Question Bank (Engineering Mechanics)

1. Differentiate between particles and rigid body?
2. State newton's first law of motion?
3. State newton's second law of motion?
4. State the principle of transmissibility of force with simple sketch?
5. Differentiate between collinear and concurrent forces?
6. Define resultant of coplanar concurrent force system?
7. State triangle law of forces?
8. State parallelogram law of forces?

9. State the necessary and sufficient condition for static equilibrium of a particle in two dimensions?
10. State triangle law of equilibrium?
11. Why the couple moment is said to be a free vector?
12. Distinguish between couple and moment?
13. When is moment of force zero about a point?
14. When is moment of force maximum about a point?
15. When is moment of force zero about a line?
16. Write the equation of equilibrium of a rigid body?
17. Write the conditions equilibrium of a system of parallel force acting in a plane?
18. How many scalar equations can be obtained for equilibrium of rigid body in three dimensions?
19. State pappus-guldinus theorem for finding surface area.
20. What is general plane motion? Give some examples.
21. How will you calculate the linear restoring force of an elastic material?
22. Define instantaneous centre of rotation.
23. Define co-efficient of restitution.
24. State D'Alembert's principle.
25. Define Angular momentum.