

GATE 2024 Mechanical (ME) Daily Practice Questions

Question 1. Hardenability of steel is a measure of

1. The ability to harden when it is cold worked
2. The maximum hardness that can be obtained when it is austenitized and then quenched
3. The depth to which required hardening is obtained when it is austenitized and then quenched
4. the ability to retain its hardness when it is heated to elevated temperatures

Question 2. The most common limit gage used for inspecting the hole diameter is

1. Snap gage
2. Ring gage
3. Plug gage
4. Master gage

Question 3. Sphere 1 with a diameter of 0.1 m is completely enclosed by another sphere 2 of diameter 0.4 m. The view factor F_{12} is _____

1. 0.0625
2. 0.25
3. 0.5
4. 1.0

Question 4. A ball of mass 3 kg moving with a velocity of 4 m/s undergoes a perfectly-elastic direct-central impact with a stationary ball of mass m . After the impact is over, the kinetic energy of the 3 kg ball is 6 J. The possible value(s) of m is/are _____.

1. 1 kg only
2. 6 kg only
3. 1 kg, 6 kg
4. 1 kg, 9 kg

Question 5. In an electrical discharge machining process, the breakdown voltage across inter electrode gap (IEG) is 200 V and the capacitance of the RC circuit is 50 μF . The energy (in J) released per spark across the IEG is_____.