Flexible pavements can better accommodate variations in subgrade conditions due to their flexible nature, reducing the risk of structural damage.

19. What is the primary function of dowel bars in rigid pavement construction?
a) Enhancing surface smoothness
b) Improving load distribution
c) Preventing transverse cracking
d) Increasing skid resistance

Answer: c) Preventing transverse cracking
Explanation: Dowel bars are used in rigid pavement construction to transfer loads across

joints and prevent transverse cracking, ensuring pavement durability.

20. Which type of pavement joint is used to separate adjacent slabs and prevent cracking due to differential movement?
a) Expansion joint
b) Contraction joint
c) Isolation joint
d) Construction joint

Answer: c) Isolation joint
Explanation: Isolation joints are installed to separate adjacent slabs and allow for differential movement, reducing the risk of cracking and structural damage.