WORK SHEET
UNIT-IV

1. A key is used to:
   A) Join two stationary parts
   B) Transmit torque between shaft and hub
   C) Reduce friction
   D) Increase speed
   Answer: B) Transmit torque between shaft and hub
2. The most common type of key used is:
   A) Saddle key
   B) Feather key
   C) Sunk key
   D) Woodruff key
   Answer: C) Sunk key
3. A key is subjected to:
   A) Tensile stress only
   B) Compressive stress only
   C) Shear and crushing stress
   D) Bending stress only
   Answer: C) Shear and crushing stress
4. In key design, failure may occur due to:
   A) Shearing
   B) Crushing
   C) Both A and B
   D) Torsion only
   Answer: C) Both A and B
5. A cotter joint is used to connect:
   A) Rotating shafts
   B) Non-rotating members
   C) Bearings
   D) Gears
   Answer: B) Non-rotating members
6. Spigot and socket joint is a type of:
   A) Riveted joint
   B) Welded joint
   C) Cotter joint
   D) Knuckle joint
   Answer: C) Cotter joint
7. Gib is used in cotter joints to:
   A) Increase strength
   B) Provide alignment
   C) Prevent loosening
   D) All of the above
   Answer: D) All of the above

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8. Sleeve and cotter joint is used to:
   A) Join two shafts in tension
   B) Join rotating shafts
   C) Join plates
   D) Join gears
   Answer: A) Join two shafts in tension
9. A knuckle joint is used to transmit:
   A) Compressive load
   B) Bending load
   C) Tensile load
   D) Torsional load
   Answer: C) Tensile load
10. Knuckle joint allows:
    A) Rotation
    B) Angular movement
    C) No movement
    D) Sliding motion
    Answer: B) Angular movement
11. The main components of a knuckle joint include:
    A) Pin
    B) Eye
    C) Fork
    D) All of the above
    Answer: D) All of the above
12. The cotter is subjected to:
    A) Tensile stress
    B) Shear stress
    C) Compressive stress
    D) Bending stress
    Answer: B) Shear stress
13. In a sunk key, half of the key is fitted into:
    A) Shaft only
    B) Hub only
    C) Both shaft and hub
    D) Neither
    Answer: C) Both shaft and hub
14. The taper provided in cotter is usually:
    A) 1 in 10
    B) 1 in 20
    C) 1 in 5
    D) 1 in 2
    Answer: B) 1 in 20
15. The knuckle pin is subjected to:
    A) Bending only
    B) Shear only

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C) Both shear and bending
D) Compression only
Answer: C) Both shear and bending

FILL IN THE BLANKS

1. Keys are used to transmit _____ between shaft and hub.
   Answer: torque
2. A key is subjected to shear and _____ stresses.
   Answer: crushing
3. Cotter joints are used to connect _____ members.
   Answer: non-rotating
4. Spigot and socket joint is a type of _____ joint.
   Answer: cotter
5. Gib is used to prevent _____ in cotter joints.
   Answer: loosening
6. Sleeve and cotter joint connects two rods under _____ load.
   Answer: tensile
7. Knuckle joints are used for transmitting _____ loads.
   Answer: tensile
8. The taper of a cotter is generally _____.
   Answer: 1 in 20
9. The knuckle pin is subjected to _____ and bending stresses.
   Answer: shear
10. In a sunk key, keyways are provided in both _____ and hub.
    Answer: shaft