1. Which theory focuses on the assumption that the pressure distribution between two sliding surfaces is uniform?

a) Friction surface theory
b) Uniform pressure theory
c) Wear theory
d) Kinetic friction theory

Answer: b) Uniform pressure theory

Explanation: The uniform pressure theory assumes that the pressure distribution between two sliding surfaces in contact remains constant, leading to consistent frictional behavior across the contact area.

2. In friction clutches, which type relies on frictional contact between two parallel plates?

a) Disk clutch
b) Cone clutch
c) Centrifugal clutch
d) Rope clutch

Answer: a) Disk clutch

Explanation: Disk clutches involve frictional contact between two parallel disks or plates, which engage and disengage to transmit torque.

3. What type of clutch relies on frictional contact between a rotating cone and a mating surface?

a) Disk clutch
b) Plate clutch
c) Cone clutch
d) Centrifugal clutch

Answer: c) Cone clutch

Explanation: Cone clutches utilize frictional contact between a rotating cone and a mating surface to engage and disengage for torque transmission.

4. Which type of brake employs a flexible rope wound around a drum to generate friction?

a) Rope brake
b) Band brake
c) Block brake
d) Expanding brake

Answer: a) Rope brake

Explanation: Rope brakes use a flexible rope wound around a drum, where the tension in the rope generates friction against the drum surface to slow or stop motion.

5. Band brakes are characterized by:

a) Circular frictional contact
b) Linear frictional contact
c) Helical frictional contact
d) Spiral frictional contact

Answer: b) Linear frictional contact

Explanation: Band brakes involve linear frictional contact between a flexible band and a drum or disc, allowing for effective braking action.

6. Internal expanding brakes operate by:

a) Contracting inward upon application
b) Expanding outward upon application
c) Sliding laterally upon application
d) Rotating upon application

Answer: a) Contracting inward upon application

Explanation: Internal expanding brakes work by expanding outward against the inner surface of a drum upon application, increasing friction and providing braking action.

7. Disk brakes utilize frictional contact between:

a) Two rotating disks
b) A disk and a drum
c) A disk and a band
d) A disk and a rope

Answer: b) A disk and a drum

Explanation: Disk brakes employ frictional contact between a rotating disk and a stationary drum to slow or stop motion effectively.

8. Which theory suggests that wear between two sliding surfaces is proportional to the frictional force acting between them?

a) Friction surface theory
b) Uniform pressure theory
c) Wear theory
d) Kinetic friction theory

Answer: c) Wear theory

Explanation: Wear theory proposes that the amount of wear between two sliding surfaces is directly related to the frictional force acting between them.

9. Centrifugal clutches operate based on the principle of:

a) Frictional engagement
b) Magnetic repulsion
c) Gravity
d) Centrifugal force

Answer: d) Centrifugal force

Explanation: Centrifugal clutches engage and disengage based on the centrifugal force generated by the rotation of the clutch components.

10. Which type of clutch is commonly used in vehicles for smooth engagement and disengagement of power transmission?

a) Disk clutch
b) Cone clutch
c) Centrifugal clutch
d) Plate clutch

Answer: a) Disk clutch

Explanation: Disk clutches are often preferred in vehicles due to their smooth engagement and disengagement characteristics, making them suitable for various driving conditions.

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