A single point-mooring buoy 3 m in diameter is anchored in 120 m water depth

as shown in the fig. The SPM has a draft of 15 m. If the significant wave height

is 2.5 m and the period is 12 s, calculate the wave forces and moments acting on the Buoy at each time instant of step(0.1 sec).

Specific weight of sea water is 1020 N/m3 .